

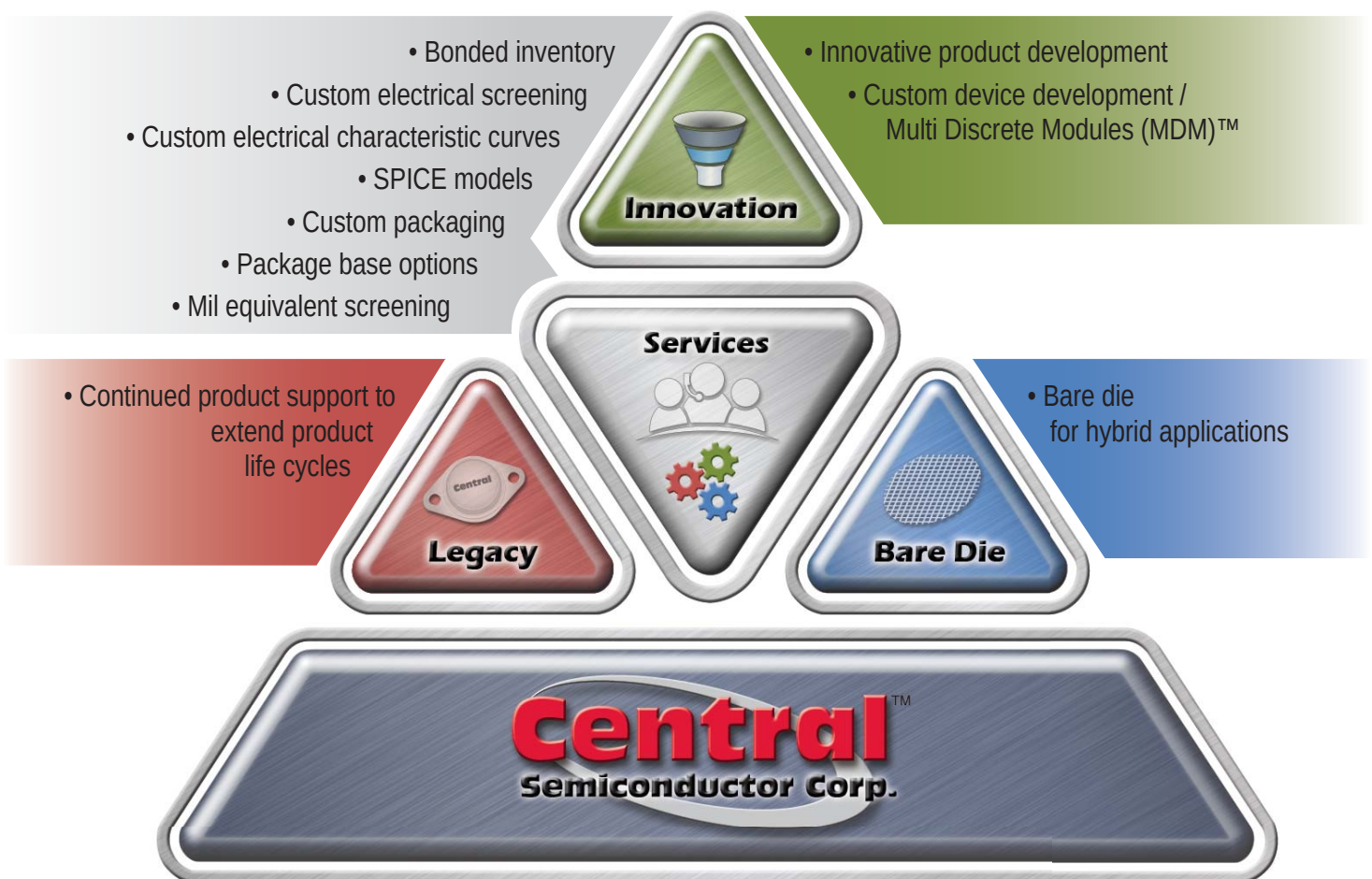


surface mount selection guide



**Rethink the Possibilities
Discretes do Matter™**

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Over 40 years of outstanding products and support

Surface Mount Selection Guide

This selection guide provides designers with the key electrical characteristics for each of the surface mount discrete semiconductors manufactured by Central Semiconductor. The guide is organized by device type and includes small signal transistors, MOSFETs, bipolar power transistors, diodes, protection devices, rectifiers, thyristors, and Multi Discrete Modules. Each section is divided by sub classifications within each type, such as low $V_{CE(SAT)}$ transistors and low leakage diodes. An alpha-numeric index is provided for easy reference.

An online parametric search is also available at www.centrasemi.com/parasearch.
For further information please contact Central's Sales Support Team directly at 631-435-1110.

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Alpha-numeric listing of all devices included in this selection guide.

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Small Signal Transistors

Central's popular standard and enhanced devices provide a diverse offering ranging from high current transistors in the SOT-223 package to the ultra miniature low $V_{CE(SAT)}$ transistors in the SOT-923.

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MOSFETs

Central's latest MOSFETs offer distinct advantages in both size and performance. The new ultra low $r_{DS(ON)}$ UltraMOS™ MOSFETs devices are ideal for today's power management requirements.

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Bipolar Power Transistors

Central manufactures standard legacy devices in the DPAK, SOT-223 and SOT-89 packages and in the newest TLM833S leadless package.

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Diodes

One of Central's strengths is its diode portfolio. From fast switching diodes to energy efficient Schottky devices to Zener and Current Limiting diodes, Central has the discrete technology to meet designers' ever-changing requirements.

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Protection Devices

The latest transient voltage suppressors are designed to meet the challenges of ESD protection in power user ports, interface and high speed data I/Os.

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Rectifiers

Central's rectifiers provide the perfect solution for current requirements greater than 1.0 amp. New to the family are Hyper Fast rectifiers and high temperature Silicon Carbide Schottky rectifiers; both are ideal for the latest PFC applications.

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Thyristors

Central's SCRs and TRIACs are well suited for high current switching of DC and AC motor control applications. Central manufactures some of the smallest SCRs in the industry including the low profile CMPS5064 in the SOT-23 package.

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Multi Discrete Modules

Integrating different device types into a single package often facilitates assembly cost reductions. MOSFETs and diodes, MOSFETs and rectifiers, transistors and rectifiers, and other custom combinations are available.

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Package Mechanical Specifications

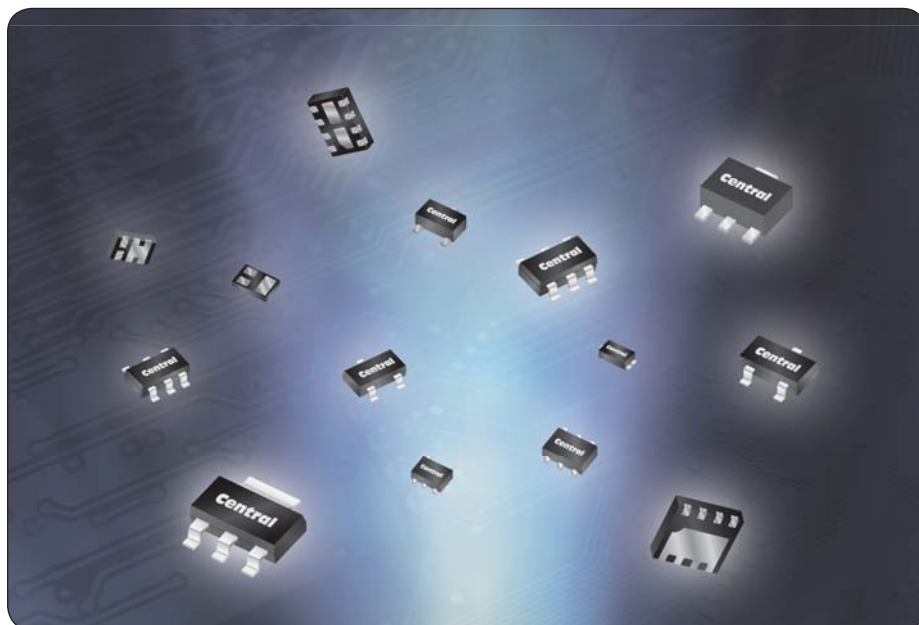
Mechanical dimensions are provided for each surface mount package Central manufactures.

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CMUT5087E	9	CSHD3-40	57	CTLT953-M833S	43	CZT3150	23
CMUT5088E	9	CSHD3-60	57	CUD10-02	51	CZT3150	23
CMUT5179	11	CSHD5-100	58	CUD10-04	51	CZT31C	23
CMUT5401	11	CSHD5-25L	58	CUD10-06	51	CZT32C	23
CMUT5401E	11	CSHD5-40	58	CUD3-02	51	CZT3904	7
CMUT5551	11	CSHD5-60	58	CUD6-02C	51	CZT3906	7
CMUT5551E	11	CSHD6-100C	59	CUDD16-02C	51	CZT4033	9
CMUT7410	9	CSHD6-40C	59	CUDD16-04C	51	CZT5338	23
CMUT7410	13	CSHD6-60C	59	CUDD16-08C	51	CZT5401	11
CMXD2004	27	CSHD8-100	59	CUDD8-02	51	CZT5401E	11
CMXD2004S	27	CSHD8-200	59	CUDD8-04	51	CZT5551	11
CMXD2004SR	27	CSHD8-60	59	CUDD8-08	51	CZT5551E	11
CMXD2004TO	27	CSHD12-60C	61	CUDD8-08	51	CZT5551HC	11
CMXD3003TO	31	CSHDD16-100C	61	CWDM305N	17	CZT651	9
CMXD3004SR	27	CSHDD16-200C	61	CWDM305ND	17	CZT7090L	23
CMXD4448	27	CSHDD16-40C	61	CWDM305P	19	CZT7090LE	23
CMXD6001	31	CSHDD16-60C	61	CWDM305PD	19	CZT7120	23
CMXDM7002A	17	CSHDD8-100	59	CWDM3011N	17	CZT751	9
CMXESD70-4	44	CSHDD8-40	59	CWDM3011P	19	CZT853	9
CMXSH-3	29	CSHDD8-60	59	CXDM1002N	17	CZT853	23
CMXSH2-4LS	29	CSHDD8-80	59	CXDM3069N	17	CZT900K	13
CMXSTB200	31	CSHDD8-100	59	CXDM4060N	17	CZT953	9
CMXSTB300	31	CSHDD8-100	59	CXDM4060P	19	CZT953	23
CMXSTB400	31	CSL05	43	CXDM6053N	17	CZT955	23
CMXT2207	7	CSL05D	43	CXR1-04	48	CZTA14	13
CMXT2222A	7	CTLDM303N-M832DS	17	CXSH-4	55	CZTA27	13
CMXT2907A	7	CTLDM304P-M832DS	19	CXT2222A	7	CZTA28	13
CMXT3090L	23	CTLDM7002A-M621	17	CXT2907A	7	CZTA42	11
CMXT3904	7	CTLDM7002A-M621H	17	CXT3019	9	CZTA44	11
CMXT3906	7	CTLDM7003-M621	17	CXT3090L	23	CZTA44HC	23
CMXT3946	7	CTLDM7120-M621H	17	CXT3150	23	CZTA46	11
CMXT7090L	23	CTLDM7120-M832DS	17	CXT3410	9	CZTA64	13
CMXTC935A	32	CTLDM7181-M832D	19	CXT3410	13	CZTA77	13
CMXTVS5-4	44	CTLDM8002A-M621	19	CXT3820	13	CZTA92	11
CMXTVS5V6	45	CTLDM8002A-M621H	19	CXT3904	7	CZTA94	11
CMXTVS6V2	45	CTLDM8120-M621H	19	CXT3906	7	CZTA96	11
CMXZ2V4TO thru CMXZ47VTO	35	CTLDM8120-M832DS	19	CXT4033	9	CZTUX87	23
CMYTVS5-2	45	CTLDM8120-M832DS	19	CXT491E	9	MCR703A	66
CMZ5334B thru CMZ5388B	37	CTLHR10-06	53	CXT491E	23	MCR704A	66
CMZ5913B thru CMZ5956B	37	CTLM3410-M832D	9	CXT5401	11	MCR706A	66
CMZ5913BP thru CMZ5956BP	37	CTLM3474-M832D	13	CXT5401E	11	MCR708A	66
CQ223-2M	68	CTLM3474-M832D	9	CXT5551	11	MCR716	67
CQ223-2N	68	CTLM7110-M832D	72	CXT5551E	11	MCR718	67
CQ223-4M	68	CTLM7410-M832D	9	CXT5551HC	11	P4SMA5.0A thru P4SMA220A	40
CQ223-4N	68	CTLM8110-M832D	72	CXT591E	9	P6SMB6.8A thru P6SMB250A	42
CQ89-2M	68	CTLR5-06	48	CXT591E	23	P6SMB6.8CA thru P6SMB250CA	42
CQ89-2N	68	CTLS5064-M532	66	CXT7090L	23		
CQD-4M	69	CTLS5064R-M532	66	CXT7410	9		
CQD-4N	69	CTLSH01-30	29	CXT7410	13		
CQD-8M3	69	CTLSH01-30L	28	CXT7820	13		
CQDD-12M	69	CTLSH05-40M621	28	CXT853	9		
CQDD-12M3	69	CTLSH1-40M322S	54	CXT853	23		
CQDD-12N	69	CTLSH1-40M621H	28	CXT953	9		
CQDD-16M	69	CTLSH1-40M621H	54	CXT953	23		
CQDD-16N	69	CTLSH1-40M832DS	54	CXTA14	13		
		CTLSH1-50M832DS	54	CXTA27	13		
		CTLSH10-45L	60	CXTA42	11		
		CTLSH10-100L	60				



Small Signal Transistors

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General Purpose Amplifiers/Switches

	FAMILY	I _C	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO}	@	V _{CB}	h _{FE}		@ V _{CE}	@ I _C	V _{CE(SAT)}	@ I _C	C _{ob}	f _T	NF	t _{off}	
		(A)	(V)	(V)	(V)	*I _{CEV}	@	V _{CE}	MIN	MAX	(V)	(mA)	(V)	(mA)	(pF)	(MHz)	(dB)	(ns)	
		MAX	MIN	MIN	MIN	(nA)	MAX	(V)											
Devices are listed in order of descending breakdown voltage.																			
NPN	2222AE	0.6	100	45	6.0	10		60	100	300	10	150	0.5	500	8.0	300	4.0	285	
	8099	0.5	80	80	6.0	100		80	100	300	5.0	1.0	0.4	100	6.0	150	–	–	
	2222A	0.6	75	40	6.0	10		60	100	300	10	150	1.0	500	8.0	300	4.0	285	
	3904E	0.2	60	40	6.0	50*		30	100	300	1.0	10	0.2	50	4.0	300	4.0	250	
	3904	0.2	60	40	6.0	50*		30	100	300	1.0	10	0.3	50	4.0	300	5.0	250	
	3920	0.2	60	50	7.0	100		60	120	560	6.0	1.0	0.4	50	3.5	300	–	–	
	4401	0.6	60	40	6.0	100*		35	100	300	1.0	150	0.75	500	6.5	250	–	255	
PNP	2907AE	0.6	90	60	5.0	10		50	100	300	10	150	0.7	500	8.0	200	–	100	
	8599	0.5	80	80	5.0	100		80	100	300	5.0	1.0	0.4	100	4.5	150	–	–	
	2907A	0.6	60	60	5.0	10		50	100	300	10	150	1.6	500	8.0	200	–	100	
	3906E	0.2	60	40	6.0	50*		30	100	300	1.0	10	0.2	50	4.0	300	4.0	250	
	3906	0.2	40	40	5.0	50*		30	100	300	1.0	10	0.4	50	4.5	250	4.0	300	
	4403	0.6	40	40	5.0	100*		35	100	300	2.0	150	0.75	500	8.5	200	–	255	
NPN & PNP	2222A (NPN) +	0.6	75	40	6.0	10		60	100	300	10	150	1.0	500	8.0	300	4.0	285	
	2907A (PNP)	0.6	60	60	5.0	10		50	100	300	10	150	1.6	500	8.0	200	–	100	
	3904E (NPN) +	0.2	60	40	6.0	50*		30	100	300	1.0	10	0.2	50	4.0	300	4.0	250	
	3906E (PNP)	0.2	60	40	6.0	50*		30	100	300	1.0	10	0.2	50	4.0	300	4.0	250	
	3904 (NPN) +	0.2	60	40	6.0	50*		30	100	300	1.0	10	0.3	50	4.0	300	5.0	250	
	3906 (PNP)	0.2	40	40	5.0	50*		30	100	300	1.0	10	0.4	50	4.5	250	4.0	300	
	4401 (NPN) +	0.6	60	40	6.0	100*		35	100	300	1.0	150	0.75	500	6.5	250	–	255	
	4403 (PNP)	0.6	40	40	5.0	100*		35	100	300	2.0	150	0.75	500	8.5	200	–	255	
Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold Indicates Sorted Columns.																			



Package dimensions shown are maximum values in mm.

FAMILY	TLM322S  2.05 x 2.05 x 0.6	SOT-923  1.10 x 0.65 x 0.41	SOT-953  1.05 x 1.05 x 0.5	SOT-883L  1.05 x 0.65 x 0.4	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-323  2.2 x 2.2 x 1.1	SOT-363  2.2 x 2.3 x 1.1	SOT-23  3.05 x 2.49 x 1.09	SOT-26  3.0 x 3.0 x 1.2	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
2222AE									CMPT2222AE			
8099	CTLT8099-M322S					CMLT8099 (2x) CMLT8099M (2x Matched)			CMPT8099			
2222A					CMUT2222A	CMLT2222A (2x)	CMST2222A	CMKT2222A (2x)	CMPT2222A	CMXT2222A (2x)	CXT2222A	CZT2222A
3904E		CMBT3904E	CMNT3904E	CET3904E		CMLT3904E (2x)			CMPT3904E			
3904					CMUT3904		CMST3904	CMKT3904 (2x)	CMPT3904	CMXT3904 (2x)	CXT3904	CZT3904
3920								CMKT3920 (2x)				
4401					CMUT4401				CMPT4401			
2907AE									CMPT2907AE			
8599									CMPT8599			
2907A					CMUT2907A	CMLT2907A (2x)	CMST2907A	CMKT2907A (2x)	CMPT2907A	CMXT2907A (2x)	CXT2907A	CZT2907A
3906E		CMBT3906E	CMNT3906E	CET3906E		CMLT3906E (2x)			CMPT3906E			
3906					CMUT3906		CMST3906	CMKT3906 (2x)	CMPT3906	CMXT3906 (2x)	CXT3906	CZT3906
4403					CMUT4403				CMPT4403			
2222A (NPN)	+											
2907A (PNP)						CMLT2207 (2x)		CMKT2207 (2x)		CMXT2207 (2x)		
3904E (NPN)	+											
3906E (PNP)						CMLT3946E (2x)						
3904 (NPN)	+											
3906 (PNP)								CMKT3946 (2x)		CMXT3946 (2x)		
4401 (NPN)	+											
4403 (PNP)						CMLT4413 (2x)						

(2x) under part number indicates two devices in one package.
(4x) under part number indicates four devices in one package.

Low Noise Amplifiers

	FAMILY	I _C	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO}	@	V _{CB}	h _{FE}		@ V _{CE}	@ I _C	V _{CE(SAT)}	@ I _C	C _{ob} †TYP (pF) MAX	f _T †TYP (MHz) MIN	NF (dB) MAX	t _{off} (ns) MAX	
		(A) MAX	(V) MIN	(V) MIN	(V) MIN	(nA) MAX		(V)	MIN	MAX	(V)	(mA)	(V) MAX	(mA)					
Devices are listed in order of ascending NF.																			
	NPN	5089	0.05	30	25	4.5	50	15	400	1,200	5.0	0.1	0.5	10	4.0	50	2.0	–	
		930	0.03	45	45	5.0	10	45	100	300	5.0	0.01	1.0	10	8.0	30	3.0	–	
		2484	0.05	60	60	6.0	10	45	250	–	5.0	1.0	0.35	1.0	6.0	–	3.0	–	
		5088	0.05	35	30	4.5	50	20	300	900	5.0	0.1	0.5	10	4.0	50	3.0	–	
		5088E	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	–	
		6428	0.2	60	50	6.0	10	30	250	650	5.0	0.1	0.6	100	3.0	100	–	–	
		6429	0.2	55	45	6.0	10	30	500	1,250	5.0	0.1	0.6	100	3.0	100	–	–	
	PNP	5087	0.05	50	50	3.0	50	35	250	800	5.0	0.1	0.3	10	4.0	40	2.0	–	
		5087E	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	–	
		5086	0.05	50	50	3.0	50	35	150	500	5.0	0.1	0.3	10	4.0	40	3.0	–	
		992	0.05	110	110	5.0	–	–	200	800	6.0	1.0	0.3	10	3.0	50	3.0	–	
	NPN & PNP	5088E (NPN) ⁺	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	–	
		5087E (PNP)	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	–	
		5088 (NPN) ⁺	0.05	35	30	4.5	50	20	300	900	5.0	0.1	0.5	10	4.0	50	3.0	–	
		5087 (PNP)	0.05	50	50	3.0	50	35	250	800	5.0	0.1	0.3	10	4.0	40	2.0	–	

High Current

Devices are listed in order of descending breakdown voltage.																		
E➤	NPN	853	6.0	200	100	6.0	10	150	100	300	2.0	2,000	0.05	100	38†	190†	–	–
		3019	0.5	120	80	7.0	10	90	100	300	10	150	0.5	500	12	100	4.0	–
		A06	0.5	80	80	4.0	100	80	100	–	1.0	100	0.25	100	–	100	–	–
		491E	1.0	80	60	5.0	100	60	200	600	5.0	500	0.2	500	10	150	–	–
		651	2.0	80	60	5.0	100	80	75	–	2.0	500	0.5	2,000	–	75	–	–
		3410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	–	–
		68	0.8	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	–	65	–	–
E➤	PNP	953	5.0	140	100	6.0	50	100	100	300	1.0	1,000	0.05	100	45†	150†	–	–
		4033	0.5	80	80	5.0	50	60	100	300	5.0	100	0.5	500	20	100	–	–
		A56	0.5	80	80	4.0	100	80	100	–	1.0	100	0.25	100	–	50	–	–
		591E	1.0	80	60	5.0	100	60	200	600	5.0	500	0.2	500	10	150	–	–
		751	2.0	80	60	5.0	100	80	75	–	2.0	500	0.5	2,000	–	75	–	–
		7410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	–	–
		69	1.0	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	–	65	–	–
	NPN & PNP	3410 (NPN) +	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	–	–
		7410 (PNP)	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	–	–

E➤ Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold

S Indicates Sorted Columns.



Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

FAMILY	TLM621  2.15 x 1.15 x 0.8	TLM832D  3.1 x 2.1 x 1.0	TLM833S  3.15 x 3.15 x 1.0	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-323  2.2 x 2.2 x 1.1	SOT-363  2.2 x 2.3 x 1.1	SOT-23  3.05 x 2.49 x 1.09	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
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5089							CMKT5089M10 (2x Matched)	CMPT5089		
930								CMPT930		
2484								CMPT2484		
5088							CMKT5088 (2x)	CMPT5088		
5088E				CMUT5088E	CMLT5088E (2x) CMLT5088EM (2x Matched)			CMPT5088E		
6428								CMPT6428		
6429								CMPT6429		
5087							CMKT5087 (2x)	CMPT5087		
5087E				CMUT5087E	CMLT5087E (2x) CMLT5087EM (2x Matched)		CMKT5087E (2x)	CMPT5087E		
5086								CMPT5086		
992								CMPT992		
5088E (NPN) + 5087E (PNP)					CMLT5078E (2x)					
5088 (NPN) + 5087 (PNP)							CMKT5078 (2x)			

853			CTLT853-M833S						CXT853	CZT853
3019								CMPT3019	CXT3019	CZT3019
A06								CMPTA06		
491E					CMLT491E			CMPT491E	CXT491E	
651										CZT651
3410	CTLT3410-M621	CTLM3410-M832D (2x)		CMUT3410	CMLT3410 (2x)	CMST3410		CMPT3410	CXT3410	
68									CBCX68	CBCP68
953			CTLT953-M833S						CXT953	CZT953
4033								CMPT4033	CXT4033	CZT4033
A56								CMPTA56		
591E					CMLT591E			CMPT591E	CXT591E	
751										CZT751
7410	CTLT7410-M621	CTLM7410-M832D (2x)		CMUT7410	CMLT7410 (2x)	CMST7410		CMPT7410	CXT7410	
69									CBCX69	CBCP69
3410 (NPN) + 7410 (PNP)		CTLM3474-M832D (2x)			CMLT3474 (2x)					

(2x) under part number indicates two devices in one package.
(4x) under part number indicates four devices in one package.

RF Oscillator

	FAMILY	I _C	V _{CB0}	V _{CE0} *V _{BCE}	V _{EBO}	I _{CB0}	@	V _{CB}	h _{FE}		@ V _{CE}	@ I _C	V _{CE} (SAT)	@ I _C	C _{ob}	f _T	NF	t _{off}
		(A) MAX	(V) MIN	(V) MIN	(V) MIN	(nA) MAX		(V)	MIN	MAX	(V)	(mA)	(V) MAX	(mA)	(pF) MAX	(MHz) MIN	(dB) MAX	(ns) MAX
Devices are listed in order of descending f _T .																		
NPN	5179	0.05	20	12	2.5	20		15	25	—	1.0	3.0	0.4	10	1.0	900	4.5	—
	H10	0.05	30	25	3.0	100		25	60	—	10	4.0	0.5	4.0	0.7	650	—	—
	918	0.05	30	15	3.0	10		15	20	—	1.0	3.0	0.4	10	1.7	600	6.0	—
PNP	H81	0.05	20	20	3.0	100		10	60	—	10	5.0	0.5	5.0	0.85	600	—	—

High Voltage



Devices are listed in order of descending breakdown voltage.

E➤	NPN	A46	0.5	450	450	6.0	100	400	50	200	10	10	0.5	50	7.0	20	—	—
		A44	0.3	450	400	6.0	100	400	50	200	10	10	0.75	50	7.0	20	—	—
		6517	0.5	350	350	5.0	50	250	30	200	10	30	1.0	50	—	40	—	—
		A42E	0.5	350	350	6.0	250	200	50	—	10	30	0.35	50	6.0	50	—	—
		A42	0.5	300	300	6.0	100	200	40	—	10	30	0.5	20	3.0	50	—	—
		5551E	0.6	250	220	6.0	50	120	120	300	5.0	10	0.1	50	6.0	100	8.0	—
		5551	0.6	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	—
		5551HC	1.0	180	160	6.0	50	120	80	250	5.0	10	0.2	50	15	100	—	—
E➤	PNP	A96	0.5	450	450	6.0	100	400	50	200	10	10	0.5	50	7.0	20	—	—
		A94	0.3	400	400	6.0	100	350	50	200	10	10	0.75	50	7.0	20	—	—
		6520	0.5	350	350	5.0	50	250	30	200	10	30	1.0	50	—	40	—	—
		A92E	0.5	350	350	6.0	250	200	50	—	10	30	0.35	50	6.0	50	—	—
		A92	0.5	300	300	5.0	250	200	25	—	10	30	0.5	20	6.0	50	—	—
		5401E	0.6	250	220	7.0	50	120	100	300	5.0	10	0.15	50	6.0	100	8.0	—
		5401	0.6	160	150	5.0	50	100	60	240	5.0	10	0.5	50	6.0	100	8.0	—
	NPN & PNP	5551 (NPN) +	0.6	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	—
		5401 (PNP)	0.6	160	150	5.0	50	120	60	240	5.0	10	0.5	50	6.0	100	8.0	—

Saturated Switches

Devices are listed in order of descending f_T .



NPN	2369	0.5	40	15	4.5	400	20	40	120	1.0	10	0.25	10	4.0	500	—	18
	3646	0.2	40	15	5.0	500*	20	15	—	1.0	300	0.5	300	5.0	350	—	28
PNP	3640	0.08	12	12	4.0	10*	6.0	30	120	0.3	10	0.6	50	3.5	500	—	35



Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold



Indicates Sorted Columns.



**Tiny Leadless
Module™**

Package dimensions shown are maximum values in mm.

FAMILY	TLM832D  3.1 x 2.1 x 1.0	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-23  3.05 x 2.49 x 1.09	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
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5179		CMUT5179		CMPT5179		
H10				CMPTH10		
918				CMPT918		
H81				CMPTH81		

A46				CMPTA46		CZTA46
A44			CMLTA44	CMPTA44	CXTA44	CZTA44
6517				CMPT6517		
A42E				CMPTA42E		
A42				CMPTA42	CXTA42	CZTA42
5551E		CMUT5551E		CMPT5551E	CXT5551E	CZT5551E
5551	CTLT5551-M832D (2x)	CMUT5551	CMLT5551 (2x)	CMPT5551	CXT5551	CZT5551
5551HC			CMLT5551HC	CMPT5551HC	CXT5551HC	CZT5551HC

A96				CMPTA96		CZTA96
A94			CMLTA94	CMPTA94		CZTA94
6520				CMPT6520		
A92E				CMPTA92E		
A92				CMPTA92	CXTA92	CZTA92
5401E		CMUT5401E		CMPT5401E	CXT5401E	CZT5401E
5401		CMUT5401		CMPT5401	CXT5401	CZT5401
5551 (NPN)			CMLT5554 (2x)			
5401 (PNP)						

2369				CMPT2369		
3646				CMPT3646		
3640				CMPT3640		

(2x) under part number indicates two devices in one package.

Darlington

	FAMILY	I _C	BV _{CBO}	BV _{CEO} *BV _{CES}	BV _{EBO}	I _{CBO}	@	V _{CB}	h _{FE}		@ V _{CE}	@ I _C	V _{CE(SAT)}	@ I _C	C _{ob}	f _T	NF	t _{off}	
		(A)	(V)	(V)	(V)	(nA)		(V)			(V)	(mA)	(V)	(mA)	(pF)	(MHz)	(dB)	(ns)	
		MAX	MIN	MIN	MIN	MAX				MIN	MAX			MAX		MAX	MIN	MAX	MAX
Devices are listed in order of descending h _{FE} .																			
E➔ E➔	NPN	900K	1.0	50	25	10	100	30	900,000	—	5.0	100	1.5	100	—	125	—	—	
		250K	1.0	50	25	10	100	30	250,000	—	5.0	100	1.5	100	—	125	—	—	
		A14E	0.5	40	40*	10	100	40	40,000	—	5.0	100	1.0	100	—	125	—	—	
		6427E	0.5	60	60*	14	100	30	25,000	200,000	5.0	100	1.0	500	7.0	200†	10	—	
		A14	0.5	30	30*	10	100	30	20,000	—	5.0	100	1.5	100	—	125	—	—	
		6427	0.5	40	40	12	50	30	20,000	200,000	5.0	100	1.5	500	7.0	130	10	—	
		A13	0.5	30	30*	10	100	30	10,000	—	5.0	100	1.5	100	—	125	—	—	
		A27	0.5	60	60*	10	100	50	10,000	—	5.0	100	1.5	100	—	125	—	—	
		A28	0.5	80	80*	12	100	60	10,000	—	5.0	100	1.5	100	8.0	125	—	—	
		A29	0.5	100	100*	12	100	80	10,000	—	5.0	100	1.5	100	8.0	125	—	—	
		2000	0.6	200	200*	10	500	180	3,000	—	5.0	160	1.1	80	—	—	—	—	
	PNP	A64	0.5	30	30*	10	100	30	20,000	—	5.0	100	1.5	100	—	125	—	—	
		A63	0.5	30	30*	10	100	30	10,000	—	5.0	100	1.5	100	—	125	—	—	
		A77	0.5	60	60*	10	100	50	10,000	—	5.0	100	1.5	100	—	125	—	—	

Low V_{CE(SAT)}

NPN	3410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	—	—
	3820	1.0	80	60	5.0	100	60	100	—	5.0	1,000	0.28	1,000	10	150	—	—
PNP	7410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	—	—
	7820	1.0	80	60	5.0	100	60	100	—	5.0	1,000	0.34	1,000	15	150	—	—
NPN & PNP	3410 (NPN) +	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	—	—
	7410 (PNP)	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	—	—

Chopper

PNP	404A	0.15	40	35	25	100	10	100	400	0.15	12	0.20	24	40	—	—	—
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E➤ Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold

⚡ Indicates Sorted Columns.



Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

FAMILY	TLM621  2.15 x 1.15 x 0.8	TLM832D  3.1 x 2.1 x 1.0	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-323  2.2 x 2.2 x 1.1	SOT-23  3.05 x 2.49 x 1.09	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
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	900K							CZT900K
	250K							CZT250K
	A14E					CMPTA14E		
	6427E			CMLT6427E	CMST6427E			
	A14					CMPTA14	CXTA14	CZTA14
	6427					CMPT6427		
	A13					CMPTA13		
	A27					CMPTA27	CXTA27	CZTA27
	A28							CZTA28
	A29					CMPTA29		
	2000							CZT2000
	A64					CMPTA64	CXTA64	CZTA64
	A63					CMPTA63		
	A77					CMPTA77		CZTA77

	3410	CTLT3410-M621		CMUT3410	CMLT3410 (2x)	CMST3410	CMPT3410	CXT3410	
	3820				CMLT3820G		CMPT3820	CXT3820	
	7410	CTLT7410-M621		CMUT7410	CMLT7410 (2x)	CMST7410	CMPT7410	CXT7410	
	7820				CMLT7820G		CMPT7820	CXT7820	
	3410 (NPN) + 7410 (PNP)		CTLM3474-M832D (2x)		CMLT3474 (2x)				

	404A						CMPT404A		
--	------	--	--	--	--	--	----------	--	--

(2x) under part number indicates two devices in one package.

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		Maximum Ratings ($T_A = 25^\circ\text{C}$)			
		I_D (A) MAX	BV_{DSS} (V) MIN	$r_{DS(ON)}$ (Ω) TYP	Case Type
600V	Central Item No.				
	CDM4-600LR	4.0	600	0.65 @ 2.0A	DPAK
	CDM7-600LR	7.0	600	0.53 @ 3.5A	DPAK
700V	CDM22011-600LRFP	11	600	0.30 @ 5.5A	TO-220FP
	CDM7-700LR	7.0	700	0.50 @ 3.5A	DPAK
800V	CDM2206-800LR	6.0	800	0.8 @ 3.0A	TO-220
	CDM22012-800LRFP	12	800	0.37 @ 6.0A	TO-220FP

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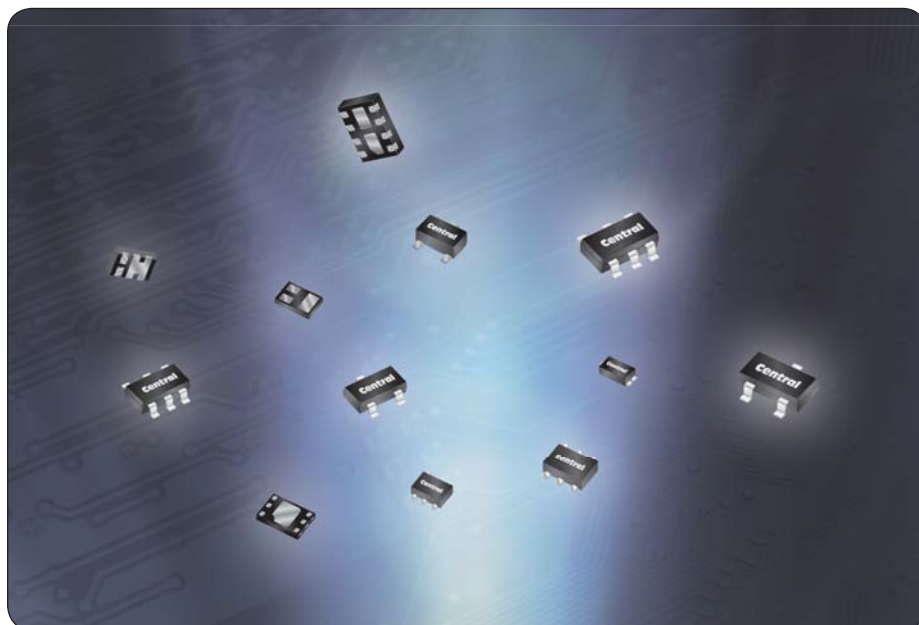
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MOSFETs



Tiny Leadless Module™

FAMILY	I _D *T _L =25°C (A)	BV _{DSS} (V) MIN	r _{DS(ON)} @ V _{GS}		V _{GS(th)}		C _{iss} (pF) †TYP MAX	C _{rss} (pF) †TYP MAX	C _{oss} (pF) †TYP MAX	Q _{g(tot)} (nC) †TYP MAX	t _{on} (ns) †TYP MAX	t _{off} (ns) †TYP MAX	TLM621			TLM621H			TLM832DS		
			(Ω) MAX	(V)	(V) MIN	(V) MAX							 2.15 x 1.15 x 0.8			 2.15 x 1.65 x 0.4			 3.05 x 2.05 x 1.05		

Devices are listed in order of ascending I_D.

E➤

E➤

N-Channel

7001	0.1	20	3.0	4.0	0.6	0.9	†9.0	†4.0	†9.5	†0.566	†50	†75								
7002	0.115	60	7.5	10	1.0	2.5	50	5.0	25	†0.592	20	20								
3590	0.16	20	3.0	4.5	0.4	1.0	†9.0	†2.2	3.0	†0.458	†25	†85								
7002A	0.28	60	2.0	10	1.0	2.5	50	5.0	25	†0.592	20	20	CTLDM7002A-M621			CTLDM7002A-M621H (2x)				
7002AE	0.3	60	1.4	10	1.2	2.0	50	5.0	25	†0.5	20	45								
7003E	0.28	50	2.3	1.8	0.49	1.2	50	5.0	25	†0.764	–	–								
7003TG	0.28	50	2.3	1.8	0.7	1.2	50	5.0	25	†0.764	–	–								
7003	0.28	50	3.0	1.8	0.49	1.0	50	5.0	25	†0.764	–	–	CTLDM7003-M621 (2x)							
3737	0.54	20	0.55	4.5	0.45	1.0	150	20	25	†1.58	†10	†25								
7005	0.65	20	0.23	4.5	0.5	1.1	†100	†18	†18	†1.58	†10	†25								
7120	1.0	20	0.14	2.5	0.5	1.2	†220	†45	†120	†2.4	†25	†140				CTLDM7120-M621H		CTLDM7120-M832DS (2x)		
7120TG	1.0	20	0.25	1.5	0.5	0.85	†220	†45	†120	†2.4	†25	†140								
7002AHC	1.0	63	0.22	10	1.2	2.3	240	25	50	†2.3	35	50								
7004	*1.78	30	0.56	2.5	0.5	1.0	†43	†5.0	†8.0	†0.792	†20	†75								
1002N	2.0	100	0.30	10	1.5	2.5	†550	†48	†45	†6.0	†32	†50								
1003N	3.0	100	0.15	10	2.0	4.0	†705	†55	80	†15	†40	†60								
3-800	3.0	800	4.8	10	2.0	4.0	†415	†1.5	†44	†11.3	†33	†50								
203NH	3.2	20	0.05	4.5	0.6	1.2	†395	†44	†97	10	†6.0	†22.8								
303N	3.6	30	0.04	4.5	0.6	1.2	†590	†55	†50	13	†15	†29						CTLDM303N-M832DS (2x)		
303NH	3.6	30	0.04	4.5	0.6	1.2	†590	†55	†50	13	†15	†29								
4-600LR	4.0	600	0.95	10	2.0	4.0	†328	†1.31	†26	†11.59	†32	†57								
4-650	4.0	650	2.7	10	2.0	4.0	†463	†1.0	†60	†11.4	†32	†44								
6053N	5.3	60	0.041	10	1.0	3.0	†920	†53	†49	†8.8	†33	†42								
305N	5.8	30	0.03	10	1.0	3.0	560	54	†52	†4.2	†6.5	†8.5								
4060N	6.0	40	0.031	10	1.0	3.0	†730	†64	†58	†12	†27	†33								
3069N	6.9	30	0.03	10	0.7	1.4	†580	†47	†42	†11	†20	†28								
7-600LR	7.0	600	0.58	10	2.0	4.0	†440	†1.94	†33	†14.5	†35	†70								
7-650	7.0	650	1.5	10	2.88	4.0	†754	†0.8	†97	†16.8	†42	†66								
7-700LR	7.0	700	0.60	10	2.0	4.0	†561	†2.45	†26.9	†18.8	†44	†87								
3011N	11	30	0.02	10	1.0	3.0	†860	†100	†120	†6.3	†20	†30								

E➤ Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold

Indicates Sorted Columns.

Package dimensions shown are maximum values in mm.

SOT-953	SOT-963	SOT-883VL	SOT-883L	SOT-523	SOT-563	SOT-23	SOT-23F	SOT-26	SOT-89	SOIC-8	SOT-223	DPAK
 1.05 x 1.05 x 0.5	 1.05 x 1.05 x 0.5	 1.05 x 0.65 x 0.32	 1.05 x 0.65 x 0.4	 1.7 x 1.7 x 0.78	 1.7 x 1.7 x 0.6	 3.05 x 2.49 x 1.09	 3.0 x 2.5 x 1.0	 3.0 x 3.0 x 1.2	 4.7 x 4.5 x 1.7	 5.01 x 6.18 x 1.71	 6.7 x 7.3 x 1.8	 10.73 x 6.81 x 2.75
CMNDM7001		CEDM7001VL	CEDM7001	CMUDM7001								
						2N7002						
	CMRDM3590 (2x)											
					CMLDM7002A CMLDM7002AJ (2x)	CMPDM7002A		CMXDM7002A (2x)				
			CEDM7002AE			CMPDM7002AE						
					CMLDM7003E CMLDM7003JE (2x)							
					CMLDM7003TG (2x)							
					CMLDM7003 CMLDM7003J (2x)	CMPDM7003						
					CMLDM3737 (2x)							
				CMUDM7005	CMLDM7005 CMLDM7005R (2x)							
					CMLDM7120G	CMPDM7120G						
					CMLDM7120TG							
						CMPDM 7002AHC						
		CEDM7004VL	CEDM7004	CMUDM7004					CXDM1002N			
											CZDM1003N	
												CDM3-800
							CMPDM203NH					
							CMPDM303NH					
												CDM4-600LR
												CDM4-650
									CXDM6053N			
										CWDM305N CWDM305ND (2x)		
									CXDM4060N			
									CXDM3069N			
												CDM7-600LR
												CDM7-650
												CDM7-700LR
										CWDM3011N		

MOSFETs



FAMILY	I _D	BV _{DSS}	r _{DS(ON)}	@ V _{GS}	V _{GS(th)}		C _{iss}	C _{rss}	C _{oss}	Q _{g(tot)}	t _{on}	t _{off}	TLM621	TLM621H
	*T _L =25°C						(pF)	(pF)	(pF)	(nC)	(ns)	(ns)		
	(A)	(V)	(Ω)	(V)	(V)		†TYP	†TYP	†TYP	†TYP	†TYP	†TYP	2.15 x 1.15 x 0.8	2.15 x 1.65 x 0.4
		MIN	MAX		MIN	MAX	MAX	MAX	MAX	MAX	MAX	MAX		
 Devices are listed in order of ascending I_D.														

 Devices are listed in order of ascending I_D.

P-Channel	8001	0.1	20	8.0	4.0	0.6	1.1	†45	†15	†15	†0.658	†35	†80			
	7590	0.14	20	5.0	4.5	0.4	1.0	†10	†4.0	†3.7	†0.50	†35	†100			
	8002A	0.28	50	3.0	5.0	1.0	2.5	70	7.0	15	†0.72	20	20	CTLDM8002A-M621	CTLDM8002A-M621H (2x)	
	5757	0.43	20	0.9	4.5	0.45	1.0	175	20	30	†1.2	†38	†48			
	8004	0.45	30	2.0	2.5	0.5	1.0	55	10	15	†0.88	—	—			
	8005	0.65	20	0.36	4.5	0.5	1.0	†100	†25	†21	†1.2	†38	†48			
	8120	0.86	20	0.2	2.5	0.45	1.0	†200	†80	†60	†3.56	†20	†25		CTLDM8120-M621H	
	8120TG	0.86	20	0.24	1.8	0.45	0.85	†200	†80	†60	†3.56	†20	†25			
	202PH	2.3	20	0.088	5.0	0.6	1.4	†800	†85	†75	12	†25	†48			
	302PH	2.4	30	0.091	4.5	0.7	1.4	†800	†69	†62	9.6	†12	†17			
	304P	4.2	30	0.070	10	0.7	1.3	†760	†53	†50	†64	†40	†75			
	305P	5.3	30	0.072	10	1.0	3.0	†500	†50	150	†7.0	†7.0	†8.0			
	4060P	6.0	40	0.065	10	1.0	3.0	†750	†61	†56	†6.5	†18	†64			
	3011P	11	30	0.020	10	1.0	3.0	†3100	†450	†320	†80	†49	†330			
N-Channel & P-Channel	3590 (N-Channel)	0.16	20	3.0	4.5	0.4	1.0	†9.0	†2.2	†3.0	†0.458	†25	†85			
	+ 7590 (P-Channel)	0.14	20	5.0	4.5	0.4	1.0	†10	†4.0	†3.7	†0.50	†35	†100			
	7002A (N-Channel)	0.28	60	2.0	10	1.0	2.5	50	5.0	25	†0.592	20	20			
	+ 8002A (P-Channel)	0.28	50	3.0	5.0	1.0	2.5	70	7.0	15	†0.72	20	20			
	7120 (N-Channel)	1.0	20	0.14	2.5	0.5	1.2	†220	†45	†120	†2.4	†25	†140			
	+ 8120 (P-Channel)	0.86	20	0.2	2.5	0.45	1.0	†200	†80	†60	†3.56	†20	†25			
	3737 (N-Channel)	0.54	20	0.55	4.5	0.45	1.0	150	20	25	†1.58	†10	†25			
	+ 5757 (P-Channel)	0.43	20	0.9	4.5	0.45	1.0	175	20	30	†1.2	†38	†48			
	7004 (N-Channel)	*1.78	30	0.56	2.5	0.5	1.0	†43	†5.0	15	†0.792	†20	†75			
	+ 8004 (P-Channel)	0.45	30	2.0	2.5	0.5	1.0	55	10	15	†0.88	—	—			
	7005 (N-Channel)	0.65	20	0.23	4.5	0.5	1.1	†100	†18	16	†1.58	†10	†25			
	+ 8005 (P-Channel)	0.65	20	0.36	4.5	0.5	1.0	†100	†25	21	†1.2	†38	†48			

 Indicates Sorted Columns.

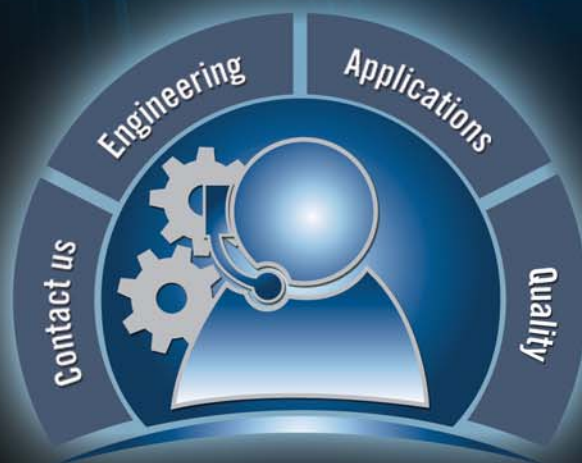
Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

TLM832D	TLM832DS	SOT-953	SOT-963	SOT-883VL	SOT-883L	SOT-523	SOT-563	SOT-363	SOT-23	SOT-23F	SOT-89	SOIC-8
												
3.1 x 2.1 x 1.0	3.05 x 2.05 x 1.05	1.05 x 1.05 x 0.5	1.05 x 1.05 x 0.5	1.05 x 0.65 x 0.32	1.05 x 0.65 x 0.4	1.7 x 1.7 x 0.78	1.7 x 1.7 x 0.6	2.2 x 2.3 x 1.1	3.05 x 2.49 x 1.09	3.0 x 2.5 x 1.0	4.7 x 4.5 x 1.7	5.01 x 6.18 x 1.71

			CMNDM8001		CEDM8001VL	CEDM8001	CMUDM8001					
				CMRDM7590 (2x)								
								CMLDM8002A CMLDM8002AJ (2x)		CMPDM8002A		
								CMLDM5757 (2x)				
					CEDM8004VL	CEDM8004	CMUDM8004					
							CMUDM8005	CMLDM8005 (2x)	CMKDM8005 (2x)			
		CTLDM8120- M832DS (2x)						CMLDM8120		CMPDM8120		
								CMLDM8120TG				
										CMPDM202PH		
										CMPDM302PH		
		CTLDM304P- M832DS (2x)										
												CWDM305P CWDM305PD (2x)
											CXDM4060P	
												CWDM3011P
				CMRDM3575 (2x)								
								CMLM0708A (2x)				
CTLDM7181- M832D (2x)												
								CMLDM3757 (2x)				
								CMLDM7484 (2x)				
								CMLDM7585 (2x)				

(2x) under part number indicates two devices in one package.



Support Resources



Application Resources

More information on page 24



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Parametric

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Engineering Resources

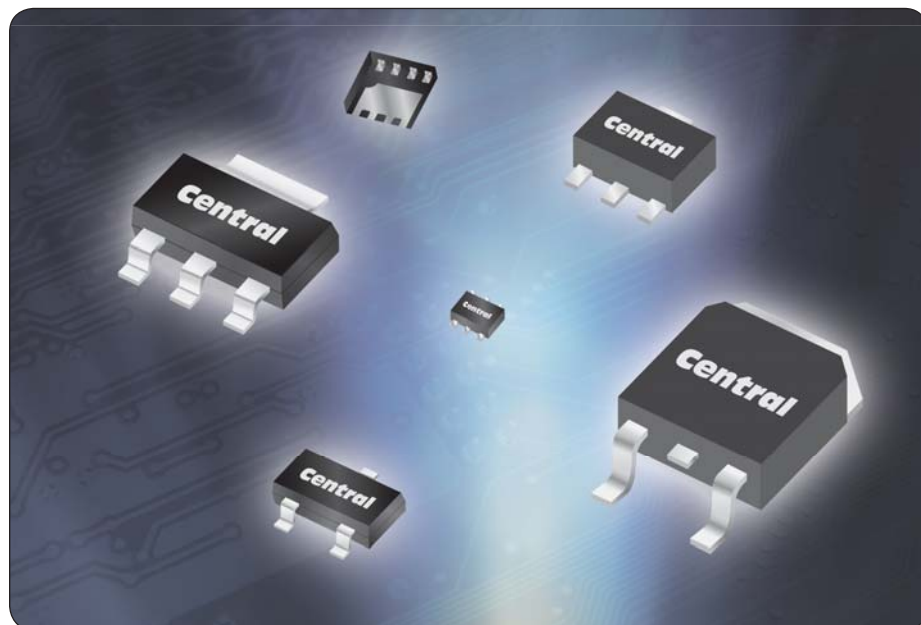


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Quality Resources



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Bipolar Power Transistors

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General Purpose Amplifiers/Switches

	FAMILY	I _C	BV _{CBO} * BV _{CEV}	BV _{CEO}	h _{FE}		@ I _C	V _{CE(SAT)}	@ I _C	f _T	
		(A) MAX	(V) MIN	(V) MIN	MIN	MAX	(A)	(V) MAX	(A)	†TYP. (MHZ) MIN	
 Devices are listed in order of descending I _C .											
NPN	3055	10	70	60	20	100	4.0	1.1	4.0	–	
	44H11	8.0	80	80	40	–	4.0	1.0	8.0	60†	
	853	6.0	200	100	100	300	2.0	0.17	2.0	190†	
	41C	6.0	100	100	15	75	3.0	1.5	6.0	3.0	
	3150	5.0	50	25	150	–	2.0	0.5	4.0	150†	
	5338	5.0	100	100	30	120	2.0	1.2	5.0	30	
	200	5.0	40	25	45	180	2.0	1.8	5.0	65	
	31C	3.0	100	100	10	50	3.0	1.2	3.0	3.0	
	3120	3.0	120	70	100	300	0.5	0.5	2.0	8.0	
	A44HC	2.0	450	400	30	–	1.0	0.5	1.0	10	
	2680	1.5	250	200	40	–	0.5	0.5	1.0	50	
	491E	1.0	80	60	200	600	0.5	0.4	1.0	150	
PNP	2955	10	70	60	20	100	4.0	1.1	4.0	2.0	
	45H11	8.0	80	80	40	–	4.0	1.0	8.0	50†	
	42C	6.0	100	100	15	75	3.0	1.5	6.0	3.0	
	953	5.0	140	100	100	300	1.0	0.22	2.0	150†	
	210	5.0	40	25	45	180	2.0	1.8	5.0	5.0	
	955	4.0	180	140	100	300	1.0	0.36	3.0	200†	
	32C	3.0	100	100	10	50	3.0	1.2	3.0	3.0	
	7120	3.0	120	70	100	300	0.5	0.5	2.0	8.0	
	591E	1.0	80	60	200	600	0.5	0.4	1.0	150	

High Voltage

S Devices are listed in order of descending breakdown voltage.											
NPN	13003	1.5	700*	400	5.0	25	1.0	3.0	1.5	4.0	
	50	1.0	500	400	30	150	0.3	1.0	1.0	10	
	47	1.0	350	250	30	150	0.3	1.0	1.0	10	
	340	0.5	300	300	30	240	0.05	–	–	–	
PNP	350	0.5	300	300	30	240	0.05	–	–	–	

Extremely High Voltage

NPN	UX87	0.5	900*	450	12	–	0.04	1.0	0.2	20†	
-----	------	-----	------	-----	----	---	------	-----	-----	-----	--

Darlington

NPN	112	2.0	100	100	1,000	12,000	2.0	2.0	2.0	25	
	122	8.0	100	100	1,000	12,000	4.0	4.0	8.0	4.0	
PNP	117	2.0	100	100	1,000	12,000	2.0	2.0	2.0	25	
	127	8.0	100	100	1,000	12,000	4.0	4.0	8.0	4.0	

Low V_{CE(SAT)}

Devices are listed in order of descending V _{CE(SAT)} S											
E> NPN	3150	5.0	50	25	150	–	2.0	0.6	4.0	150†	
	3090L	3.0	45	15	200	–	1.0	0.3	3.0	100	
	3090LE	3.0	60	50	300	–	1.0	0.25	3.0	100	
E> PNP	7090L	3.0	50	40	200	–	1.0	0.75	2.0	100	
	7090LE	3.0	60	50	250	–	1.0	0.3	2.0	100	

E> Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold S Indicates Sorted Columns.



Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

FAMILY		TLM833S  3.15 x 3.15 x 1.0	SOT-563  1.7 x 1.7 x 0.6	SOT-23  3.05 x 2.49 x 1.09	SOT-26  3.0 x 3.0 x 1.2	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8	DPAK  10.73 x 6.81 x 2.75
	3055						CZT3055	CJD3055
	44H11							CJD44H11
	853	CTLT853-M833S				CXT853	CZT853	
	41C							CJD41C
	3150						CZT3150	
	5338						CZT5338	
	200							CJD200
	31C						CZT31C	CJD31C
	3120						CZT3120	
	A44HC						CZTA44HC	
	2680						CZT2680	
	491E		CMLT491E	CMPT491E		CXT491E		
	2955						CZT2955	CJD2955
	45H11							CJD45H11
	42C							CJD42C
	953	CTLT953-M833S				CXT953	CZT953	
	210							CJD210
	955						CZT955	
	32C						CZT32C	CJD32C
	7120						CZT7120	
	591E		CMLT591E	CMPT591E		CXT591E		
	13003							CJD13003
	50							CJD50
	47							CJD47
	340							CJD340
	350							CJD350
	UX87						CZTUX87	
	112							CJD112
	122						CZT122	CJD122
	117							CJD117
	127						CZT127	CJD127
	3150					CXT3150	CZT3150	
	3090L				CMXT3090L	CXT3090L	CZT3090L	
	3090LE						CZT3090LE	
	7090L				CMXT7090L	CXT7090L	CZT7090L	
	7090LE						CZT7090LE	



Application Resources

Central Semiconductor's online Application Resources provide designers with an insightful overview of devices designed to meet the requirements of specific end product applications.

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Alternative Energy



Lighting



Consumer



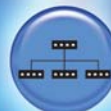
Medical



Industrial



Networking



Block diagrams include:

- Detailed device information
- Package specifications
- Technical datasheets
- Links to request samples



For more information:

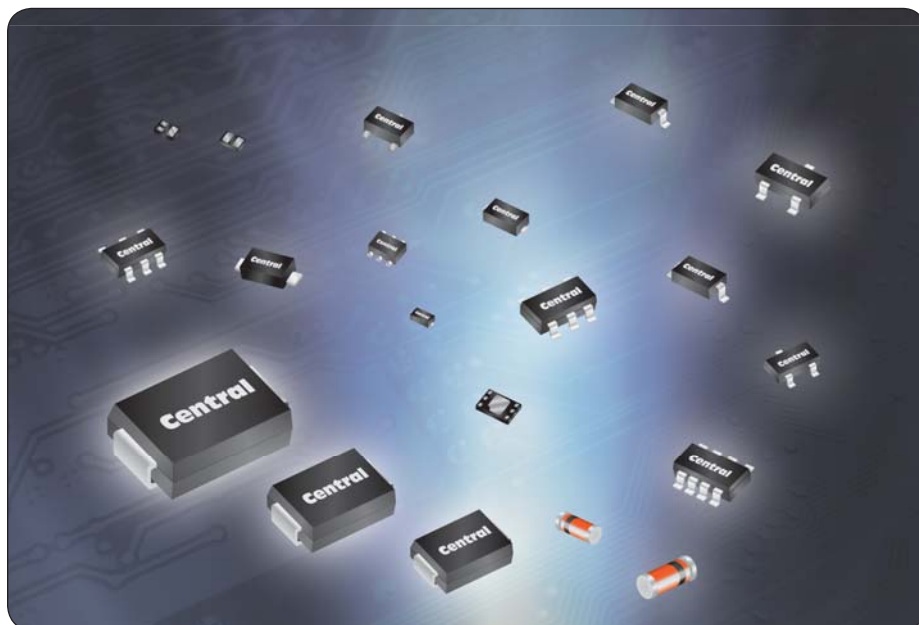


Challenges
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Diodes

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Switching Diodes

	FAMILY	DESCRIPTION	V _{RRM} (V) MAX	I _F (mA) MAX	V _F (V) MAX	@	I _F (mA)	t _{rr} (ns) MAX	FAMILY	SOD-923  1.10 x 0.65 x 0.41		
			Devices are listed in order of ascending V _{RRM} .									
Switching Diodes	4150	Single	50	250	0.86 0.92 1.0		50 100 200	4.0	4150			
	6i	Monolithic, Quad Diode Array	60	250	1.0		10	100	6i			
	56	High Current, Dual, Isolated	60	200	0.75 1.0		10 200	6.0	56			
	2836	CMUD2836, CMSD2836, and CMPD2836: Dual, Common Anode CMKD2836: Dual Pair, Common Anode	75	200	1.0		50	4.0	2836			
	2838	CMUD2838, CMSD2838, and CMPD2838: Dual, Common Cathode CMLD2838, and CMKD2838: Dual Pair, Common Cathode	75	200	1.0		50	4.0	2838			
	28	Dual, Isolated	85	200	0.715 1.0		1.0 50	6.0	28			
	100	Dual, Isolated	85	250	0.715 1.0		1.0 50	6.0	100			
	1001	CMPD1001: Single CMPD1001A: Dual, Common Anode CMPD1001S: Dual, In Series	90	250	0.75 0.9 1.0		10 100 200	50	1001			
	914	Single	100	250	1.0		10	4.0	914			
	4448	CMAD4448, CFD4448, CMOD4448, CMUD4448, CMDD4448, CMSD4448, and CMHD4448: Single CMLD4448: Dual, Isolated CMLD4448: Dual, Opposing, Isolated CMKD4448, and CMXD4448: Triple, Isolated	100	250	1.0		100	4.0	4448	CMAD4448 (1x)		
	7000	CMUD7000, CMSD7000, and CMPD7000: Dual, In Series CMKD7000: Dual Pair, In Series	100	200	0.7 0.82 1.1		1.0 10 100	4.0	7000			
	2836E	Dual, Common Anode, Enhanced	120	200	0.85 0.95		10 50	4.0	2836E			
	2838E	Dual, Common Cathode, Enhanced	120	200	0.85 0.95		10 50	4.0	2838E			
	914E	Single, Enhanced	120	250	0.85		10	4.0	914E			
	7000E	CMKD7000E: Dual Pair, In Series, Enhanced CMPD7000E: Dual, In Series, Enhanced	120	200	0.65 0.77 1.0		1.0 10 100	4.0	7000E			
	5001	CMPD5001: Single CMPD5001S: Dual, In Series	120	400	0.75 0.9 1.0		10 100 200	50	5001			
	2003	CMHD2003, and CMPD2003: Single CMPD2003C: Dual, Common Cathode CMPD2003S: Dual, In Series	250	250	1.0		100	50	2003			
2004	CMOD2004, CMDD2004, and CMPD2004: Single CMLD2004, and CMFD2004i: Dual, Isolated CMLD2004A, and CMPD2004A: Dual, Common Anode CMLD2004C, and CMPD2004C: Dual, Common Cathode CMLD2004S, and CMPD2004S: Dual, In Series CMLD2004DO: Dual, Opposing CMXD2004: Triple, Isolated CMXD2004TO: Triple, Opposing CMXD2004S, and CMXD2004SR: Dual Pair, In Series	300	225	1.0		100	50	2004				
2005	CMOD2005: Single CMSD2005S, and CMPD2005S: Dual, In Series	350	225	0.87 1.0		20 100	50	2005				
3004	Dual, In Series	375	225	1.0		100	50	3004				

 Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold

 Indicates Sorted Columns.

Package dimensions shown are maximum values in mm.

SOD-882L	SOT-883L	SOD-523	SOT-523	SOT-563	SOD-323	SOT-323	SOT-363	SOD-123	SOT-23	SOT-143	SOT-26	SOT-28
												
1.05 x 0.65 x 0.4	1.05 x 0.65 x 0.4	1.80 x 0.9 x 0.8	1.7 x 1.7 x 0.78	1.7 x 1.7 x 0.6	2.6 x 1.35 x 1.0	2.2 x 2.2 x 1.1	2.2 x 2.3 x 1.1	3.9 x 1.8 x 1.35	3.05 x 2.49 x 1.09	3.04 x 2.50 x 1.14	3.0 x 3.0 x 1.2	3.0 x 3.0 x 1.45
								CMHD4150 (1x)	CMPD4150 (1x)			
												CMEDA-6i (4x)
										BAS56 (2x)		
			CMUD2836 (2x)			CMSD2836 (2x)	CMKD2836 (4x)		CMPD2836 (2x)			
			CMUD2838 (2x)	CMLD2838 (4x)		CMSD2838 (2x)	CMKD2838 (4x)		CMPD2838 (2x)			
										BAS28 (2x)		
										BAW100 (2x)		
									CMPD1001 (1x) CMPD1001A CMPD1001S (2x)			
									CMPD914 (1x)			
CFD4448 (1x)		CMOD4448 (1x)	CMUD4448 (1x)	CMLD4448 CMLD4448DO (2x)	CMDD4448 (1x)	CMSD4448 (1x)	CMKD4448 (3x)	CMHD4448 (1x)			CMXD4448 (3x)	
			CMUD7000 (2x)			CMSD7000 (2x)	CMKD7000 (4x)		CMPD7000 (2x)			
									CMPD2836E (2x)			
	CED2838E (2x)								CMPD2838E (2x)			
									CMPD914E (1x)			
							CMKD7000E (4x)		CMPD7000E (2x)			
									CMPD5001 (1x) CMPD5001S (2x)			
								CMHD2003 (1x)	CMPD2003 (1x) CMPD2003A CMPD2003C CMPD2003S (2x)			
		CMOD2004 (1x)		CMLD2004 CMLD2004A CMLD2004C CMLD2004S CMLD2004DO (2x)	CMDD2004 (1x)	CMSD2004S (2x)			CMPD2004 (1x) CMPD2004A CMPD2004C CMPD2004S (2x)	CMFD2004i (2x)	CMXD2004 (3x) CMXD2004S CMXD2004SR (4x) CMXD2004TO (3x)	
		CMOD2005 (1x)				CMSD2005S (2x)			CMPD2005S (2x)			
											CMXD3004SR (2x)	

Suffix Codes:

A = Common Anode
C = Common Cathode
S = In Series
E = Enhanced Specification
i = Isolated Chips (CMEDA-6i has four Monolithic isolated diodes.)
DO = Dual, Opposing
TO = Triple, Opposing
SR = Opposing Dual Pair, In Series

(2x) under part number indicates two devices in one package.
(3x) under part number indicates three devices in one package.
(4x) under part number indicates four devices in one package.

Schottky Diodes



Tiny Leadless Module™

	FAMILY	DESCRIPTION	V _{RRM} (V) MAX	I _F * I _O (mA) MAX	V _F (V) MAX	@ I _F (mA)	t _{rr} (ns) MAX	C _T †TYP (pF) MAX	FAMILY	Tiny Leadless Module™			
										TLM2D3D6 	TLM621 	TLM621H 	SOD-923
E High Voltage / Low Current	6263E	CMUD6263E: Single, Enhanced CMUD6263AE: Dual, Common Anode, Enhanced CMUD6263CE: Dual, Common Cathode, Enhanced CMUD6263SE: Dual, In Series, Enhanced	70	70	0.32 0.4 0.75	100µA 1.0 10	5.0	2.0	6263E				
	6263	CMAD6263, CMOD6263, CMDD6263, CMSD6263, and CMPD6263: Single CMSD6263A, and CMPD6263A: Dual, Common Anode CMSD6263C, and CMPD6263C: Dual, Common Cathode CMSD6263S, and CMPD6263S: Dual, In Series CMKD6263: Triple, Isolated CMLD6263: Dual, Isolated CMLD6263A: Dual Pair, Common Anode CMLD6263C: Dual Pair, Common Cathode CMLD6263S: Dual Pair, In Series CMRD6263DO, CMLD6263DO, and CMKD6263DO: Dual, Opposing, Isolated	70	15	0.395 (TYP) 0.41	1.0 1.0	5.0	2.0	6263				CMAD6263 (1x)
S Devices are listed in order of ascending I _F													
Low Current • 30V	SH01-30	Single	30	*100	0.46	10	–	7.0†	SH01-30	CTLSH01-30 (1x)			
	SH-3	CMOSH-3, CMDSH-3, CMSSH-3, CMHSH-3, and CMPSH-3: Single CMFSH-3i: Dual, Isolated CMSSH-3A, and CMPSH-3A: Dual, Common Anode CMSSH-3C, and CMPSH-3C: Dual, Common Cathode CMSSH-3S, and CMPSH-3S: Dual, In Series CMKSH-3DO: Dual, Opposing Polarity CMKSH-3T, and CMXSH-3: Triple, Isolated	30	100	0.33 0.45	2.0 15	5.0	7.0	SH-3				
	SH1-3	Single	30	*100	0.18	1.0	–	15†	SH1-3				
	SH2-3	Single	30	*200	0.42 (TYP) 0.55	100 200	–	15†	SH2-3				
Low V _F 30V	SH01-30L	Single	30	*100	0.095 0.37	5.0µA 10	–	4.0†	SH01-30L	CTLSH01-30L (1x)			
	SH2-3L	Single	30	*200	0.40 0.48	100 200	–	25	SH2-30L				
Low Current • 40V	SH-3E	CMSSH-3E, and CMPSH-3E: Single CMSSH-3AE, and CMPSH-3AE: Dual, Common Anode CMSSH-3CE, and CMPSH-3CE: Dual, Common Cathode CMSSH-3SE, and CMPSH-3SE: Dual, In Series	40	200	0.33 0.42	2.0 15	5.0	7.0	SH-3E				
	SH-4	CMASH-4, CFSH-4, and CMDSH-4E: Single CMLSH-4: Dual, Isolated CMRSH-4DO, CMLSH-4DO: Dual, Opposing, Isolated	40	*200	0.38 0.65	1.0 15	5.0	7.0	SH-4				CMASH-4 (1x)
Medium Current	SH2-4	CMOSH2-4L, CMUSH2-4L, CMUSHW2-4L and CMDSH2-4L: Single CMKSH2-4LR: Triple, Isolated CMXSH2-4LS: Dual Pair, In Series	40	200	0.4	100	5.0	10	SH2-4				
		CFSH2-4L: Single	40	*200	0.52	100	5.0	10					
		CMUSH2-4: Single CMUSH2-4A: Dual, Common Anode CMUSH2-4C: Dual, Common Cathode CMUSH2-4S: Dual, In Series CMLSH2-4LA: Dual Pair, Common Anode CMLSH2-4LC: Dual Pair, Common Cathode CMLSH2-4LS: Dual Pair, In Series CMLSH2-4T: Triple, Isolated	40	200	0.6 0.75	50 100	5.0	10					
High Current	SH05-20L	Single	20	500	0.29 0.38 0.50	10 100 500	–	–	SH05-20L				
	SH05-4	CMUSH05-4, CMLSH05-4, CMDSH05-4, and CMPSH05-4: Single CMPSH05-4C: Dual, Common Cathode CMLSH05-4DO: Dual, Opposing, Isolated	40	500	0.27 0.35 0.47	10 100 500	5.0	50	SH05-4		CTLSH05-40M621 (1x)		
	SH05-45	Single	45	500	0.27 0.35 0.47	10 100 500	–	50	SH05-45				
	SH05-10	CMLSH05-10DA: Dual, Opposing, Isolated	100	500	0.85	500	–	–	SH05-10				
1.0 Amp	SH1-40	Single	40	*1000	0.29 0.36	10 100	15	–	SH1-40			CTLSH1-40M621H (1x)	

E Indicates Enhanced Specification Device. Enhanced Spec in **Red** and **Bold**

S Indicates Sorted Columns.

Package dimensions shown are maximum values in mm.

SOT-963	SOD-882L	SOD-723	SOD-523	SOT-523	SOT-523W	SOT-563	SOD-323	SOT-323	SOT-363	SOD-123	SOT-23	SOT-143	SOT-26
													
1.05 x 1.05 x 0.5	1.05 x 0.65 x 0.4	1.45 x 0.65 x 0.55	1.80 x 0.9 x 0.8	1.7 x 1.7 x 0.78	1.7 x 1.68 x 0.8	1.7 x 1.7 x 0.6	2.6 x 1.35 x 1.0	2.2 x 2.2 x 1.1	2.2 x 2.3 x 1.1	3.9 x 1.8 x 1.35	3.05 x 2.49 x 1.09	3.04 x 2.50 x 1.14	3.0 x 3.0 x 1.2
				CMUD6263E (1x) CMUD6263AE CMUD6263CE CMUD6263SE (2x)									
CMRD6263DO (2x)			CMOD6263 (1x)			CMLD6263 (2x) CMLD6263A CMLD6263C CMLD6263S (4x) CMLD6263DO (2x)	CMDD6263 (1x)	CMSD6263 (1x) CMSD6263A CMSD6263C CMSD6263S (2x)	CMKD6263 (3x) CMKD6263DO (2x)		CMPD6263 (1x) CMPD6263A CMPD6263C CMPD6263S (2x)		
	CFSH01-30 (1x)												
			CMOSH-3 (1x)				CMDSH-3 (1x)	CMSSH-3 (1x) CMSSH-3A CMSSH-3C CMSSH-3S (2x)	CMKSH-3DO (2x) CMKSH-3T (3x)	CMHSH-3 (1x)	CMPSH-3 (1x) CMPSH-3A CMPSH-3C CMPSH-3S (2x)	CMFSh-3i (2x)	CMXSH-3 (3x)
		CMGSH1-3 (1x)					CMDSH2-3 (1x)						
	CFSH01-30L (1x)												
	CFSH2-3L (1x)												
								CMSSH-3E (1x) CMSSH-3AE CMSSH-3CE CMSSH-3SE (2x)			CMPSH-3E (1x) CMPSH-3AE CMPSH-3CE CMPSH-3SE (2x)		
CMRSH-4DO (2x)	CFSH-4 (1x)		CMOSH-4E (1x)			CMLSH-4 CMLSH-4DO (2x)	CMDSH-4E (1x)						
			CMOSH2-4L (1x)	CMUSH2-4L (1x)	CMUSHW2-4L (1x)		CMDSH2-4L (1x)		CMKSH2-4LR (3x)				CMXSH2-4LS (4x)
	CFSH2-4L (1x)												
				CMUSH2-4 (1x) CMUSH2-4A CMUSH2-4C CMUSH2-4S (2x)		CMLSH2-4LA CMLSH2-4LC CMLSH2-4LS CMLSH2-4T (2x)							
	CFSH05-20L (1x)												
				CMUSH05-4 (1x)		CMLSH05-4 (1x) CMLSH05-4DO (2x)	CMDSH05-4 (1x)				CMPSH05-4 (1x) CMPSH05-4C (2x)		
							CMDSH05-45 (1x)						
						CMLSH05-10DA (2x)							
						CMLSH1-40 (1x)							

Suffix Codes:

A = Common Anode
C = Common Cathode
S = In Series
DO = Dual, Opposing
T = Triple
E = Enhanced Specification
AE = Common Anode with Enhanced Specification
CE = Common Cathode with Enhanced Specification

SE = In Series with Enhanced Specification
DO = Dual, Opposing
L = Low V_F
LR = Low V_F , Triple, Isolated
LS = Low V_F , Dual Pair, In Series
i = Isolated Chips

(2x) under part number indicates two devices in one package.
(3x) under part number indicates three devices in one package.
(4x) under part number indicates four devices in one package.

Low Leakage Diodes

	FAMILY	DESCRIPTION	V_{RRM}	I_O	I_R	@	V_R	V_F	@	I_F	C_T
			(V)	(mA)	(nA)		(V)	(V)		(mA)	(pF)
			MAX	MAX	MAX			MAX			MAX
 Devices are listed in order of ascending I_R											
Low Leakage Diodes	3003	CMOD3003, CMDD3003, and CMPD3003: Single CMPD3003A: Dual, Common Anode CMPD3003C: Dual, Common Cathode CMPD3003S: Dual, In Series CMKD3003DO and CMLD3003DO: Dual, Opposing, Isolated CMXD3003TO: Triple, Opposing, Isolated	200	200	1.0		125	1.1		200	4.0
	3595	Single	150	150	1.0		125	1.0		200	8.0
	457A	Single	70	200	25		60	1.0		100	6.0
	459A	Single	200	200	25		175	1.0		100	6.0

Ultra Low Leakage Diodes

Ultra Low Leakage Diodes	6001	CMAD6001, CMDD6001, CMSD6001, CMUDW6001, CMDD6001, and CMPD6001: Single CMSD6001A, and CMPD6001A: Dual, Common Anode CMSD6001C, and CMPD6001C: Dual, Common Cathode CMSD6001S, and CMPD6001S: Dual, In Series CMLD6001: Dual, Isolated CMLD6001DO: Dual, Opposing, Isolated CMKD6001, and CMXD6001: Triple, Isolated CMKD6000: Dual Pair, In Series	100	250	0.5		75	1.1		100	2.0

Stabistor Diodes

	FAMILY	V_F			@			I_F			V_F			@			I_F		
		(V)	(V)	(mA)	(V)	(V)	(mA)	(V)	(V)	(mA)	(V)	(V)	(mA)	(V)	(V)	(mA)	(V)	(V)	(mA)
		MIN	MAX		MIN	MAX		MIN	MAX		MIN	MAX		MIN	MAX		MIN	MAX	
Devices are listed in order of ascending V_F																			
Stabistor Diodes	S17	0.58	0.68	0.1	0.665	0.76	1.0	0.725	0.82	5.0	0.75	0.84	10	0.87	0.96	100			
	STB200	—	—	—	1.11	1.31	1.0	—	—	—	1.38	1.58	10	1.64	1.94	100			
	STB300	—	—	—	1.71	1.91	1.0	—	—	—	2.08	2.28	10	2.61	2.91	100			
	STB400	—	—	—	2.20	2.80	1.0	—	—	—	2.60	3.20	10	3.40	4.10	100			

Indicates Sorted Columns.

Current Limiting Diodes

SOD-123FL



3.7 x 1.7 x 0.8

Package dimensions shown are maximum values in mm.

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)
Peak Operating Voltage (CMJ0130 THRU CMJ5750)
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL		UNITS
P_{OV}	100	V
P_D	500	mW
T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Θ_{JA}	250	$^{\circ}\text{C/W}$

Type	Regulator Current (Note 1)			Minimum Dynamic Impedance	Minimum Knee Impedance	Maximum Limiting Voltage	Temperature Coefficient (Note 2)	Marking Code
	I_P @ $V_T=25\text{V}$			Z_T @ $V_T=25\text{V}$	Z_K @ $V_K=6.0\text{V}$	V_L @ $I_L=0.8 \times I_P$ MIN	TC	
	MIN mA	NOM mA	MAX mA	M Ω	k Ω	V	%/ $^{\circ}\text{C}$	
CMJ0130	0.05	0.13	0.21	6.0	2,000	0.6	+2.10 to +0.10	101
CMJ0300	0.20	0.31	0.42	4.0	1,000	0.8	+0.40 to -0.20	301
CMJ0500	0.40	0.515	0.63	2.0	500	1.1	+0.15 to -0.25	501
CMJ0750	0.60	0.76	0.92	1.0	200	1.4	0.0 to -0.32	701
CMJ1000	0.88	1.1	1.32	0.65	100	1.7	-0.10 to -0.37	102
CMJ1500	1.28	1.5	1.72	0.45	70	2.0	-0.13 to -0.40	152
CMJ2000	1.68	2.0	2.32	0.35	50	2.3	-0.15 to -0.42	202
CMJ2700	2.28	2.69	3.1	0.30	30	2.7	-0.18 to -0.45	272
CMJ3500	3.0	3.55	4.1	0.25	20	3.2	-0.20 to -0.47	352
CMJ4500	3.9	4.5	5.1	0.20	10	3.7	-0.22 to -0.50	452
CMJ5750	5.0	5.75	6.5	0.05	5.0	4.5	-0.25 to -0.53	562

Package dimensions shown are maximum values in mm.

FAMILY	SOD-923 	SOD-523 	SOT-523 	SOT-523W 	SOT-563 	SOD-323 	SOT-363 	SOD-123 	SOT-23 	SOT-26 	SOD-80 
	1.10 x 0.65 x 0.41	1.80 x 0.9 x 0.8	1.7 x 1.7 x 0.78	1.7 x 1.68 x 0.8	1.7 x 1.7 x 0.6	2.6 x 1.35 x 1.0	2.2 x 2.3 x 1.1	3.9 x 1.8 x 1.35	3.05 x 2.49 x 1.09	3.0 x 3.0 x 1.2	3.71 x 1.7
3003		CMOD3003 (1x)			CMLD3003DO (2x)	CMDD3003 (1x)	CMKD3003DO (2x)		CMPD3003 (1x) CMPD3003A CMPD3003C CMPD3003S (2x)	CMXD3003TO (3x)	
3595								CMHD3595 (1x)			CLL3595 (1x)
457A								CMHD457A (1x)			CLL457A (1x)
459A								CMHD459A (1x)			CLL459A (1x)

6001	CMAD6001 (1x)	CMOD6001 (1x)	CMSD6001 (1x) CMSD6001A CMSD6001C CMSD6001S (2x)	CMUDW6001 (1x)	CMLD6001 CMLD6001DO (2x)	CMDD6001 (1x)	CMKD6001 (3x) CMKD6000 (4x)		CMPD6001 (1x) CMPD6001A CMPD6001C CMPD6001S (2x)	CMXD6001 (3x)	
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Package dimensions shown are maximum values in mm.

FAMILY	SOT-23 	SOT-26 
	3.05 x 2.49 x 1.09	3.0 x 3.0 x 1.2
S17	CBAS17 (1x)	
STB200		CMXSTB200 (2x)
STB300		CMXSTB300 (3x)
STB400		CMXSTB400 (4x)

Suffix Codes:

A = Common Anode (except CMHD457A & CMHD459A)
C = Common Cathode

S = In Series
DO = Dual, Opposing

(2x) under part number indicates two devices in one package.
(3x) under part number indicates three devices in one package.
(4x) under part number indicates four devices in one package.

High Current, Current Limiting Diodes

SOD-123FL



3.7 x 1.7 x 0.8

Package dimensions shown are maximum values in mm.

MAXIMUM RATINGS: (T_A=25°C)

Peak Operating Voltage (CMJH080 THRU CMJH180)

Power Dissipation

Operating and Storage Junction Temperature

Thermal Resistance

SYMBOL

P _{OV}	50	V
P _D	500	mW
T _J , T _{stg}	-65 to +150	°C
θ _{JA}	250	°C/W

UNITS

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

Type	Regulator Current (Note 1) I _P @ V _T =25V			Minimum Dynamic Impedance Z _T @ V _T =25V	Minimum Knee Impedance Z _K @ V _K =6.0V	Maximum Limiting Voltage V _L @ I _L =0.8 x I _P MIN	Temperature Coefficient (Note 2) TC	Marking Code
	MIN mA	NOM mA	MAX mA	MΩ	kΩ	V	%/°C	
CMJH080	6.56	8.2	9.84	0.32	15	3.1	-0.25 to -0.45	822
CMJH100	8.0	10	12	0.17	6.0	3.5	-0.25 to -0.45	103
CMJH120	9.6	12	14.4	0.08	3.0	3.8	-0.25 to -0.45	123
CMJH150	12	15	18	0.03	2.0	4.3	-0.25 to -0.45	153
CMJH180	16	18	20	0.02	1.8	4.6	-0.25 to -0.45	183

Notes: 1) Pulsed Method: Pulse Width (ms) = 27.5 divided by I_P NOM (mA)
2) The Temperature Coefficient is measured between + 25°C and +50°C.

Temperature Compensated Zener Diodes

325mW
6.2 to 9.0V

Package dimensions shown are maximum values in mm.

POWER	325mW			
CASE	 2.2 x 2.3 x 1.1 SOT-363			
	ZENER VOLTAGE $\pm 5\% \text{ TOL}$ $V_Z @ I_{ZT}$	ZENER TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE $Z_{ZT} @ I_{ZT}$	VOLTAGE TEMPERATURE STABILITY* $\Delta V_Z \text{ MAX}$
	VOLTS	mA	Ω	mV
CMKTC825A	6.2	7.5	20	44

Package dimensions shown are maximum values in mm.

POWER	325mW			
CASE	 3.0 x 3.0 x 1.2 SOT-26			
	ZENER VOLTAGE $\pm 5\% \text{ TOL}$ $V_Z @ I_{ZT}$	ZENER TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE $Z_{ZT} @ I_{ZT}$	VOLTAGE TEMPERATURE STABILITY* $\Delta V_Z \text{ MAX}$
	VOLTS	mA	Ω	mV
CMXTC935A	9.0	7.5	—	95

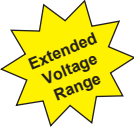
* The Maximum allowable voltage change observed at the specified temperatures of -55°C, 0°C, 25°C, 75°C, and 100°C

Package dimensions shown are maximum values in mm.

Zener Diodes

100 to 250mW
1.8 to 47V

Package dimensions shown are maximum values in mm.

POWER	100mW	200mW	250mW											
CASE	 0.65 x 0.35 x 0.32 TLM2D3D6	 2.2 x 2.3 x 1.1 SOT-363	 1.80 x 0.9 x 0.8 SOD-523	 2.6 x 1.35 x 1.0 SOD-323 										
ZENER VOLTAGE	INDUSTRY STANDARD	@ I _{ZT} (mA)	TRIPLE ZENER	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW LEVEL SHARP KNEE	@ I _{ZT} (μA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW LEVEL SHARP KNEE	@ I _{ZT} (μA)
														
1.8	—	—	—	—	—	—	CMOZ1L8	250	—	—	—	—	CMDZ1L8	500
2.0	—	—	—	—	—	—	CMOZ2L0	250	—	—	—	—	CMDZ2L0	500
2.2	—	—	—	—	—	—	CMOZ2L2	250	—	—	—	—	CMDZ2L2	500
2.4	—	—	CMKZ5221B*	20	CMOZ2V4	5.0	CMOZ2L4	250	CMDZ5221B	20	CMDZ2V4	5.0	CMDZ2L4	500
2.5	—	—	CMKZ5222B*	20	—	—	CMOZ2L5	250	CMDZ5222B	20	—	—	CMDZ2L5	500
2.6	—	—	—	—	CMOZ2V6	5.0	—	—	—	—	CMDZ2V6	5.0	—	—
2.7	—	—	CMKZ5223B*	20	CMOZ2V7	5.0	CMOZ2L7	250	CMDZ5223B	20	CMDZ2V7	5.0	CMDZ2L7	500
2.8	—	—	CMKZ5224B*	20	—	—	—	—	CMDZ5224B	20	—	—	CMDZ2L8	500
3.0	—	—	CMKZ5225B*	20	CMOZ3V0	5.0	CMOZ3L0	250	CMDZ5225B	20	CMOZ3V0	5.0	CMDZ3L0	500
3.3	—	—	CMKZ5226B*	20	CMOZ3V3	5.0	CMOZ3L3	250	CMDZ5226B	20	CMDZ3V3	5.0	CMDZ3L3	500
3.6	—	—	CMKZ5227B*	20	CMOZ3V6	5.0	CMOZ3L6	250	CMDZ5227B	20	CMDZ3V6	5.0	CMDZ3L6	500
3.9	CTLZ3V9	5.0	CMKZ5228B*	20	CMOZ3V9	5.0	CMOZ3L9	250	CMDZ5228B	20	CMDZ3V9	5.0	CMDZ3L9	500
4.3	—	—	CMKZ5229B*	20	CMOZ4V3	5.0	CMOZ4L3	250	CMDZ5229B	20	CMOZ4V3	5.0	CMDZ4L3	500
4.7	CTLZ4V7	5.0	CMKZ5230B*	20	CMOZ4V7	5.0	CMOZ4L7	250	CMDZ5230B	20	CMDZ4V7	5.0	CMDZ4L7	500
5.1	CTLZ5V1	5.0	CMKZ5231B*	20	CMOZ5V1	5.0	CMOZ5L1	250	CMDZ5231B	20	CMDZ5V1	5.0	CMDZ5L1	500
5.6	CTLZ5V6	5.0	CMKZ5232B*	20	CMOZ5V6	5.0	CMOZ5L6	250	CMDZ5232B	20	CMDZ5V6	5.0	CMDZ5L6	500
6.0	—	—	CMKZ5233B*	20	—	—	—	—	CMDZ5233B	20	—	—	—	—
6.2	CTLZ6V2	5.0	CMKZ5234B*	20	CMOZ6V2	5.0	CMOZ6L2	250	CMDZ5234B	20	CMDZ6V2	5.0	CMDZ6L2	500
6.8	CTLZ6V8	5.0	CMKZ5235B*	20	CMOZ6V8	5.0	CMOZ6L8	250	CMDZ5235B	20	CMDZ6V8	5.0	CMDZ6L8	500
7.5	CTLZ7V5	5.0	CMKZ5236B*	20	CMOZ7V5	5.0	CMOZ7L5	250	CMDZ5236B	20	CMDZ7V5	5.0	CMDZ7L5	500
8.2	CTLZ8V2	5.0	CMKZ5237B*	20	CMOZ8V2	5.0	CMOZ8L2	250	CMDZ5237B	20	CMDZ8V2	5.0	CMDZ8L2	500
8.7	—	—	CMKZ5238B*	20	—	—	—	—	CMDZ5238B	20	—	—	—	—
9.1	—	—	CMKZ5239B*	20	CMOZ9V1	5.0	CMOZ9L1	250	CMDZ5239B	20	CMDZ9V1	5.0	CMDZ9L1	500
10	—	—	CMKZ5240B*	20	CMOZ10V	5.0	CMOZ10L	250	CMDZ5240B	20	CMDZ10V	5.0	CMDZ10L	500
11	—	—	CMKZ5241B*	20	CMOZ11V	5.0	CMOZ11L	250	CMDZ5241B	20	CMDZ11V	5.0	CMDZ11L	500
12	—	—	CMKZ5242B*	20	CMOZ12V	5.0	CMOZ12L	250	CMDZ5242B	20	CMDZ12V	5.0	CMDZ12L	500
13	—	—	CMKZ5243B*	9.5	CMOZ13V	5.0	CMOZ13L	250	CMDZ5243B	9.5	CMDZ13V	5.0	CMDZ13L	500
14	—	—	CMKZ5244B*	9.0	—	—	—	—	CMDZ5244B	9.0	—	—	—	—
15	—	—	CMKZ5245B	8.5	CMOZ15V	5.0	CMOZ15L	250	CMDZ5245B	8.5	CMDZ15V	5.0	CMDZ15L	500
16	—	—	CMKZ5246B*	7.8	CMOZ16V	5.0	CMOZ16L	250	CMDZ5246B	7.8	CMDZ16V	5.0	CMDZ16L	500
17	—	—	CMKZ5247B*	7.4	—	—	—	—	CMDZ5247B	7.4	—	—	—	500
18	—	—	CMKZ5248B*	7.0	CMOZ18V	5.0	CMOZ18L	250	CMDZ5248B	7.0	CMDZ18V	5.0	CMDZ18L	500
19	—	—	CMKZ5249B*	6.6	—	—	—	—	CMDZ5249B	6.6	—	—	—	—
20	—	—	CMKZ5250B*	6.2	CMOZ20V	5.0	CMOZ20L	250	CMDZ5250B	6.2	CMDZ20V	5.0	CMDZ20L	500
22	—	—	CMKZ5251B*	5.6	CMOZ22V	5.0	CMOZ22L	250	CMDZ5251B	5.6	CMDZ22V	5.0	CMDZ22L	500
24	—	—	CMKZ5252B*	5.2	CMOZ24V	5.0	CMOZ24L	250	CMDZ5252B	5.2	CMDZ24V	5.0	CMDZ24L	500
25	—	—	CMKZ5253B*	5.0	—	—	—	—	CMDZ5253B	5.0	—	—	—	—
27	—	—	CMKZ5254B*	4.6	CMOZ27V	5.0	CMOZ27L	250	CMDZ5254B	4.6	CMDZ27V	5.0	CMDZ27L	500
28	—	—	CMKZ5255B*	4.5	—	—	—	—	CMDZ5255B	4.5	—	—	—	—
30	—	—	CMKZ5256B*	4.2	CMOZ30V	5.0	CMOZ30L	250	CMDZ5256B	4.2	CMDZ30V	5.0	CMDZ30L	500
33	—	—	CMKZ5257B*	3.8	CMOZ33V	5.0	CMOZ33L	250	CMDZ5257B	3.8	CMDZ33V	5.0	CMDZ33L	500
36	—	—	CMKZ5258B*	3.4	CMOZ36V	5.0	CMOZ36L	250	CMDZ5258B	3.4	CMDZ36V	5.0	CMDZ36L	500
39	—	—	CMKZ5259B*	3.2	CMOZ39V	5.0	CMOZ39L	250	CMDZ5259B	3.2	CMDZ39V	5.0	CMDZ39L	500
43	—	—	CMKZ5260B*	3.0	CMOZ43V	5.0	CMOZ43L	250	CMDZ5260B	3.0	CMDZ43V	5.0	CMDZ43L	500
47	—	—	CMKZ5261B*	2.7	—	—	CMOZ47L	250	CMDZ5261B	2.7	CMDZ47V	5.0	CMDZ47L	500

* Available on special order; please consult factory.

Zener Diodes (continued)

250 to 350mW

1.8 to 75V

Package dimensions shown are maximum values in mm.

POWER	250mW						350mW							
	 2.2 x 2.2 x 1.1 SOT-323			 1.7 x 1.7 x 0.6 SOT-563			 3.05 x 2.49 x 1.09 SOT-23							
CASE	INDUSTRY STANDARD	@ I _{ZT} (mA)	DUAL, COMMON ANODE	@ I _{ZT} (mA)	DUAL, COMMON ANODE	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW NOISE LOW LEVEL	@ I _{ZT} (μA)	LOW LEVEL	@ I _{ZT} (μA)	PROELECTRON SPECIFICATION	@ I _Z (μA)
														
1.8	—	—	—	—	—	—	—	—	CMPZ4614*	250	CMPZ4678	50	—	—
2.0	—	—	—	—	—	—	—	—	CMPZ4615*	250	CMPZ4679*	50	—	—
2.2	—	—	—	—	—	—	—	—	CMPZ4616*	250	CMPZ4680*	50	—	—
2.4	CMSZ5221B	20	CMSZDA2V4	5.0	CMLZDA2V4	5.0	CMPZ5221B	20	CMPZ4617*	250	CMPZ4681*	50	BZX84C2V4	5.0
2.5	CMSZ5222B	20	—	—	—	—	CMPZ5222B	20	—	—	—	—	—	—
2.7	CMSZ5223B	20	CMSZDA2V7	5.0	CMLZDA2V7	5.0	CMPZ5223B	20	CMPZ4618*	250	CMPZ4682	50	BZX84C2V7	5.0
2.8	CMSZ5224B	20	—	—	—	—	CMPZ5224B	20	—	—	—	—	—	—
3.0	CMSZ5225B	20	CMSZDA3V0	5.0	CMLZDA3V0	5.0	CMPZ5225B	20	CMPZ4619	250	CMPZ4683	50	BZX84C3V0	5.0
3.3	CMSZ5226B	20	CMSZDA3V3	5.0	CMLZDA3V3	5.0	CMPZ5226B	20	CMPZ4620	250	CMPZ4684	50	BZX84C3V3	5.0
3.6	CMSZ5227B	20	CMSZDA3V6	5.0	CMLZDA3V6	5.0	CMPZ5227B	20	CMPZ4621	250	CMPZ4685	50	BZX84C3V6	5.0
3.9	CMSZ5228B	20	CMSZDA3V9	5.0	CMLZDA3V9	5.0	CMPZ5228B	20	CMPZ4622*	250	CMPZ4686	50	BZX84C3V9	5.0
4.3	CMSZ5229B	20	CMSZDA4V3	5.0	CMLZDA4V3	5.0	CMPZ5229B	20	CMPZ4623	250	CMPZ4687	50	BZX84C4V3	5.0
4.7	CMSZ5230B	20	CMSZDA4V7	5.0	CMLZDA4V7	5.0	CMPZ5230B	20	CMPZ4624*	250	CMPZ4688	50	BZX84C4V7	5.0
5.1	CMSZ5231B	20	CMSZDA5V1	5.0	CMLZDA5V1	5.0	CMPZ5231B	20	CMPZ5625	250	CMPZ4689	50	BZX84C5V1	5.0
5.6	CMSZ5232B	20	CMSZDA5V6	5.0	CMLZDA5V6	5.0	CMPZ5232B	20	CMPZ4626	250	CMPZ4690	50	BZX84C5V6	5.0
6.0	CMSZ5233B	20	—	—	—	—	CMPZ5233B	20	—	—	—	—	—	—
6.2	CMSZ5234B	20	CMSZDA6V2	5.0	CMLZDA6V2	5.0	CMPZ5234B	20	CMPZ4627	250	CMPZ4691	50	BZX84C6V2	5.0
6.8	CMSZ5235B	20	CMSZDA6V8	5.0	CMLZDA6V8	5.0	CMPZ5235B	20	CMPZ4099*	250	CMPZ4692	50	BZX84C6V8	5.0
7.5	CMSZ5236B	20	CMSZDA7V5	5.0	CMLZDA7V5	5.0	CMPZ5236B	20	CMPZ4100*	250	CMPZ4693	50	BZX84C7V5	5.0
8.2	CMSZ5237B	20	CMSZDA8V2	5.0	CMLZDA8V2	5.0	CMPZ5237B	20	CMPZ4101	250	CMPZ4694	50	BZX84C8V2	5.0
8.7	CMSZ5238B	20	—	—	—	—	CMPZ5238B	20	CMPZ4102*	250	CMPZ4695	50	—	—
9.1	CMSZ5239B	20	CMSZDA9V1	5.0	CMLZDA9V1	5.0	CMPZ5239B	20	CMPZ4103*	250	CMPZ4696	50	BZX84C9V1	5.0
10	CMSZ5240B	20	CMSZDA10V	5.0	CMLZDA10V	5.0	CMPZ5240B	20	CMPZ4104*	250	CMPZ4697	50	BZX84C10	5.0
11	CMSZ5241B	20	CMSZDA11V	5.0	CMLZDA11V	5.0	CMPZ5241B	20	CMPZ4105*	250	CMPZ4698	50	BZX84C11	5.0
12	CMSZ5242B	20	CMSZDA12V	5.0	CMLZDA12V	5.0	CMPZ5242B	20	CMPZ4106*	250	CMPZ4699	50	BZX84C12	5.0
13	CMSZ5243B	9.5	CMSZDA13V	5.0	CMLZDA13V	5.0	CMPZ5243B	9.5	CMPZ4107*	250	CMPZ4700	50	BZX84C13	5.0
14	CMSZ5244B	9.0	—	—	—	—	CMPZ5244B	9.0	CMPZ4108*	250	CMPZ4701	50	—	—
15	CMSZ5245B	8.5	CMSZDA15V	5.0	CMLZDA15V	5.0	CMPZ5245B	8.5	CMPZ4109*	250	CMPZ4702	50	BZX84C15	5.0
16	CMSZ5246B	7.8	CMSZDA16V	5.0	CMLZDA16V	5.0	CMPZ5246B	7.8	CMPZ4110*	250	CMPZ4703	50	BZX84C16	5.0
17	CMSZ5247B	7.4	—	—	—	—	CMPZ5247B	7.4	CMPZ4111*	250	CMPZ4704	50	—	—
18	CMSZ5248B	7.0	CMSZDA18V	5.0	CMLZDA18V	5.0	CMPZ5248B	7.0	CMPZ4112*	250	CMPZ4705	50	BZX84C18	5.0
19	CMSZ5249B	6.6	—	—	—	—	CMPZ5249B	6.6	CMPZ4113*	250	CMPZ4706	50	—	—
20	CMSZ5250B	6.2	CMSZDA20V	5.0	CMLZDA20V	5.0	CMPZ5250B	6.2	CMPZ4114*	250	CMPZ4707	50	BZX84C20	5.0
22	CMSZ5251B	5.6	CMSZDA22V	5.0	CMLZDA22V	5.0	CMPZ5251B	5.6	CMPZ4115*	250	CMPZ4708	50	BZX84C22	5.0
24	CMSZ5252B	5.2	CMSZDA24V	5.0	CMLZDA24V	5.0	CMPZ5252B	5.2	CMPZ4116*	250	CMPZ4709	50	BZX84C24	5.0
25	CMSZ5253B	5.0	—	—	—	—	CMPZ5253B	5.0	CMPZ4117*	250	CMPZ4710	50	—	—
27	CMSZ5254B	4.6	CMSZDA27V	2.0	CMLZDA27V	2.0	CMPZ5254B	4.6	CMPZ4118*	250	CMPZ4711	50	BZX84C27	2.0
28	CMSZ5255B	4.5	—	—	—	—	CMPZ5255B	4.5	CMPZ4119*	250	CMPZ4712	50	—	—
30	CMSZ5256B	4.2	CMSZDA30V	2.0	CMLZDA30V	2.0	CMPZ5256B	4.2	CMPZ4120*	250	CMPZ4713	50	BZX84C30	2.0
33	CMSZ5257B	3.8	CMSZDA33V	2.0	CMLZDA33V	2.0	CMPZ5257B	3.8	CMPZ4121*	250	CMPZ4714	50	BZX84C33	2.0
36	CMSZ5258B	3.4	CMSZDA36V	2.0	CMLZDA36V	2.0	CMPZ5258B	3.4	CMPZ4122*	250	CMPZ4715	50	—	—
39	CMSZ5259B	3.2	CMSZDA39V	2.0	CMLZDA39V	2.0	CMPZ5259B	3.2	CMPZ4123*	250	CMPZ4716*	50	—	—
43	CMSZ5260B	3.0	CMSZDA43V	2.0	CMLZDA43V	2.0	CMPZ5260B	3.0	CMPZ4124*	250	CMPZ4717*	50	—	—
47	CMSZ5261B	2.7	CMSZDA47V	2.0	CMLZDA47V	2.0	CMPZ5261B	2.7	—	—	—	—	—	—
51	—	—	—	—	—	—	CMPZ5262B*	2.5	—	—	—	—	BZX84C51*	2.0
56	—	—	—	—	—	—	CMPZ5263B*	2.2	—	—	—	—	—	—
60	—	—	—	—	—	—	CMPZ5264B*	2.1	—	—	—	—	—	—
62	—	—	—	—	—	—	CMPZ5265B*	2.0	—	—	—	—	—	—
68	—	—	—	—	—	—	CMPZ5266B*	1.8	—	—	—	—	—	—
75	—	—	—	—	—	—	CMPZ5267B*	1.7	—	—	—	—	—	—

* Available on special order; please consult factory.

Zener Diodes (continued)

350mW
2.4 to 47V

Package dimensions shown are maximum values in mm.

POWER	350mW					
CASE	 3.05 x 2.49 x 1.09 SOT-23			 3.0 x 3.0 x 1.2 SOT-26		
ZENER VOLTAGE	DUAL, COMMON CATHODE	@ I _{ZT} (mA)	DUAL, COMMON ANODE	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)
						
2.4	CMPZDC2V4*	5.0	CMPZDA2V4	5.0	CMXZ2V4TO*	5.0
2.7	CMPZDC2V7*	5.0	CMPZDA2V7	5.0	CMXZ2V7TO*	5.0
3.0	CMPZDC3V0*	3.0	CMPZDA3V0	3.0	CMXZ3V0TO*	5.0
3.3	CMPZDC3V3*	3.0	CMPZDA3V3	3.0	CMXZ3V3TO*	5.0
3.6	CMPZDC3V6*	5.0	CMPZDA3V6	5.0	CMXZ3V6TO*	5.0
3.9	CMPZDC3V9*	5.0	CMPZDA3V9	5.0	CMXZ3V9TO*	5.0
4.3	CMPZDC4V3*	5.0	CMPZDA4V3	5.0	CMXZ4V3TO*	5.0
4.7	CMPZDC4V7*	5.0	CMPZDA4V7	5.0	CMXZ4V7TO*	5.0
5.1	CMPZDC5V1*	5.0	CMPZDA5V1	5.0	CMXZ5V1TO*	5.0
5.6	CMPZDC5V6*	5.0	CMPZDA5V6	5.0	CMXZ5V6TO*	5.0
6.2	CMPZDC6V2*	5.0	CMPZDA6V2	5.0	CMXZ6V2TO*	5.0
6.8	CMPZDC6V8*	5.0	CMPZDA6V8	5.0	CMXZ6V8TO*	5.0
7.5	CMPZDC7V5*	5.0	CMPZDA7V5	5.0	CMXZ7V5TO*	5.0
8.2	CMPZDC8V2*	5.0	CMPZDA8V2	5.0	CMXZ8V2TO*	5.0
9.1	CMPZDC9V1*	5.0	CMPZDA9V1	5.0	CMXZ9V1TO*	5.0
10	CMPZDC10V*	5.0	CMPZDA10V	5.0	CMXZ10VTO*	5.0
11	CMPZDC11V*	5.0	CMPZDA11V	5.0	CMXZ11VTO*	5.0
12	CMPZDC12V*	5.0	CMPZDA12V	5.0	CMXZ12VTO*	5.0
13	CMPZDC13V*	5.0	CMPZDA13V	5.0	CMXZ13VTO*	5.0
15	CMPZDC15V*	5.0	CMPZDA15V	5.0	CMXZ15VTO*	5.0
16	CMPZDC16V*	5.0	CMPZDA16V	5.0	CMXZ16VTO*	5.0
18	CMPZDC18V*	5.0	CMPZDA18V	5.0	CMXZ18VTO*	5.0
20	CMPZDC20V*	5.0	CMPZDA20V	5.0	CMXZ20VTO*	5.0
22	CMPZDC22V*	5.0	CMPZDA22V	5.0	CMXZ22VTO*	5.0
24	CMPZDC24V*	5.0	CMPZDA24V	5.0	CMXZ24VTO*	5.0
27	CMPZDC27V	2.0	CMPZDA27V	2.0	CMXZ27VTO*	2.0
30	CMPZDC30V*	2.0	CMPZDA30V	2.0	CMXZ30VTO	2.0
33	CMPZDC33V*	2.0	CMPZDA33V	2.0	CMXZ33VTO*	2.0
36	CMPZDC36V*	2.0	CMPZDA36V	2.0	CMXZ36VTO*	2.0
39	CMPZDC39V*	2.0	CMPZDA39V	2.0	CMXZ39VTO*	2.0
43	CMPZDC43V*	2.0	CMPZDA43V	2.0	CMXZ43VTO*	2.0
47	CMPZDC47V*	2.0	CMPZDA47V	2.0	CMXZ47VTO*	2.0

* Available on special order; please consult factory.

Zener Diodes (continued)

500mW
1.8 to 75V

Package dimensions shown are maximum values in mm.

POWER	500mW									
CASE	 3.9 x 1.8 x 1.35 SOD-123					 3.71 x 1.7 SOD-80				
	ZENER VOLTAGE	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW LEVEL	@ I _{ZT} (μA)	LOW LEVEL LOW NOISE	@ I _{ZT} (μA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	@ I _{ZT} (mA)
										
	1.8	—	—	CMHZ4678	50	CMHZ4614	250	—	—	—
	2.0	—	—	CMHZ4679	50	CMHZ4615	250	—	—	—
	2.2	—	—	CMHZ4680	50	CMHZ4616	250	—	—	—
	2.4	CMHZ5221B	20	CMHZ4681	50	CMHZ4617	250	CLL5221B*	20	BZV55C2V4
	2.5	CMHZ5222B	20	—	—	—	—	CLL5222B	20	—
	2.7	CMHZ5223B	20	CMHZ4682	50	CMHZ4618	250	CLL5223B*	20	BZV55C2V7
	2.8	CMHZ5224B	20	—	—	—	—	CLL5224B*	20	—
	3.0	CMHZ5225B	20	CMHZ4683	50	CMHZ4619	250	CLL5225B	20	BZV55C3V0
	3.3	CMHZ5226B	20	CMHZ4684	50	CMHZ4620	250	CLL5226B	20	BZV55C3V3
	3.6	CMHZ5227B	20	CMHZ4685	50	CMHZ4621	250	CLL5227B	20	BZV55C3V6
	3.9	CMHZ5228B	20	CMHZ4686	50	CMHZ4622	250	CLL5228B	20	BZV55C3V9
	4.3	CMHZ5229B	20	CMHZ4687	50	CMHZ4623	250	CLL5229B	20	BZV55C4V3
	4.7	CMHZ5230B	20	CMHZ4688	50	CMHZ4624	250	CLL5230B	20	BZV55C4V7
	5.1	CMHZ5231B	20	CMHZ4689	50	CMHZ4625	250	CLL5231B	20	BZV55C5V1
	5.6	CMHZ5232B	20	CMHZ4690	50	CMHZ4626	250	CLL3232B	20	BZV55C5V6
	6.0	CMHZ5233B	20	—	—	—	—	CLL5233B	20	—
	6.2	CMHZ5234B	20	CMHZ4691	50	CMHZ4627	250	CLL5234B	20	BZV55C6V2
	6.8	CMHZ5235B	20	CMHZ4692	50	CMHZ4099	250	CLL5235B	20	BZV55C6V8
	7.5	CMHZ5236B	20	CMHZ4693	50	CMHZ4100	250	CLL5236B	20	BZV55C7V5
	8.2	CMHZ5237B	20	CMHZ4694	50	CMHZ4101	250	CLL5237B	20	BZV55C8V2
	8.7	CMHZ5238B	20	CMHZ4695	50	CMHZ4102	250	CLL5238B	20	—
	9.1	CMHZ5239B	20	CMHZ4696	50	CMHZ4103	250	CLL5239B	20	BZV55C9V1
	10	CMHZ5240B	20	CMHZ4697	50	CMHZ4104	250	CLL5240B	20	BZV55C10
	11	CMHZ5241B	20	CMHZ4698	50	CMHZ4105	250	CLL5241B	20	BZV55C11
	12	CMHZ5242B	20	CMHZ4699	50	CMHZ4106	250	CLL5242B	20	BZV55C12
	13	CMHZ5243B	9.5	CMHZ4700	50	CMHZ4107	250	CLL4243B	9.5	BZV55C13
	14	CMHZ5244B	9.0	CMHZ4701	50	CMHZ4108	250	CLL5244B	9.0	—
	15	CMHZ5245B	8.5	CMHZ4702	50	CMHZ4109	250	CLL5245B	8.5	BZV55C15
	16	CMHZ5246B	7.8	CMHZ4703	50	CMHZ4110	250	CLL5246B	7.8	BZV55C16
	17	CMHZ5247B	7.4	CMHZ4704	50	CMHZ4111	250	CLL5247B	7.4	—
	18	CMHZ5248B	7.0	CMHZ4705	50	CMHZ4112	250	CLL5248B	7.0	BZV55C18
	19	CMHZ5249B	6.6	CMHZ4706	50	CMHZ4113	250	CLL5249B	6.6	—
	20	CMHZ5250B	6.2	CMHZ4707	50	CMHZ4114	250	CLL5250B	6.2	BZV55C20
	22	CMHZ5251B	5.6	CMHZ4708	50	CMHZ4115	250	CLL5251B	5.6	BZV55C22
	24	CMHZ5252B	5.2	CMHZ4709	50	CMHZ4116	250	CLL5252B	5.2	BZV55C24
	25	CMHZ5253B	5.0	CMHZ4710	50	CMHZ4117	250	CLL5253B	5.0	—
	27	CMHZ5254B	4.6	CMHZ4711	50	CMHZ4118	250	CLL5254B	4.6	BZV55C27
	28	CMHZ5255B	4.5	CMHZ4712	50	CMHZ4119	250	CLL5255B	4.5	—
	30	CMHZ5256B	4.2	CMHZ4713	50	CMHZ4120	250	CLL5256B	4.2	BZV55C30
	33	CMHZ5257B	3.8	CMHZ4714	50	CMHZ4121	250	CLL5257B	3.8	BZV55C33
	36	CMHZ5258B	3.4	CMHZ4715	50	CMHZ4122	250	CLL5258B	3.4	BZV55C36
	39	CMHZ5259B	3.2	CMHZ4716	50	CMHZ4123	250	CLL5259B	3.2	BZV55C39
	43	CMHZ5260B	3.0	CMHZ4717	50	CMHZ4124	250	CLL5260B	3.0	BZV55C43
	47	CMHZ5261B	2.7	—	—	CMHZ4125	250	CLL5261B	2.7	BZV55C47
	51	CMHZ5262B*	2.5	—	—	—	—	CLL5262B	2.5	BZV55C51
	56	CMHZ5263B*	2.2	—	—	—	—	CLL5263B	2.2	BZV55C56
	60	CMHZ5264B*	2.1	—	—	—	—	CLL5264B	2.1	—
	62	CMHZ5265B*	2.0	—	—	—	—	CLL5265B	2.0	BZV55C62
	68	CMHZ5266B*	1.8	—	—	—	—	CLL5266B	1.8	BZV55C68
	75	CMHZ5267B*	1.7	—	—	—	—	CLL5267B	1.7	BZV55C75

Package dimensions shown are maximum values in mm.

* Available on special order; please consult factory.

Zener Diodes (continued)

1.0 to 10W

3.3 to 200V

Package dimensions shown are maximum values in mm.

POWER	1.0W		1.5W		3.0W		10W	
	 5.31 x 2.69		 5.59 x 2.92 x 2.62		 5.59 x 3.81 x 2.44		 8.13 x 6.22 x 2.62	
CASE	MELF		SMA		SMB		SMC	
ZENER VOLTAGE	GENERAL PURPOSE	@ I _{ZT} (mA)	1.5 WATT ZENER + 200W TVS	@ I _{ZT} (mA)	3.0 WATT ZENER	@ I _{ZT} (mA)	HIGH POWER	@ I _{ZT} (mA)
								
3.3	CLL4728A	76	CMZ5913B	113.6	CMZ5913BP	113.6	—	—
3.6	CLL4729A	69	CMZ5914B	104.2	CMZ5914BP	104.2	CMZ5334B	350
3.9	CLL4730A	64	CMZ5915B	96.1	CMZ5915BP	96.1	CMZ5335B	320
4.3	CLL4731A	58	CMZ5916B	87.2	CMZ5916BP	87.2	CMZ5336B	290
4.7	CLL4732A	53	CMZ5917B	79.8	CMZ5917BP	79.8	CMZ5337B	264
5.1	CLL4733A	49	CMZ5918B	73.5	CMZ5918BP	73.5	CMZ5338B	240
5.6	CLL4734A	45	CMZ5919B	66.9	CMZ5919BP	66.9	CMZ5339B	220
6.2	CLL4735A	41	CMZ5920B	60.5	CMZ5920BP	60.5	CMZ5340B	200
6.8	CLL4736A	37	CMZ5921B	55.1	CMZ5921BP	55.1	CMZ5342B	175
7.5	CLL4737A	34	CMZ5922B	50.0	CMZ5922BP	50.0	CMZ5343B	175
8.2	CLL4738A	31	CMZ5923B	45.7	CMZ5923BP	45.7	CMZ5344B	150
8.7	—	—	—	—	—	—	CMZ5345B	150
9.1	CLL4739A	28	CMZ5924B	41.2	CMZ5924BP	41.2	CMZ5346B	150
10	CLL4740A	25	CMZ5925B	37.5	CMZ5925BP	37.5	CMZ5347B	125
11	CLL4741A	23	CMZ5926B	34.1	CMZ5926BP	34.1	CMZ5348B	125
12	CLL4742A	21	CMZ5927B	31.2	CMZ5927BP	31.2	CMZ5349B	100
13	CLL4743A	19	CMZ5928B	28.8	CMZ5928BP	28.8	CMZ5350B	100
14	—	—	—	—	—	—	CMZ5351B	100
15	CLL4744A	17	CMZ5929B	25.0	CMZ5929BP	25.0	CMZ5352B	75
16	CLL4745A	15.5	CMZ5930B	23.4	CMZ5930BP	23.4	CMZ5353B	75
17	—	—	—	—	—	—	CMZ5354B	70
18	CLL4746A	14.0	CMZ5931B	20.8	CMZ5931BP	20.8	CMZ5355B	65
19	—	—	—	—	—	—	CMZ5356B	65
20	CLL4747A	12.5	CMZ5932B	18.7	CMZ5932BP	18.7	CMZ5357B	65
22	CLL4748A	11.5	CMZ5933B	17.0	CMZ5933BP	17.0	CMZ5358B	50
24	CLL4749A	10.5	CMZ5934B	15.6	CMZ5934BP	15.6	CMZ5359B	50
25	—	—	—	—	—	—	CMZ5360B	50
27	CLL4750A	9.5	CMZ5935B	13.9	CMZ5935BP	13.9	CMZ5361B	50
28	—	—	—	—	—	—	CMZ5362B	50
30	CLL4751A	8.5	CMZ5936B	12.5	CMZ5936BP	12.5	CMZ5363B	40
33	CLL4752A	7.5	CMZ5937B	11.4	CMZ5937BP	11.4	CMZ5364B	40
36	CLL4753A	7.0	CMZ5938B	10.4	CMZ5938BP	10.4	CMZ5365B	30
39	CLL4754A	6.5	CMZ5939B	9.6	CMZ5939BP	9.6	CMZ5366B	30
43	CLL4755A	6.0	CMZ5940B	8.7	CMZ5940BP	8.7	CMZ5367B	30
47	CLL4756A	5.5	CMZ5941B	8.0	CMZ5941BP	8.0	CMZ5368B	25
51	CLL4757A	5.0	CMZ5942B	7.3	CMZ5942BP	7.3	CMZ5369B	25
56	CLL4758A	4.5	CMZ5943B	6.7	CMZ5943BP	6.7	CMZ5370B	20
60	—	—	—	—	—	—	CMZ5371B	20
62	CLL4759A	4.0	CMZ5944B	6.0	CMZ5944BP	6.0	CMZ5372B	20
68	CLL4760A	3.7	CMZ5945B	5.5	CMZ5945BP	5.5	CMZ5373B	20
75	CLL4761A	3.3	CMZ5946B	5.0	CMZ5946BP	5.0	CMZ5374B	20
82	—	3.0	CMZ5947B	4.6	CMZ5947BP	4.6	CMZ5375B	15
87	—	—	—	—	—	—	CMZ5376B	15
91	—	2.8	CMZ5948B	4.1	CMZ5948BP	4.1	CMZ5377B	15
100	—	2.5	CMZ5949B	3.7	CMZ5949BP	3.7	CMZ5378B	12
110	—	—	CMZ5950B	3.4	CMZ5950BP	3.4	CMZ5379B	12
120	—	—	CMZ5951B	3.1	CMZ5951BP	3.1	CMZ5380B	10
130	—	—	CMZ5952B	2.9	CMZ5952BP	2.9	CMZ5381B	10
140	—	—	—	—	—	—	CMZ5382B	8.0
150	—	—	CMZ5953B	2.5	CMZ5953BP	2.5	CMZ5383B	8.0
160	—	—	CMZ5954B	2.3	CMZ5954BP	2.3	CMZ5384B	8.0
170	—	—	—	—	—	—	CMZ5385B	8.0
180	—	—	CMZ5955B	2.1	CMZ5955BP	2.1	CMZ5386B	5.0
190	—	—	—	—	—	—	CMZ5387B	5.0
200	—	—	CMZ5956B	1.9	CMZ5956BP	1.9	CMZ5388B	5.0

Package dimensions shown are maximum values in mm.



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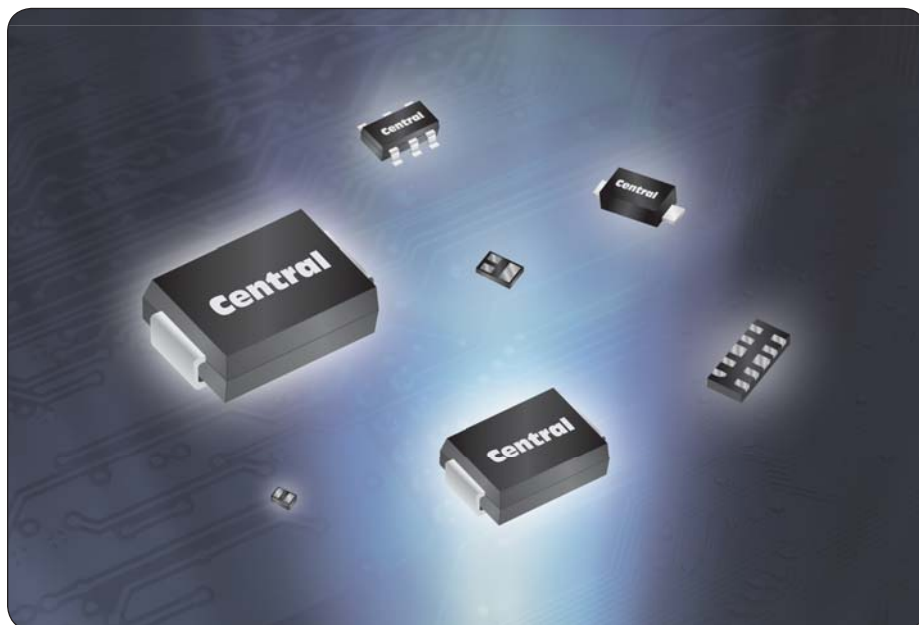


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Transient Voltage Suppressors (TVS)

200 to 600W

5.0 to 220V



Package dimensions shown are maximum values in mm.

POWER	200W		400W				600W			
	 3.95 x 1.95 x 1.08 SOD-123F		 4.9 x 2.6 x 1.1 SMAFL		 5.59 x 2.92 x 2.62 SMA		 5.59 x 3.81 x 2.44 SMB			
REVERSE STAND-OFF VOLTAGE V _{RWM}	UNI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)
5.0	CMF5.0A	10	—	—	P4SMA5.0A	1.0	1SMB5.0A	10	1SMB5.0CA	10
6.0	CMF6.0A	10	—	—	P4SMA6.0A	1.0	1SMB6.0A	10	1SMB6.0CA	10
6.5	CMF6.5A	10	—	—	P4SMA6.5A	1.0	1SMB6.5A	10	1SMB6.5CA	10
7.0	CMF7.0A	10	—	—	P4SMA7.0A	1.0	1SMB7.0A	10	1SMB7.0CA	10
7.5	CMF7.5A	1.0	—	—	P4SMA7.5A	1.0	1SMB7.5A	1.0	1SMB7.5CA	1.0
8.0	CMF8.0A	1.0	—	—	P4SMA8.0A	1.0	1SMB8.0A	1.0	1SMB8.0CA	1.0
8.5	CMF8.5A	1.0	C4SMAFL8.5A	1.0	P4SMA8.5A	1.0	1SMB8.5A	1.0	1SMB8.5CA	1.0
9.0	CMF9.0A	1.0	C4SMAFL9.0A	1.0	P4SMA9.0A	1.0	1SMB9.0A	1.0	1SMB9.0CA	1.0
10	CMF10A	1.0	C4SMAFL10A	1.0	P4SMA10A	1.0	1SMB10A	1.0	1SMB10CA	1.0
11	CMF11A	1.0	C4SMAFL11A	1.0	P4SMA11A	1.0	1SMB11A	1.0	1SMB11CA	1.0
12	CMF12A	1.0	C4SMAFL12A	1.0	P4SMA12A	1.0	1SMB12A	1.0	1SMB12CA	1.0
13	CMF13A	1.0	C4SMAFL13A	1.0	P4SMA13A	1.0	1SMB13A	1.0	1SMB13CA	1.0
14	CMF14A	1.0	C4SMAFL14A	1.0	P4SMA14A	1.0	1SMB14A	1.0	1SMB14CA	1.0
15	CMF15A	1.0	C4SMAFL15A	1.0	P4SMA15A	1.0	1SMB15A	1.0	1SMB15CA	1.0
16	CMF16A	1.0	C4SMAFL16A	1.0	P4SMA16A	1.0	1SMB16A	1.0	1SMB16CA	1.0
17	CMF17A	1.0	C4SMAFL17A	1.0	P4SMA17A	1.0	1SMB17A	1.0	1SMB17CA	1.0
18	CMF18A	1.0	C4SMAFL18A	1.0	P4SMA18A	1.0	1SMB18A	1.0	1SMB18CA	1.0
20	CMF20A	1.0	C4SMAFL20A	1.0	P4SMA20A	1.0	1SMB20A	1.0	1SMB20CA	1.0
22	CMF22A	1.0	C4SMAFL22A	1.0	P4SMA22A	1.0	1SMB22A	1.0	1SMB22CA	1.0
24	CMF24A	1.0	C4SMAFL24A	1.0	P4SMA24A	1.0	1SMB24A	1.0	1SMB24CA	1.0
26	CMF26A	1.0	C4SMAFL26A	1.0	P4SMA26A	1.0	1SMB26A	1.0	1SMB26CA	1.0
28	CMF28A	1.0	C4SMAFL28A	1.0	P4SMA28A	1.0	1SMB28A	1.0	1SMB28CA	1.0
30	CMF30A	1.0	C4SMAFL30A	1.0	P4SMA30A	1.0	1SMB30A	1.0	1SMB30CA	1.0
33	CMF33A	1.0	C4SMAFL33A	1.0	P4SMA33A	1.0	1SMB33A	1.0	1SMB33CA	1.0
36	CMF36A	1.0	C4SMAFL36A	1.0	P4SMA36A	1.0	1SMB36A	1.0	1SMB36CA	1.0
40	CMF40A	1.0	C4SMAFL40A	1.0	P4SMA40A	1.0	1SMB40A	1.0	1SMB40CA	1.0
43	CMF43A	1.0	C4SMAFL43A	1.0	P4SMA43A	1.0	1SMB43A	1.0	1SMB43CA	1.0
45	CMF45A	1.0	C4SMAFL45A	1.0	P4SMA45A	1.0	1SMB45A	1.0	1SMB45CA	1.0
48	CMF48A	1.0	C4SMAFL48A	1.0	P4SMA48A	1.0	1SMB48A	1.0	1SMB48CA	1.0
51	CMF51A	1.0	C4SMAFL51A	1.0	P4SMA51A	1.0	1SMB51A	1.0	1SMB51CA	1.0
54	CMF54A	1.0	C4SMAFL54A	1.0	P4SMA54A	1.0	1SMB54A	1.0	1SMB54CA	1.0
58	CMF58A	1.0	C4SMAFL58A	1.0	P4SMA58A	1.0	1SMB58A	1.0	1SMB58CA	1.0
60	CMF60A	1.0	C4SMAFL60A	1.0	P4SMA60A	1.0	1SMB60A	1.0	1SMB60CA	1.0
64	CMF64A	1.0	C4SMAFL64A	1.0	P4SMA64A	1.0	1SMB64A	1.0	1SMB64CA	1.0
70	CMF70A	1.0	C4SMAFL70A	1.0	P4SMA70A	1.0	1SMB70A	1.0	1SMB70CA	1.0
75	CMF75A	1.0	C4SMAFL75A	1.0	P4SMA75A	1.0	1SMB75A	1.0	1SMB75CA	1.0
78	CMF78A	1.0	C4SMAFL78A	1.0	P4SMA78A	1.0	1SMB78A	1.0	1SMB78CA	1.0
85	CMF85A	1.0	C4SMAFL85A	1.0	P4SMA85A	1.0	1SMB85A	1.0	1SMB85CA	1.0
90	CMF90A	1.0	C4SMAFL90A	1.0	P4SMA90A	1.0	1SMB90A	1.0	1SMB90CA	1.0
100	CMF100A	1.0	C4SMAFL100A	1.0	P4SMA100A	1.0	1SMB100A	1.0	1SMB100CA	1.0
110	CMF110A	1.0	C4SMAFL110A	1.0	P4SMA110A	1.0	1SMB110A	1.0	1SMB110CA	1.0
120	CMF120A	1.0	C4SMAFL120A	1.0	P4SMA120A	1.0	1SMB120A	1.0	1SMB120CA	1.0
130	CMF130A	1.0	C4SMAFL130A	1.0	P4SMA130A	1.0	1SMB130A	1.0	1SMB130CA	1.0
150	CMF150A	1.0	C4SMAFL150A	1.0	P4SMA150A	1.0	1SMB150A	1.0	1SMB150CA	1.0
160	CMF160A	1.0	C4SMAFL160A	1.0	P4SMA160A	1.0	1SMB160A	1.0	1SMB160CA	1.0
170	CMF170A	1.0	C4SMAFL170A	1.0	P4SMA170A	1.0	1SMB170A	1.0	1SMB170CA	1.0
180	—	—	—	—	P4SMA180A	1.0	—	—	—	—
190	—	—	—	—	P4SMA190A	1.0	—	—	—	—
200	—	—	—	—	P4SMA200A	1.0	—	—	—	—
210	—	—	—	—	P4SMA210A	1.0	—	—	—	—
220	—	—	—	—	P4SMA220A	1.0	—	—	—	—

Transient Voltage Suppressors (TVS continued)

1500 to 5000W
5.0 to 170V

Specified by
STAND-OFF VOLTAGE

Package dimensions shown are maximum values in mm.

POWER	1500W				3000W				5000W	
CASE	 8.13 x 6.22 x 2.62									
	SMC									
REVERSE STAND-OFF VOLTAGE V _{RWM}	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)
5.0	1SMC5.0A	10	1SMC5.0CA	10	3SMC5.0A	10	3SMC5.0CA	10	-	-
6.0	1SMC6.0A	10	1SMC6.0CA	10	3SMC6.0A	10	3SMC6.0CA	10	-	-
6.5	1SMC6.5A	10	1SMC6.5CA	10	3SMC6.5A	10	3SMC6.5CA	10	-	-
7.0	1SMC7.0A	10	1SMC7.0CA	10	3SMC7.0A	10	3SMC7.0CA	10	-	-
7.5	1SMC7.5A	1.0	1SMC7.5CA	1.0	3SMC7.5A	1.0	3SMC7.5CA	1.0	-	-
8.0	1SMC8.0A	1.0	1SMC8.0CA	1.0	3SMC8.0A	1.0	3SMC8.0CA	1.0	-	-
8.5	1SMC8.5A	1.0	1SMC8.5CA	1.0	3SMC8.5A	1.0	3SMC8.5CA	1.0	-	-
9.0	1SMC9.0A	1.0	1SMC9.0CA	1.0	3SMC9.0A	1.0	3SMC9.0CA	1.0	-	-
10	1SMC10A	1.0	1SMC10CA	1.0	3SMC10A	1.0	3SMC10CA	1.0	-	-
11	1SMC11A	1.0	1SMC11CA	1.0	3SMC11A	1.0	3SMC11CA	1.0	-	-
12	1SMC12A	1.0	1SMC12CA	1.0	3SMC12A	1.0	3SMC12CA	1.0	-	-
13	1SMC13A	1.0	1SMC13CA	1.0	3SMC13A	1.0	3SMC13CA	1.0	-	-
14	1SMC14A	1.0	1SMC14CA	1.0	3SMC14A	1.0	3SMC14CA	1.0	-	-
15	1SMC15A	1.0	1SMC15CA	1.0	3SMC15A	1.0	3SMC15CA	1.0	-	-
16	1SMC16A	1.0	1SMC16CA	1.0	3SMC16A	1.0	3SMC16CA	1.0	-	-
17	1SMC17A	1.0	1SMC17CA	1.0	3SMC17A	1.0	3SMC17CA	1.0	-	-
18	1SMC18A	1.0	1SMC18CA	1.0	3SMC18A	1.0	3SMC18CA	1.0	-	-
20	1SMC20A	1.0	1SMC20CA	1.0	3SMC20A	1.0	3SMC20CA	1.0	-	-
22	1SMC22A	1.0	1SMC22CA	1.0	3SMC22A	1.0	3SMC22CA	1.0	-	-
24	1SMC24A	1.0	1SMC24CA	1.0	3SMC24A	1.0	3SMC24CA	1.0	-	-
26	1SMC26A	1.0	1SMC26CA	1.0	3SMC26A	1.0	3SMC26CA	1.0	-	-
28	1SMC28A	1.0	1SMC28CA	1.0	3SMC28A	1.0	3SMC28CA	1.0	-	-
30	1SMC30A	1.0	1SMC30CA	1.0	3SMC30A	1.0	3SMC30CA	1.0	-	-
33	1SMC33A	1.0	1SMC33CA	1.0	3SMC33A	1.0	3SMC33CA	1.0	5SMC33A	1.0
36	1SMC36A	1.0	1SMC36CA	1.0	3SMC36A	1.0	3SMC36CA	1.0	5SMC36A	1.0
40	1SMC40A	1.0	1SMC40CA	1.0	3SMC40A	1.0	3SMC40CA	1.0	5SMC40A	1.0
43	1SMC43A	1.0	1SMC43CA	1.0	3SMC43A	1.0	3SMC43CA	1.0	5SMC43A	1.0
45	1SMC45A	1.0	1SMC45CA	1.0	3SMC45A	1.0	3SMC45CA	1.0	5SMC45A	1.0
48	1SMC48A	1.0	1SMC48CA	1.0	3SMC48A	1.0	3SMC48CA	1.0	5SMC48A	1.0
51	1SMC51A	1.0	1SMC51CA	1.0	3SMC51A	1.0	3SMC51CA	1.0	5SMC51A	1.0
54	1SMC54A	1.0	1SMC54CA	1.0	3SMC54A	1.0	3SMC54CA	1.0	5SMC54A	1.0
58	1SMC58A	1.0	1SMC58CA	1.0	3SMC58A	1.0	3SMC58CA	1.0	5SMC58A	1.0
60	1SMC60A	1.0	1SMC60CA	1.0	3SMC60A	1.0	3SMC60CA	1.0	5SMC60A	1.0
64	1SMC64A	1.0	1SMC64CA	1.0	3SMC64A	1.0	3SMC64CA	1.0	5SMC64A	1.0
70	1SMC70A	1.0	1SMC70CA	1.0	3SMC70A	1.0	3SMC70CA	1.0	5SMC70A	1.0
75	1SMC75A	1.0	1SMC75CA	1.0	3SMC75A	1.0	3SMC75CA	1.0	5SMC75A	1.0
78	1SMC78A	1.0	1SMC78CA	1.0	3SMC78A	1.0	3SMC78CA	1.0	5SMC78A	1.0
85	1SMC85A	1.0	1SMC85CA	1.0	3SMC85A	1.0	3SMC85CA	1.0	5SMC85A	1.0
90	1SMC90A	1.0	1SMC90CA	1.0	3SMC90A	1.0	3SMC90CA	1.0	5SMC90A	1.0
100	1SMC100A	1.0	1SMC100CA	1.0	3SMC100A	1.0	3SMC100CA	1.0	5SMC100A	1.0
110	1SMC110A	1.0	1SMC110CA	1.0	3SMC110A	1.0	3SMC110CA	1.0	5SMC110A	1.0
120	1SMC120A	1.0	1SMC120CA	1.0	3SMC120A	1.0	3SMC120CA	1.0	5SMC120A	1.0
130	1SMC130A	1.0	1SMC130CA	1.0	3SMC130A	1.0	3SMC130CA	1.0	5SMC130A	1.0
150	1SMC150A	1.0	1SMC150CA	1.0	3SMC150A	1.0	3SMC150CA	1.0	5SMC150A	1.0
160	1SMC160A	1.0	1SMC160CA	1.0	3SMC160A	1.0	3SMC160CA	1.0	5SMC160A	1.0
170	1SMC170A	1.0	1SMC170CA	1.0	3SMC170A	1.0	3SMC170CA	1.0	5SMC170A	1.0

Transient Voltage Suppressors (TVS continued)

600 to 1500W

6.8 to 250V

Specified by
BREAKDOWN
VOLTAGE

Package dimensions shown are maximum values in mm.

POWER	600W				1500W			
CASE	 5.59 x 3.81 x 2.44 SMB				 8.13 x 6.22 x 2.62 SMC			
BREAKDOWN VOLTAGE V _{BR}	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)
6.8	P6SMB6.8A	10	P6SMB6.8CA	10	1.5SMC6.8A	10	1.5SMC6.8CA	10
7.5	P6SMB7.5A	10	P6SMB7.5CA	10	1.5SMC7.5A	10	1.5SMC7.5CA	10
8.2	P6SMB8.2A	10	P6SMB8.2CA	10	1.5SMC8.2A	10	1.5SMC8.2CA	10
9.1	P6SMB9.1A	1.0	P6SMB9.1CA	1.0	1.5SMC9.1A	1.0	1.5SMC9.1CA	1.0
10	P6SMB10A	1.0	P6SMB10CA	1.0	1.5SMC10A	1.0	1.5SMC10CA	1.0
11	P6SMB11A	1.0	P6SMB11CA	1.0	1.5SMC11A	1.0	1.5SMC11CA	1.0
12	P6SMB12A	1.0	P6SMB12CA	1.0	1.5SMC12A	1.0	1.5SMC12CA	1.0
13	P6SMB13A	1.0	P6SMB13CA	1.0	1.5SMC13A	1.0	1.5SMC13CA	1.0
15	P6SMB15A	1.0	P6SMB15CA	1.0	1.5SMC15A	1.0	1.5SMC15CA	1.0
16	P6SMB16A	1.0	P6SMB16CA	1.0	1.5SMC16A	1.0	1.5SMC16CA	1.0
18	P6SMB18A	1.0	P6SMB18CA	1.0	1.5SMC18A	1.0	1.5SMC18CA	1.0
20	P6SMB20A	1.0	P6SMB20CA	1.0	1.5SMC20A	1.0	1.5SMC20CA	1.0
22	P6SMB22A	1.0	P6SMB22CA	1.0	1.5SMC22A	1.0	1.5SMC22CA	1.0
24	P6SMB24A	1.0	P6SMB24CA	1.0	1.5SMC24A	1.0	1.5SMC24CA	1.0
27	P6SMB27A	1.0	P6SMB27CA	1.0	1.5SMC27A	1.0	1.5SMC27CA	1.0
30	P6SMB30A	1.0	P6SMB30CA	1.0	1.5SMC30A	1.0	1.5SMC30CA	1.0
33	P6SMB33A	1.0	P6SMB33CA	1.0	1.5SMC33A	1.0	1.5SMC33CA	1.0
36	P6SMB36A	1.0	P6SMB36CA	1.0	1.5SMC36A	1.0	1.5SMC36CA	1.0
39	P6SMB39A	1.0	P6SMB39CA	1.0	1.5SMC39A	1.0	1.5SMC39CA	1.0
43	P6SMB43A	1.0	P6SMB43CA	1.0	1.5SMC43A	1.0	1.5SMC43CA	1.0
47	P6SMB47A	1.0	P6SMB47CA	1.0	1.5SMC47A	1.0	1.5SMC47CA	1.0
51	P6SMB51A	1.0	P6SMB51CA	1.0	1.5SMC51A	1.0	1.5SMC51CA	1.0
56	P6SMB56A	1.0	P6SMB56CA	1.0	1.5SMC56A	1.0	1.5SMC56CA	1.0
62	P6SMB62A	1.0	P6SMB62CA	1.0	1.5SMC62A	1.0	1.5SMC62CA	1.0
68	P6SMB68A	1.0	P6SMB68CA	1.0	1.5SMC68A	1.0	1.5SMC68CA	1.0
75	P6SMB75A	1.0	P6SMB75CA	1.0	1.5SMC75A	1.0	1.5SMC75CA	1.0
82	P6SMB82A	1.0	P6SMB82CA	1.0	1.5SMC82A	1.0	1.5SMC82CA	1.0
91	P6SMB91A	1.0	P6SMB91CA	1.0	1.5SMC91A	1.0	1.5SMC91CA	1.0
100	P6SMB100A	1.0	P6SMB100CA	1.0	1.5SMC100A	1.0	1.5SMC100CA	1.0
110	P6SMB110A	1.0	P6SMB110CA	1.0	1.5SMC110A	1.0	1.5SMC110CA	1.0
120	P6SMB120A	1.0	P6SMB120CA	1.0	1.5SMC120A	1.0	1.5SMC120CA	1.0
130	P6SMB130A	1.0	P6SMB130CA	1.0	1.5SMC130A	1.0	1.5SMC130CA	1.0
150	P6SMB150A	1.0	P6SMB150CA	1.0	1.5SMC150A	1.0	1.5SMC150CA	1.0
160	P6SMB160A	1.0	P6SMB160CA	1.0	1.5SMC160A	1.0	1.5SMC160CA	1.0
170	P6SMB170A	1.0	P6SMB170CA	1.0	1.5SMC170A	1.0	1.5SMC170CA	1.0
180	P6SMB180A	1.0	P6SMB180CA	1.0	1.5SMC180A	1.0	1.5SMC180CA	1.0
200	P6SMB200A	1.0	P6SMB200CA	1.0	1.5SMC200A	1.0	1.5SMC200CA	1.0
220	P6SMB220A	1.0	P6SMB220CA	1.0	1.5SMC220A	1.0	1.5SMC220CA	1.0
250	P6SMB250A	1.0	P6SMB250CA	1.0				

Package dimensions shown are maximum values in mm.

ESD Transient Voltage Suppressors

12W to 400W

1.5V to 9.0V

Package dimensions shown are maximum values in mm.

Central Part No.	Case Type	Description	*VESD	Peak Pulse Power 8X20µs P _{PK}	Max. Reverse Stand-Off Voltage V _{RWM}	Breakdown Voltage V _{BR} @ I _T		Max. Clamping Voltage 8X20µs V _C @ I _{PP}	Max. Peak Pulse Current 8X20µs I _{PP}	Typical Dynamic Resistance (Note 1) R _{DYN} (Ω)	Max. Junction Capacitance 0V DC, 1MHz C _J (pF)	Max. Off-State Capacitance 0V DC, 1MHz C _J (pF)
			MAX (kV)	(W)	(V)	MIN (V)	MAX (V)	(V)	(A)			

Standard

CMATVS3V3	 1.10 x 0.65 x 0.41 SOD-923	Single	15	80	3.3	5.0	–	11	7.0	0.5	45 (TYP)	–
CMATVS5V0		Single	15	80	5.0	6.2	–	12.3	7.0	0.5	40 (TYP)	–
CMOTVS5V7	 1.80 x 0.9 x 0.8 SOD-523	Single	15	66	4.0	5.7	6.7	12	5.5	0.53	35 (TYP)	–
CTLTVS6V2	 0.65 x 0.35 x 0.32 TLM2D3D6	Single	15	35	4.0	5.8	6.6	10.7	3.0	0.54	25 (TYP)	–

Low Capacitance

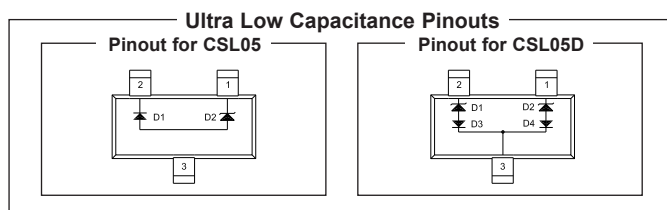
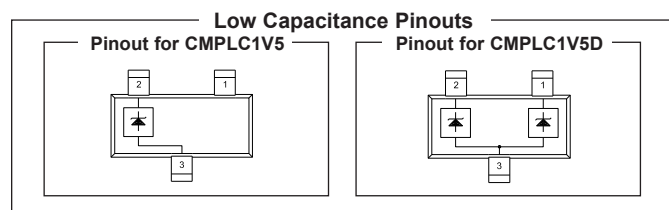
CMPESD24CA	 3.05 x 2.49 x 1.09 SOT-23	Dual, Bi-directional	20	210	24	25.4	30.3	70	3.0	1.3	9.0 (TYP)	–
CMPLC1V5		Single	>25	50	1.5	–	–	7.0 (@ I _{PP} = 3.0A)	5.0	0.97	–	10
CMPLC1V5D		Dual	>25	50	1.5	–	–	7.0 (@ I _{PP} = 3.0A)	5.0	0.97	–	10
CFTVS3V3B	 1.05 x 0.65 x 0.55 SOD-882	Single, Bi-directional	30	40	3.3	3.5	–	6.5 8.0	1.0 5.0	0.25	10	–
CTLTVS12	 0.65 x 0.35 x 0.32 TLM2D3D6	Single	30	35	9.0	10	14	18 (@ I _{PP} = 1.8A)	1.8	0.71	–	14
CTLTVS5V0B	 0.65 x 0.35 x 0.32 TLM2D3D6	Single, Bi-directional	15	30	5.0	5.5	10	12 15	1.0 2.0	0.5	3.5	–

Ultra Low Capacitance

CSL05	 3.05 x 2.49 x 1.09 SOT-23	Single	>25	400	5.0	–	–	12 (@ I _{PP} = 5.0A)	17	0.57	1.2	–
CSL05D		Dual	>25	400	5.0	–	–	12 (@ I _{PP} = 5.0A)	17	0.57	1.2	–
CFTVS5V0BULC	 1.05 x 0.65 x 0.4 SOD-882L	Single, Bi-directional	15	14	5.0	6.0	10	14	1.0	2.94	0.35	–
CFTVS5V0LC		Single	15	12	5.0	6.0	–	12	1.0	0.96	0.9	–
CMO5V0LC	 1.80 x 0.9 x 0.8 SOD-523	Single	15	12	5.0	6.0	–	12	1.0	0.96	–	0.9

* IEC-61000-4-2 Standard

Note 1: Transmission Line Pulse (TLP) conditions: Z₀=50Ω, t_p=100ns



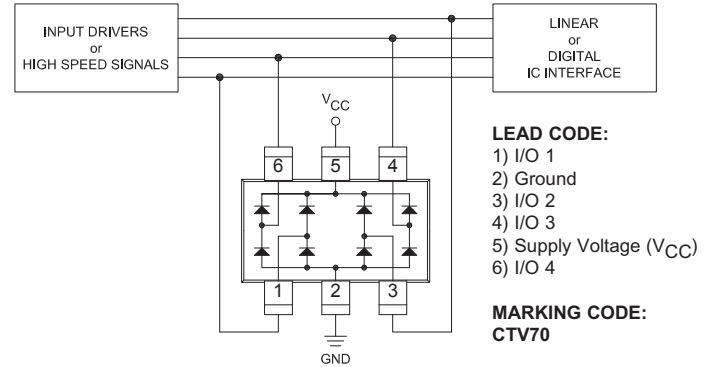
ESD Protection Quad Line Diode Array

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Central Part No.	Case Type	V_R	V_{ESD}^* (Air)	T_J, T_{stg}	V_F @ I_F			Reverse Leakage Current		Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
		MAX (V)	MAX (kV)	MAX ($^\circ\text{C}$)	TYP (V)	MAX (V)	(mA)	MAX (μA)	@ V_R (V)	MAX (pF)	MAX (pF)
CMXESD70-4	 3.0 x 3.0 x 1.2 SOT-26	70	15	-55 to +150	0.61	0.715	1.0	1.0	70	1.0	0.9
					0.74	0.855	10				
					0.88	1.0	50				
					1.07	1.25	150				

*IEC61000-4-2

Theory of operation: In this configuration, when the transient voltage exceeds the sum of the diode forward voltage drop (V_F), plus the supply voltage (V_{CC}), the diode will direct the surge to the supply, thereby protecting the high speed data line.



TVS/Diode Array

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

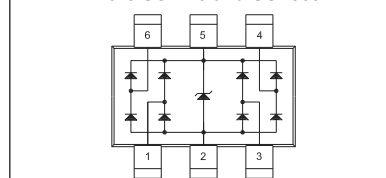
Central Part No.	Case Type	V_I	V_{ESD}^* (Air)	Reverse Stand-off Voltage V_{RWM}	Reverse Breakdown Voltage pin 5 to pin 2 V_Z @ I_Z		Reverse Leakage Current pin 5 to pin 2 I_R @ V_{RWM}		Clamping Voltage 8x20 μs I/O to pin 2 V_C @ I_{PP}		Dynamic Resistance (Note 1) R_{DYN}	Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
		MAX (V)	MAX (kV)	MAX (V)	MIN (V)	(mA)	MAX (μA)	(V)	MAX (V)	(A)	TYP (Ω)	MAX (pF)	MAX (pF)
CMXTVS5-4	 3.0 x 3.0 x 1.2 SOT-26	5.5	15	5.0	6.0	1.0	5.0	5.0	12	1.0	0.3	1.2	0.6
CMKTVS5-4	 2.2 x 2.3 x 1.1 SOT-363	5.5	15	5.0	6.0	1.0	3.0	5.0	14 23	1.0 5.0	0.72	3.0	1.5

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

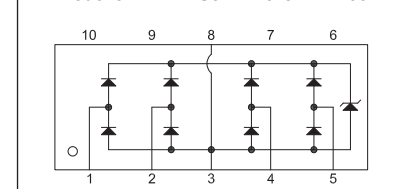
Central Part No.	Case Type	PPK 8x20 μs	V_{ESD}^* (Air)	Reverse Stand-off Voltage V_{RWM}	Reverse Breakdown Voltage I/O to GND V_Z @ 1.0mA		Reverse Leakage Current I/O to GND I_R @ V_R		Clamping Voltage 8x20 μs I/O to GND V_C @ I_{PP}		Dynamic Resistance (Note 1) R_{DYN}	Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
		MAX (W)	MAX (kV)	MAX (V)	MIN (V)	MAX (V)	MAX (μA)	MAX (V)	MAX (V)	MAX (A)	TYP (Ω)	MAX (pF)	MAX (pF)
CTLTVS5-4	 2.55 x 1.05 x 0.55 TLM1031	32.5	15	5.0	6.0	9.0	1.0	5.0	12	1.0	0.5	0.8	0.4
									13	2.5			

Note 1: Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$

Pinout for CMXTVS5-4 and CMKTVS5-4 in the SOT-26 and SOT363



Pinout for CTLTVS5-4 in the TLM1031



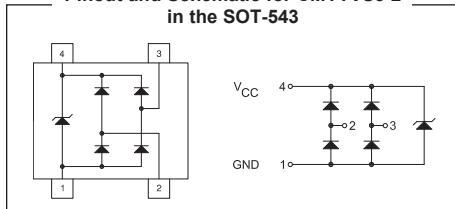
TVS/Diode Array (continued)

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Central Part No.	Case Type	PPK 8x20 μs	VESD* (Air)	Reverse Stand-off Voltage V_{RWM}	Reverse Breakdown Voltage pin 4 to pin 1 V_Z @ I_Z		Reverse Leakage Current pin 4 to pin 1 I_R @ V_{RWM}		Clamping Voltage 8x20 μs I/O to pin 1 V_C @ I_{PP}		Off State Junction Capacitance I/O to GND ($V_R=0$, $f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0$, $f=1.0\text{MHz}$) C_J
					MIN (V)	MAX (mA)	MAX (μA)	(V)	MAX (V)	(A)	MAX (pF)	MAX (pF)
CMYTVS5-2	 1.7 x 1.7 x 0.6 SOT-543	60	15	5.0	6.2	1.0	1.0	5.0	12	5.0	1.2	0.6

*IEC61000-4-2

Pinout and Schematic for CMYTVS5-2 in the SOT-543



TVS/Zener Array

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Package dimensions shown are maximum values in mm.

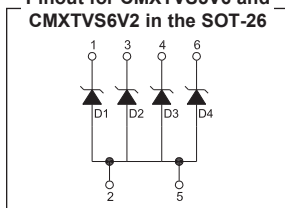
Central Part No.	Case Type	Power (8x20 μs) PPK (W)	Breakdown Voltage V_{BR} @ 1.0mA			Maximum Leakage Current I_{RWM} @ V_{RWM}		Maximum Clamping Voltage (10x1000 μs) V_C @ I_{PP}		Maximum Clamping Voltage (8x20 μs) V_C @ I_{PP}		Dynamic Resistance (Note 1) R_{DYN}	Maximum Capacitance @ 0V Bias	Maximum Capacitance @ 2.8V Bias	Maximum Impedance Z_{ZT} @ 1.0mA
			MIN (V)	NOM (V)	MAX (V)	(μA)	(V)	(V)	(A)	(V)	(A)	TYP (Ω)	(pF)	(pF)	(Ω)
CMXTVS5V6	 3.0 x 3.0 x 1.2 SOT-26	150	5.32	5.6	5.88	2.0	3.0	8.0	3.0	12	12.5	0.29	275	160	400
CMXTVS6V2			5.89	6.2	6.51	0.7	4.3	9.0	2.66	12.5	12	0.36	260	150	300

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

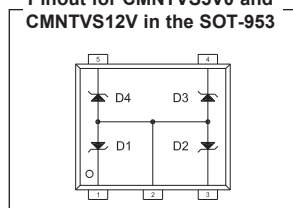
Central Part No.	Case Type	Power (8x20 μs) PPK (W)	Breakdown Voltage V_{BR} @ I_R				Maximum Leakage Current I_{RWM} @ V_{RWM}		Maximum Clamping Voltage V_C @ I_{PP}		Dynamic Resistance (Note 1) R_{DYN}	Capacitance @ 0V Bias	Capacitance @ 3V Bias	Capacitance @ 3.3V Bias
			MIN (V)	NOM (V)	MAX (V)	(mA)	(μA)	(V)	(V)	(A)	TYP (Ω)	(pF)	(pF)	(pF)
CMNTVS5V0	 1.05 x 1.05 x 0.5 SOT-953	25	6.0	7.1	8.0	1.0	0.25	5.0	12.5	2.0	1.45	10	—	5.5
CMNTVS12V		18	11.4	12.0	12.7	5.0	0.5	9.0	18	1.0	2.56	10	6.0	—

Note 1: Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$

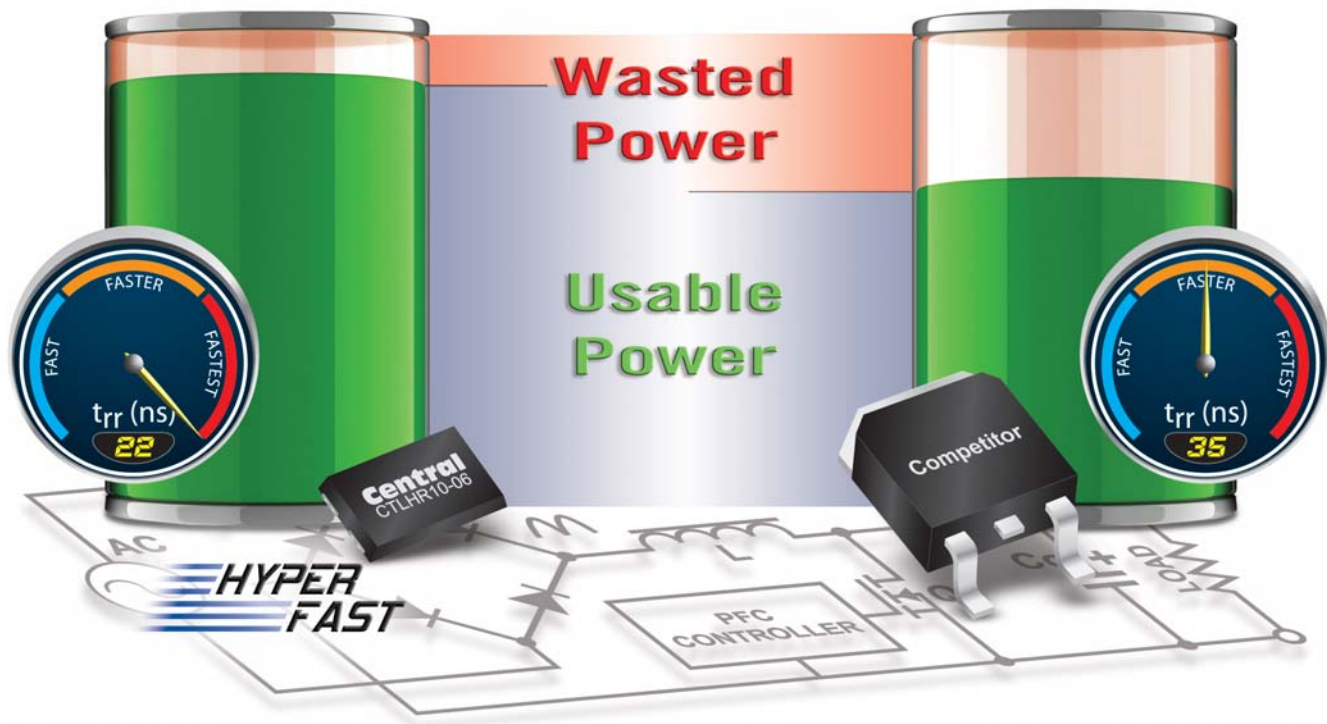
Pinout for CMXTVS5V6 and CMXTVS6V2 in the SOT-26



Pinout for CMNTVS5V0 and CMNTVS12V in the SOT-953



Which would you prefer for your PFC Application?



The choice is clear. Central's **600V**, HyperFast Rectifiers

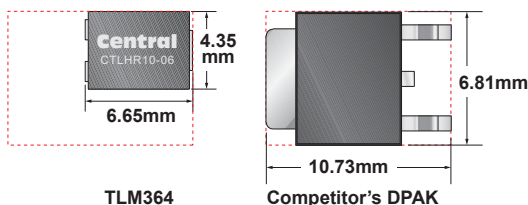
Central Semiconductor's HyperFast Rectifiers will significantly improve your power factor correction (PFC) efficiency.

Benefits:

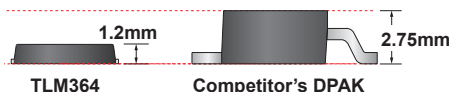
- Ultra low profile
- Industry leading switching speed
- Utilizes less board space than competitors rectifiers

Package Advantage:

The TLM364 utilizes **60%** less board space than the DPAK



The TLM364 has a **56%** lower profile than the DPAK



Featured Device

Maximum Ratings and Electrical Characteristics

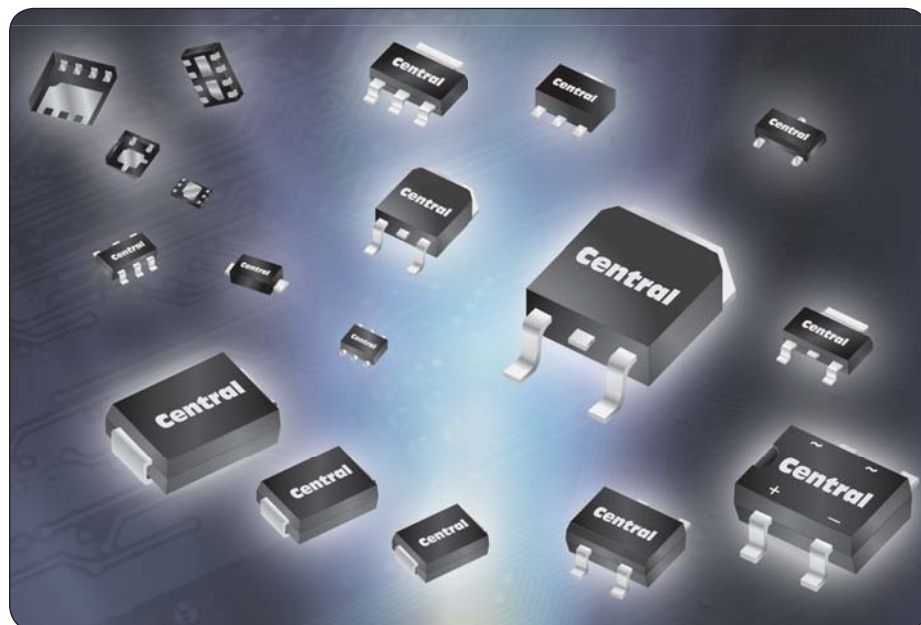
Central Item No.	VRRM (V) MAX	I _O (A) MAX	t _{rr} (ns) TYP	Package Type
CTLHR10-06	600	10 (T _L = 90°C)	22	TLM364

Additional Hyper Fast devices

CMR5H-06	600	5.0 (T _L = 75°C)	20	SMC
CHD8-06	600	8.0 (T _L = 100°C)	22	DPAK

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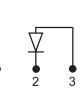
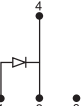
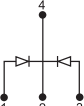
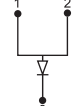
Rectifiers

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General Purpose Rectifiers

1.0 to 5.0A
200 to 1000V

Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0						2.0		3.0	5.0
@ T _A (°C) **T _L	75**	25	25	25	100**	75	50	**120	75	25
I _{FSM} (AMPS)	30	10	10	10	30	30	60	70	200	150
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 4.7 x 4.5 x 1.7 SOT-89	 6.7 x 7.3 x 1.8 SOT-223		 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	 4.9 x 2.6 x 1.1 SMAFL	 8.13 x 6.22 x 2.62 SMC	 6.65 x 4.35 x 1.2 TLM364	
	SINGLE	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)										
200	CMR1-02	—	—	—	CMR1-02M	CMR1-02	CMR2-02	—	CMR3-02	—
400	CMR1-04	CXR1-04	CZR1-04	CZR1-04C†	CMR1-04M	CMR1-04	CMR2-04	CMR2-04MFL	CMR3-04	—
600	CMR1-06	—	—	—	CMR1-06M	CMR1-06	CMR2-06	CMR2-06MFL	CMR3-06	CTLR5-06
800	—	—	—	—	—	—	—	CMR2-08MFL	—	—
1000	CMR1-10	—	—	—	CMR1-10M	CMR1-10	CMR2-10	CMR2-10MFL	CMR3-10	—
V _F MAX @ I _F = I _O	1.1V	1.2V	1.2V	1.2V	1.1V	1.1V	1.1V	1.1V	1.2V	1.0V
I _R MAX @ V _{RRM}	10µA	1.0µA	1.0µA	1.0µA	5.0µA	10µA	5.0µA	1.0µA	5.0µA	5.0µA
PINOUT										

† Dual Common Cathode (Ratings Per Diode)

Fast Recovery Rectifiers

1.0A 200 to 1000V

Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0	
@ T_A (°C) ** T_L	75**	120**
I_{FSM} (AMPS)	30	30
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 2.92 x 2.62 SMA
	SINGLE	SINGLE
V_{RRM} (VOLTS)		
200	CMMR1F-02	CMR1F-02M
400	CMMR1F-04	CMR1F-04M
600	CMMR1F-06	CMR1F-06M
800	CMMR1F-08	—
1000	—	CMR1F-10M
V_F MAX @ $I_F = I_O$	1.3V	1.3V
I_R MAX @ V_{RRM}	10μA	5.0μA
t_{rr} (200V)	150ns	150ns
t_{rr} (400V)	150ns	150ns
t_{rr} (600V)	250ns	250ns
t_{rr} (800V)	500ns	—
t_{rr} (1000V)	—	500ns
PINOUT		

Ultra Fast Recovery Rectifiers

1.0 to 3.0A
100 to 1300V

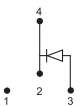
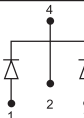
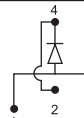
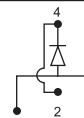
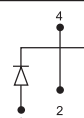
Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0					2.0	3.0	
@ T _A (°C) *T _C **T _L	90**	75	75	75	120**	50	75	75
I _{FSM} (AMPS)	30	30	30	30	30	50	100	150
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	 5.5 x 3.7 x 1.1 SMBFL	 5.59 x 3.81 x 2.44 SMB	 8.13 x 6.22 x 2.62 SMC		
	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)								
100	–	CMR1U-01M	–	CMR1U-01	–	CMR2U-01	CMR3U-01M	CMR3U-01
200	CMMR1U-02	CMR1U-02M	–	CMR1U-02	CMR1U-02FL	CMR2U-02	CMR3U-02M	CMR3U-02
400	CMMR1U-04	CMR1U-04M	–	CMR1U-04	CMR1U-04FL	CMR2U-04	CMR3U-04M	CMR3U-04
600	CMMR1U-06	CMR1U-06M	–	CMR1U-06	CMR1U-06FL	CMR2U-06	CMR3U-06M	CMR3U-06
800	CMMR1U-08	–	–	–	–	–	–	–
1000	–	CMR1U-10M	–	CMR1U-10	–	–	CMR3U-10M	CMR3U-10
1300	–	–	CMR1U-13M	–	–	–	–	–
V _F MAX @ I _F = I _O								
100	–	1.0V	–	1.0V	–	1.0V	1.0V	1.0V
200	1.0V	1.0V	–	1.0V	1.0V	1.0V	1.0V	1.0V
400	1.4V	1.25V	–	1.25V	1.3V	1.25V	1.25V	1.25V
600	1.7V	1.4V	–	1.4V	1.7V	1.4V	1.4V	1.4V
800	1.7V	–	–	–	–	–	–	–
1000	–	1.7V	–	1.7V	–	–	1.7V	1.7V
1300	–	–	1.9V	–	–	–	–	–
I _R MAX @ V _{RRM}	1.0μA	5.0μA	5.0μA	5.0μA	1.0μA	10μA	5.0μA	5.0μA
t _{rr} (100V)	–	35ns	–	50ns	–	50ns	50ns	50ns
t _{rr} (200V)	50ns	35ns	–	50ns	50ns	50ns	50ns	50ns
t _{rr} (400V)	50ns	50ns	–	50ns	50ns	50ns	50ns	50ns
t _{rr} (600V)	100ns	75ns	–	100ns	100ns	50ns	100ns	100ns
t _{rr} (800V)	100ns	–	–	–	–	–	–	–
t _{rr} (1000V)	–	100ns	–	100ns	–	–	100ns	100ns
t _{rr} (1300V)	–	–	75ns	–	–	–	–	–
PINOUT								

Ultra Fast Recovery Rectifiers (continued)

4.0 to 16A
200 to 800V

Package dimensions shown are maximum values in mm.

I_O (AMPS)	4.0	5.0	6.0	8.0	10	16
@ T_A (°C) * T_C	130*	55	130*	100*	100*	100*
I_{FSM} (AMPS)	70	175	70	125	100	125
CASE	 10.73 x 6.81 x 2.75 DPAK	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 16.6 x 10.4 x 4.8 D ² PAK	 10.73 x 6.81 x 2.75 DPAK	 16.6 x 10.4 x 4.8 D ² PAK
	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	SINGLE	DUAL COMMON CATHODE
V_{RRM} (VOLTS)						
200	CUD3-02	CMR5U-02	CUD6-02C	CUDD8-02	CUD10-02	CUDD16-02C
400	—	CMR5U-04	—	CUDD8-04	CUD10-04	CUDD16-04C
600	—	—	—	—	CUD10-06	—
800	—	CMR5U-08	—	CUDD8-08	—	CUDD16-08C
V_F MAX @ $I_F = I_O$		—	—	—	—	—
200	1.25V @ 12A	1.0V	1.25† @ 10A	0.975V	0.95V	0.975V† @ 8.0A
400	—	1.3V	—	1.3V	1.3V	1.3V† @ 8.0A
600	—	—	—	—	1.7V	—
800	—	1.7V	—	1.5V	—	1.5V† @ 8.0A
I_R MAX @ V_{RRM}	20μA	10μA	20μA †	5μA	10μA	5μA†
t_{rr} (200V)	35ns	50ns	35ns†	25ns	35ns	25ns†
t_{rr} (400V)		50ns	—	25ns	35ns	25ns†
t_{rr} (600V)		—	—	—	35ns	—
t_{rr} (800V)		100ns	—	50ns	—	50ns†
PINOUT						

† Electrical Characteristic Per Diode

Super Fast Recovery Rectifiers

1.0 to 3.0A

100 to 600V

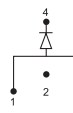
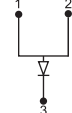
Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0		2.0	3.0
@ T_A (°C) ** T_L	110**	25	110**	75**
I_{FSM} (AMPS)	30	30	50	100
CASE	 3.95 x 1.95 x 1.08	 5.59 x 3.81 x 2.44		 8.13 x 6.22 x 2.62
	SOD-123F	SMB		SMC
	SINGLE	SINGLE	SINGLE	SINGLE
V_{RRM} (VOLTS)				
100	—	CMR1S-01	—	CMR3S-01
200	CMMR1S-02	CMR1S-02	CMR2S-02	CMR3S-02
400	—	—	CMR2S-04	CMR3S-04
600	—	—	CMR2S-06	CMR3S-06
V_F MAX @ $I_F = I_O$				
100	—	0.95V	—	0.95V
200	0.95V	0.95V	0.95V	0.95V
400	—	—	1.25V	1.25V
600	—	—	1.70V	1.70V
I_R MAX @ V_{RRM}	10μA	5.0μA	1.0μA	5.0μA
t_{rr}	35ns	35ns	30ns	35ns
PINOUT				

Hyper Fast Recovery Rectifiers

1.0 to 10A
400V, 600V

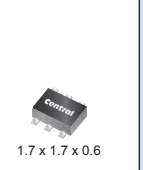
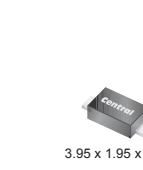
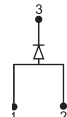
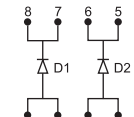
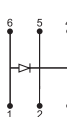
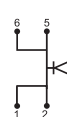
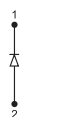
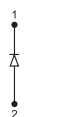
Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0	5.0	8.0	10
@ T_A (°C) * T_C ** T_L	**120	**75	*100	**90
I_{FSM} (AMPS)	30	100	100	150
CASE	 4.9 x 2.6 x 1.1 SMAFL	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 6.65 x 4.35 x 1.2 TLM364
	SINGLE	SINGLE	SINGLE	SINGLE
V_{RRM} (VOLTS)				
400	CMR1H-04MFL	—	—	—
600	—	CMR5H-06	CHD8-06	CTLHR10-06
V_F TYP @ $I_F = I_O$	1.1V	1.55V	1.9V	1.6V
V_F MAX @ $I_F = I_O$	1.25V	1.7V	2.2V	1.7V
I_R MAX @ V_{RRM}	1.0μA	1.0μA	10μA	10μA
t_{rr} TYP	20ns	20ns	22ns	22ns
t_{rr} MAX	25ns	22ns	25ns	25ns
PINOUT				

Schottky Rectifiers

1.0A
20 to 100V

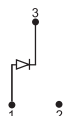
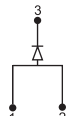
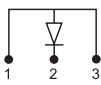
Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0							
@ T _A (°C) **T _L ††T _J	25	25	25	25	25	110**	75**	25††
I _{FSM} (AMPS)	10	10	10	6.0	10	20	30	50
CASE	 2.05 x 2.05 x 0.6 TLM322S	 3.05 x 2.05 x 1.05 TLM832DS	 3.05 x 2.05 x 1.05 TLM832DS	 2.15 x 1.65 x 0.4 TLM621H	 1.7 x 1.7 x 0.6 SOT-563	 1.95 x 1.4 x 0.85 SOD-323FL	 3.95 x 1.95 x 1.08 SOD-123F	
V _{RRM} (VOLTS)	SINGLE	DUAL ISOLATED	DUAL ISOLATED	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
20	—	—	—	—	—	—	CMMSH1-20	—
30	—	—	—	—	—	CMIDSH1-3	—	—
40	CTLSH1-40M322S	CTLSH1-40M832DS	—	CTLSH1-40M621H	CMLSH1-40	CMIDSH1-4	CMMSH1-40	CMMSH1-40L
50	—	—	CTLSH1-50M832DS	—	—	—	—	—
60	—	—	—	—	—	CMIDSH1-6	CMMSH1-60	—
100	—	—	—	—	—	—	CMMSH1-100	—
V _F MAX @ I _F = I _O								
20	—	—	—	—	—	—	0.45V	—
30	—	—	—	—	—	0.52V	0.45V	—
40	0.55V	0.55V	—	0.60V	0.55V	0.58V	0.55V	0.45V
50	—	—	0.55V	—	—	—	—	—
60	—	—	—	—	—	0.68V	0.70V	—
100	—	—	—	—	—	—	0.85V	—
I _R MAX @ V _{RRM}	50µA @ 15V	50µA @ 15V	500µA	50µA @ 15V	50µA @ 15V	100µA	500µA	500µA
PINOUT								

Schottky Rectifiers (continued)

1.0A 20 to 200V

Package dimensions shown are maximum values in mm.

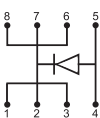
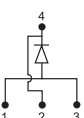
I _O (AMPS)	1.0							
@ T _A (°C) **T _L ††T _J	25	25	25	75**	25	75	25	25
I _{FSM} (AMPS)	12	20	20	30	30	30	10	30
CASE	 3.00 x 2.50 x 1.0 SOT-23F			LOW V_F  5.59 x 2.92 x 2.62 SMA		LOW V_F  5.59 x 3.81 x 2.44 SMB	 4.7 x 4.5 x 1.7 SOT-89	 5.59 x 2.92 x 2.62 SMA
V _{RRM} (VOLTS)	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	
20	—	—	—	CMSH1-20M	CMSH1-20ML	CMSH1-20	—	—
30	—	—	—	—	—	—	—	—
40	CMPSH1-4	CMPSH1-4L	CMPSH1-4LE	CMSH1-40M	CMSH1-40ML	CMSH1-40	CXSH-4	CMSH1-40HE
60	—	—	—	CMSH1-60M†	—	CMSH1-60	—	CMSH1-60HE
80	—	—	—	—	—	—	—	CMSH1-80HE
100	—	—	—	CMSH1-100M†	—	CMSH1-100	—	CMSH1-100HE
150	—	—	—	—	—	—	—	CMSH1-150HE
200	—	—	—	—	—	—	—	CMSH1-200HE
V _F MAX @ I _F =I _O								
20	—	—	—	0.50V	0.38V	0.55V	—	
30	—	—	—	—	—	—	—	
40	0.55V	0.39V	0.4V	0.50V	0.40V	0.55V	0.55V	0.70V
60	—	—	—	0.70V	—	0.70V	—	0.74V
80	—	—	—	—	—	—	—	0.80V
100	—	—	—	0.85V	—	0.85V	—	0.80V
150	—	—	—	—	—	—	—	0.90V
200	—	—	—	—	—	—	—	0.90V
I _R MAX @ V _{RRM}	100µA @ 30V	1.5mA @ 30V	900µA @ 40V	500µA	500µA	500µA	1.0mA	50µA
PINOUT								

† T_L = 100°C for 60V & 100V

Schottky Rectifiers (continued)

2.0A
20 to 100V

Package dimensions shown are maximum values in mm.

I_O (AMPS)	2.0						
@ T_A (°C) ** T_L †† T_J	25	25††	75**	55	105**	25	125**
I_{FSM} (AMPS)	15	50	50	50	50	10	50
CASE	 3.1 x 2.1 x 1.0 TLM832	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	 6.7 x 7.3 x 1.8 SOT-223	 4.9 x 2.6 x 1.1 SMAFL	
V_{RRM} (VOLTS)	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
20	—	—	CMSH2-20M	CMSH2-20	CMSH2-20L	—	—
40	CTLSH2-40M832	CMMSH2-40	CMSH2-40M	CMSH2-40	CMSH2-40L	CZSH-4	CMSH2-40FL
60	—	—	CMSH2-60M	CMSH2-60	—	—	—
100	—	—	CMSH2-100M	CMSH2-100	—	—	—
V_F MAX @ $I_F = I_O$	—	—	0.55V	0.50V	0.40V	—	—
20	—	—	0.55V	0.50V	0.40V	—	—
40	0.50V	0.50V	0.55V	0.50V	0.40V	0.60V	0.50V
60	—	—	0.70V	0.70V	—	—	—
100	—	—	0.85V	0.85V	—	—	—
I_R MAX @ V_{RRM}	200μA	500μA	500μA	500μA	500μA	1.0mA	100μA
PINOUT							

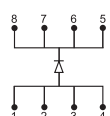
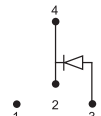
† $T_L = 100^\circ\text{C}$ for 60V & 100V

Schottky Rectifiers (continued)

3.0A

20 to 200V

Package dimensions shown are maximum values in mm.

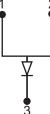
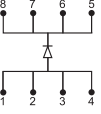
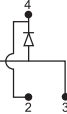
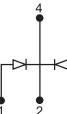
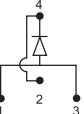
I _O (AMPS)	3.0								
@ T _A (°C) *T _C **T _L	25	25	75**	75**	75	120*	125**	125**	110**
I _{FSM} (AMPS)	25	25	80	80	150	75 50†	80	80	80
CASE	 LOW V_F 3.1 x 3.1 x 1.0 TLM833	 LOW V_F 3.15 x 3.15 x 1.0 TLM833S	 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	 HIGH DENSITY SCHOTTKY 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 5.5 x 3.7 x 1.1 SMBFL	 5.59 x 3.81 x 2.44 SMB	 4.9 x 2.6 x 1.1 SMAFL
	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)									
20	—	—	CMSH3-20MA	CMSH3-20M	CMSH3-20	—	—	—	—
30	CTLSH3-30M833	CTLSH3-30M833S	—	—	—	—	—	—	—
40	—	—	CMSH3-40MA	CMSH3-40M	CMSH3-40	CSHD3-40	CMSH3-40FL	—	—
60	—	—	CMSH3-60MA	CMSH3-60M	CMSH3-60	CSHD3-60	—	—	—
100	—	—	CMSH3-100MA	CMSH3-100M	CMSH3-100	CSHD3-100	—	CMSH3-100MHV	CMSH3-100MFL
150	—	—	—	—	—	—	—	CMSH3-150MHV	CMSH3-150MFL
200	—	—	—	—	—	—	—	CMSH3-200MHV	CMSH3-200MFL
V _F MAX @ I _F = I _O									—
20	—	—	0.50V	0.55V	0.50V	—	—	—	—
30	0.45V	0.45V	—	—	—	—	—	—	—
40	—	—	0.50V	0.55V	0.50V	0.65V	0.50V	—	—
60	—	—	0.70V	0.75V	0.70V	0.75V	—	—	—
100	—	—	0.85V	0.85V	0.80V	0.85V	—	0.8V	0.8V
150	—	—	—	—	—	—	—	0.9V	0.9V
200	—	—	—	—	—	—	—	0.9V	0.9V
I _R MAX @ V _{RRM}	1.0mA	1.0mA	500μA	500μA	500μA	30μA†	100μA	50μA	50μA
PINOUT									

† 60V & 100V Devices

Schottky Rectifiers (continued)

4.0A to 5.0A
20 to 200V

Package dimensions shown are maximum values in mm.

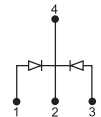
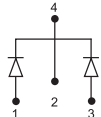
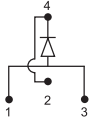
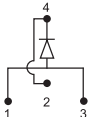
I _O (AMPS)	4.0				5.0				
@ T _A (°C) *T _C **T _L	90**	125**	25	125**	75	75	75	75**	120*
I _{FSM} (AMPS)	150	100	50	100	125	125	75	100	80
CASE	 8.13 x 6.22 x 2.62 SMC	 6.65 x 4.35 x 1.2 TLM364	 3.15 x 3.15 x 1.0 TLM833S	 5.5 x 3.7 x 1.1 SMBFL	 8.13 x 6.22 x 2.62 SMC	 6.7 x 7.3 x 1.8 SOT-223	 10.73 x 6.81 x 2.75 DPAK		
	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	SINGLE
V _{RRM} (VOLTS)									
20	CMSH3-20L	—	—	—	CMSH5-20	—	—	—	—
25	—	—	—	—	—	—	—	—	CSHD5-25L
40	CMSH3-40L	—	CTLSH5-40M833S	CMSH5-40FL	CMSH5-40	CZSH5-40	CZSH5-40C	CSHD5-40	—
60	—	—	—	—	CMSH5-60	—	—	CSHD5-60	—
100	—	—	—	—	CMSH5-100	—	—	CSHD5-100	—
150	—	—	—	—	—	—	—	—	—
200	—	CTLSH4-200M364	—	—	—	—	—	—	—
V _F MAX @ I _F = I _O									
20	0.42V	—	—	—	0.55V	—	—	—	—
25	—	—	—	—	—	—	—	—	0.47V
40	0.44V	—	0.52V	0.46V	0.55V	0.55V	0.55V	0.55V	—
60	—	—	—	—	0.75V	—	—	0.75V	—
100	—	—	—	—	0.85V	—	—	0.85V	—
150	—	—	—	—	—	—	—	—	—
200	—	0.84V	—	—	—	—	—	—	—
I _R MAX @ V _{RRM}	500μA	1.0μA	200μA	100μA	3.0mA	3.0mA	3.0mA	200μA	500μA
PINOUT									

† 60V & 100V Devices

Schottky Rectifiers (continued)

**5.0A to 8.0A
20 to 200V**

Package dimensions shown are maximum values in mm.

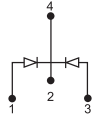
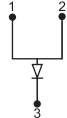
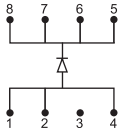
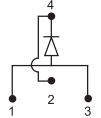
I _O (AMPS)	5.0		6.0		8.0			
@ T _A (°C) *T _C **T _L	75**	125**	75	120*	115**	75**	100*	125**
I _{FSM} (AMPS)	100	150	75	75 50†	150	85	150	280
CASE	 8.13 x 6.22 x 2.62 SMC	 6.65 x 4.35 x 1.2 TLM364	 6.7 x 7.3 x 1.8 SOT-223	 10.73 x 6.81 x 2.75 DPAK	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 16.6 x 10.4 x 4.8 D ² PAK	 6.65 x 4.35 x 1.2 TLM364
	SINGLE	SINGLE	DUAL COMMON CATHODE	DUAL COMMON CATHODE		SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)								
20	—	—	—	—	—	—	—	—
25	—	—	—	—	—	—	—	—
40	—	—	—	CSHD6-40C	CMSH8-40	—	CSHDD8-40	—
60	—	—	—	CSHD6-60C	—	CSHD8-60	CSHDD8-60	CTLSH8-60M364
100	CMSH5-100HV	CTLSH5-100M364	CZSH6-100C	CSHD6-100C	—	CSHD8-100	CSHDD8-100	—
150	CMSH5-150HV	—	—	—	—	—	—	—
200	CMSH5-200HV	—	—	—	—	CSHD8-200	—	—
V _F MAX @ I _F = I _O								
20	—	—	—	—	—	—	—	—
25	—	—	—	—	—	—	—	—
40	—	—	—	0.85V Per Leg	0.55V	—	0.65V	—
60	—	—	—	0.9V Per Leg	—	0.75V	0.75V	0.54V
100	0.80V	0.80V	1.0V Per Leg	1.1V Per Leg	—	0.8V	0.85V	—
150	0.90V	—	—	—	—	—	—	—
200	0.90V	—	—	—	—	0.9V	—	—
I _R MAX @ V _{RRM}	50μA	15μA	10μA	30μA†	500μA	50μA	100μA	0.6mA
PINOUT								

† 60V & 100V Devices

Schottky Rectifiers (continued)

10A
40 to 100V

Package dimensions shown are maximum values in mm.

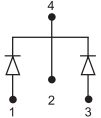
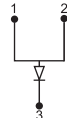
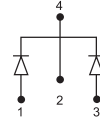
I _O (AMPS)	10					
@ T _A (°C) *T _C **T _L	100*	75	110** †90**	100**	25	120*
I _{FSM} (AMPS)	100	125	275 †300	300	250	200
CASE	 10.73 x 6.81 x 2.75 DPAK	 6.7 x 7.3 x 1.8 SOT-223C	 6.65 x 4.35 x 1.2 TLM364		 6.1 x 5.1 x 1.025 TLM856	 10.73 x 6.81 x 2.75 DPAK
	DUAL COMMON CATHODE	DUAL COMMON CATHODE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)						
40	—	CZSH10-40CN	—	—	—	—
45	—	—	CTLSH10-45L	CTLSH10-45M364	—	CSHD10-45L
60	—	—	—	—	CTLSH10-60M856	—
100	CSHD10-100C	—	CTLSH10-100L	—	—	—
V _F MAX @ I _F = I _O						
40	—	0.60V Per Leg	—	—	—	—
45	—	—	0.47V	0.55V	—	0.75V
60	—	—	—	—	0.67V	—
100	0.9V (TYP)	—	0.68V	—	—	—
I _R MAX @ V _{RRM}	50μA	3.0mA	250μA	50μA	500μA	100μA
100	50μA	—	150μA	—	—	—
PINOUT						

†100V Devices

Schottky Rectifiers (continued)

12 to 16A
40 to 200V

Package dimensions shown are maximum values in mm.

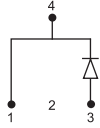
I _O (AMPS)	12	15	16
@ T _A (°C) *T _C **T _L	75*	**120	75*
I _{FSM} (AMPS)	100	275	150
CASE	 10.73 x 6.81 x 2.75 DPAK	 6.65 x 4.35 x 1.2 TLM364	 16.6 x 10.4 x 4.8 D ² PAK
	DUAL COMMON CATHODE	SINGLE	DUAL COMMON CATHODE
V _{RRM} (VOLTS)			
30	—	CTLSH15-30M364	—
40	—	—	CSHDD16-40C
60	CSHD12-60C	CTLSH15-60M364	CSHDD16-60C
100	—	—	CSHDD16-100C
200	—	—	CSHDD16-200C
V _F MAX @ I _F = I _O			
30	—	0.56V	—
40	—	—	0.84V Per Leg
60	0.75V @ 6.0A	0.59V	0.95V Per Leg
100	—	—	1.1V Per Leg
200	—	—	1.2V Per Leg
I _R MAX @ V _{RRM}	50µA	100µA	50µA
60	—	200µA	—
100	—	—	50µA
PINOUT			

†100V Devices

Silicon Carbide (SiC) Schottky Rectifiers

10A
650V

Package dimensions shown are maximum values in mm.

I _F (AMPS)	10
@ T _A (°C) *T _C **T _L	135*
I _{FSM} (AMPS)	60
CASE	 10.73 x 6.81 x 2.75 DPAK
	SINGLE
V _{RRM} (VOLTS)	
650	CSICD10-650
V _F MAX @ I _F = I _O	1.7V @ 25°C 2.5V @ 175°C
I _R MAX @ V _{RRM}	125µA
PINOUT	

Also Available CSIC10-1200, 1200V, 10A device in
TO-220-2 package
(see page 64)



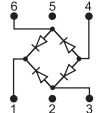
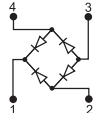
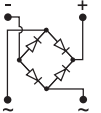
Bridge Rectifiers

Single Phase, Full Wave

0.14 to 1.0A

40 to 1000V

Package dimensions shown are maximum values in mm.

I _O (AMPS)	0.14		0.5	1.0				
@ T _A (°C)	25	25	40	25	25	50	40	40
I _{FSM} (AMPS)	—	—	30	20	20	50	50	50
CASE	 2.2 x 2.3 x 1.1 SOT-363	 3.04 x 2.50 x 1.14 SOT-143	  4.9 x 7.0 x 2.7 HD DIP			 8.51 x 10.41 x 2.49 SMDIP		
	GENERAL PURPOSE	GENERAL PURPOSE	GENERAL PURPOSE	SCHOTTKY	LOW V _F SCHOTTKY	GENERAL PURPOSE	FAST RECOVERY	ULTRA FAST RECOVERY
V _{RRM} (VOLTS)								
40	—	—	—	—	CBRHDSH1-40L	—	—	—
60	CMKBR-6F	CMFBR-6F	—	—	CBRHDSH1-60	—	—	—
100	—	—	CBRHD-01	CBRHDSH1-100	CBRHDSH1-100	—	—	CBR1U-D010S
200	—	—	CBRHD-02	—	CBRHDSH1-200	CBR1-D020S	CBR1F-D020S	CBR1U-D020S
400	—	—	CBRHD-04	—	—	CBR1-D040S	CBR1F-D040S	—
600	—	—	CBRHD-06	—	—	CBR1-D060S	CBR1F-D060S	—
1000	—	—	CBRHD-10*	—	—	CBR1-D100S	CBR1F-D100S*	—
V _F MAX @ I _F (40V)	—	—	—	—	0.44V	—	—	—
V _F MAX @ I _F (60V)	1.0V @ 20mA	1.0V @ 20mA	—	—	0.6V	—	—	—
V _F MAX @ I _F (100V)	—	—	1.0V @ 0.4A	0.75V @ 1.0A	0.75V	—	—	1.05V @ 1.0A
V _F MAX @ I _F (200V-1000V)	—	—	1.0V @ 0.4A	—	0.9V	1.1V @ 1.0A	1.3V @ 1.0A	1.05V @ 1.0A
I _R MAX @ V _{RRM} (40V)	—	—	—	—	50μA	—	—	—
I _R MAX @ V _{RRM} (60V)	10nA @ 50V	10nA @ 50V	—	—	20μA	—	—	—
I _R MAX @ V _{RRM} (100V)	—	—	5.0μA	10μA	10μA	—	—	5μA
I _R MAX @ V _{RRM} (200V - 1000V)	—	—	5.0μA	—	50μA	10μA	5.0μA	5μA
t _{rr} (60V)	1.0μs typ.	1.0μs typ.	—	—	—	—	—	—
t _{rr} (100 - 400V)	—	—	—	—	—	—	200ns	50ns
t _{rr} (600V)	—	—	—	—	—	—	300ns	—
t _{rr} (1000V)	—	—	—	—	—	—	500ns	—
PINOUT								

* Available on special order; please consult factory.

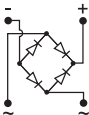
Bridge Rectifiers (continued)

Single Phase, Full Wave

1.0 to 2.0A

40 to 1000V

Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0		2.0				
@ T _A (°C)	25	25	50**	25	25	25	25
I _{FSM} (AMPS)	30	30	50	30	50	50	110
CASE	 6.7 x 5.15 x 1.45 LPDIP		HD BRIDGE  4.9 x 7.0 x 2.7 HD DIP			 8.51 x 10.41 x 2.49 SMDIP	
	SCHOTTKY	GENERAL PURPOSE	SCHOTTKY	SCHOTTKY	SCHOTTKY	GENERAL PURPOSE	SCHOTTKY
V _{RRM} (VOLTS)							
40	CBRLDSH1-40	—	CBRLDSH2-40	CBRHDSH2-40	—	—	CBRSDSH2-40
60	—	—	CBRLDSH2-60	—	—	—	CBRSDSH2-60
100	—	—	CBRLDSH2-100	—	CBRHDSH2-100	—	CBRSDSH2-100
200	—	CBRLD1-02	—	—	—	CBR2-D020S	—
400	—	CBRLD1-04	—	—	—	CBR2-D040S	—
600	—	CBRLD1-06	—	—	—	CBR2-D060S	—
800	—	CBRLD1-08	—	—	—	CBR2-D080S	—
1000	—	CBRLD1-10	—	—	—	CBR2-D100S	—
V _F MAX @ I _F (40V)	500mV @ 1.0A	—	500mV @ 2.0A	0.5V @ 2.0A	—	—	450mV @ 2.0A
V _F MAX @ I _F (60V)	—	—	700mV @ 2.0A	—	—	—	600mV @ 2.0A
V _F MAX @ I _F (100V)	—	—	840mV @ 2.0A	—	0.84V @ 2.0A	—	700mV @ 2.0A
V _F MAX @ I _F (200V - 1000V)	—	1.0V @ 1.0A	—	—	—	1.1V @ 2.0A	—
I _R MAX @ V _{RRM} (40V)	100μA	—	100μA	50μA	—	—	70μA
I _R MAX @ V _{RRM} (60V)	—	—	500μA	—	—	—	70μA
I _R MAX @ V _{RRM} (100V)	—	—	4.0μA	—	4.0μA	—	50μA
I _R MAX @ V _{RRM} (200V - 1000V)	—	10μA	—	—	—	5.0μA	—
PINOUT							

* Available on special order; please consult factory.

Silicon Carbide Schottky Rectifiers

Central Semiconductor's silicon carbide Schottky rectifiers are designed for systems where energy efficiency and thermal performance are critical design elements.

www.centrasemi.com/sic



DPAK package



TO-220-2 package



TO-257 package



Features / Benefits:

- High voltage capability
- High temperature capability
- Temperature independent switching performance
- Thermal efficiency
- System efficiency gains

Applications:

- Power inverters
- Industrial motor drives
- Switch-mode power supplies
- Power factor correction
- Output rectification

Silicon Carbide Schottky Rectifiers

Part Number	I_O MAX (A)	V_{RRM} MAX (V)	T_J, T_{stg} $T_C = 25^\circ C$ MAX ($^\circ C$)	$V_F @$ $I_F = I_O$ MAX (V)	$I_R @$ V_{RRM} MAX (μA)	Case Type
CSICD10-650	10	650	175	1.7	125	DPAK
CSIC10-1200	10	1200	175	1.8	400	TO-220-2

Extreme temperature conditions

250 $^\circ C$ Silicon Carbide Schottky Rectifiers

CSIC10-1200HT	10	1200	250	1.7	100	TO-257
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Bare Die

Process CPC01	10	1200	*225	1.8	400	Bare Die
Process CPC02	10	1200	*175	1.7	250	Bare Die
Process CPC03	10	650	*175	1.7	125	Bare Die

* $T_A = 25^\circ C$



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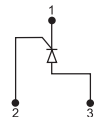
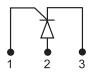
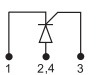
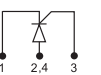
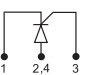
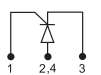


Thyristors

	<u>Page</u>
SCRs	66-67
TRIACs	68-69

0.2 to 4.0A
100 to 800V

Package dimensions shown are maximum values in mm.

I_T (AMPS)	0.2	0.8			2.0	4.0	
@ T_C / * T_A (°C)	25	60	25	25	60	85	25
I_{TSM} (AMPS)	7.5	10	10	10	10	30	15
CASE	 3.05 x 2.49 x 1.09 SOT-23	 4.7 x 4.5 x 1.7 SOT-89	 6.7 x 7.3 x 1.8 SOT-223			 10.73 x 6.81 x 2.75 DPAK	
V_{RRM} (VOLTS)							
100	—	—	—	—	—	—	MCR703A
200	—	—	—	—	—	—	MCR704A
300	—	—	—	—	—	—	—
400	CMPS5064	—	CZS5064	—	—	—	MCR706A
600	—	CS89M	—	CS223M	CS223-2M	CS223-4M	MCR708A
800	—	CS89N*	—	—	CS223-2N*	CS223-4N*	—
I_{GT}	200μA	200μA	200μA	200μA	200μA	200μA	75μA
V_{GT}	0.8V	0.8V	0.8V	0.8V	0.8V	0.8V	0.8V
I_H	5.0mA	5.0mA	5.0mA	5.0mA	2.0mA	2.0mA	2.0mA
PINOUT							

* Available on request. Please consult factory.

**4.0 to 25A
400 to 800V**

Package dimensions shown are maximum values in mm.

I_T (AMPS)	4.0		8.0		12	16	25
@ T_C (°C)	25	85	90	90	90	90	90
I_{TSM} (AMPS)	15	30	80	80	120	160	250
CASE	 10.73 x 6.81 x 2.75 DPAK			 16.6 x 10.4 x 4.8 D²PAK			
V_{RRM} (VOLTS)							
400	MCR716	—	—	—	—	—	—
600	MCR718	CSD-4M	CSD-8M	CSDD-8M	CSDD-12M	CSDD-16M	CSDD-25M
800	—	CSD-4N*	CSD-8N*	CSDD-8N*	CSDD-12N*	CSDD-16N*	CSDD-25N*
I_{GT}	75μA	200μA	15mA	15mA	15mA	15mA	30mA
V_{GT}	0.8V	0.8V	1.5V	1.5V	1.5V	1.5V	1.5V
I_H	2.0mA	2.0mA	20mA	20mA	20mA	20mA	50mA
PINOUT							

* Available on request. Please consult factory.

2.0 to 4.0A 400 to 800V

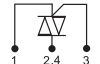
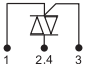
Package dimensions shown are maximum values in mm.

I_T (AMPS)	2.0		4.0
@ T_C (°C)	50	80	80
I_{TSM} (AMPS)	20	10	40
CASE	 4.7 x 4.5 x 1.7 SOT-89	 6.7 x 7.3 x 1.8 SOT-223	
V_{RRM} (VOLTS)			
400	—	—	—
600	CQ89-2M	CQ223-2M	CQ223-4M
800	CQ89-2N*	CQ223-2N*	CQ223-4N*
$I_{GT\ QI}$	5.0mA	5.0mA	5.0mA
$I_{GT\ QII}$	5.0mA	5.0mA	5.0mA
$I_{GT\ QIII}$	5.0mA	5.0mA	5.0mA
$I_{GT\ QIV}$	8.0mA	8.0mA	9.0mA
$V_{GT\ QI-QIII}$	1.8V	1.8V	1.75V
$V_{GT\ QIV}$	1.8V	1.8V	1.75V
I_H	5.0mA	5.0mA	5.0mA
PINOUT			

* Available on request. Please consult factory.

4.0 to 25A 600 to 800V

Package dimensions shown are maximum values in mm.

I_T (AMPS)	4.0	8.0		12		16	25
@ T_C (°C) * T_J	80	25**	90	90	25	90	90
I_{TSM} (AMPS)	40	70	90	125	100	170	210
CASE	 10.73 x 6.81 x 2.75 DPAK		 16.6 x 10.4 x 4.8 D²PAK				
V_{RRM} (VOLTS)		THREE QUADRANT			THREE QUADRANT		
600	CQD-4M	CQD-8M3	CQDD-8M	CQDD-12M	CQDD-12M3	CQDD-16M	CQDD-25M
800	CQD-4N*	—	CQDD-8N*	CQDD-12N*	—	CQDD-16N*	CQDD-25N*
$I_{GT\ QI}$	5.0mA	50mA	20mA	20mA	50mA	25mA	30mA
$I_{GT\ QII}$	5.0mA	50mA	20mA	20mA	50mA	25mA	30mA
$I_{GT\ QIII}$	5.0mA	50mA	20mA	20mA	50mA	25mA	30mA
$I_{GT\ QIV}$	9.0mA	—	50mA	50mA	—	75mA	60mA
$V_{GT\ QI-QIII}$	1.75V	1.3V	1.5V	1.5V	1.3V	1.5V	1.5V
$V_{GT\ QIV}$	1.75V	—	2.5V	2.5V	—	2.5V	2.5V
I_H	5.0mA	50mA	25mA	25mA	50mA	25mA	50mA
PINOUT							

* Available on request. Please consult factory.



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Multi Discrete Modules (MDMs)

Integrating different device types into a single package often facilitates assembly cost reductions. MOSFETs and diodes, MOSFETs and rectifiers, transistors and rectifiers, and other custom combinations are available.

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P-Channel MOSFET and Low V_F Schottky Diode	72
Low $V_{CE(SAT)}$ Small Signal Transistor and Low V_F Schottky Diode	73

MDM™ Multi Discrete Module



SOT-563 Case



TLM832D Case



Package dimensions shown are maximum values in mm.

N-Channel MOSFET and Low V_F Schottky Diode

			N-Channel MOSFET										Low V _F Schottky Diode							
TYPE NO.	CASE	DESCRIPTION	B _V DSS (V)	I _D (mA)	r _{DS(ON)} (Ω)	@	I _D (A)	@	V _{GS} (V)	V _{GS(th)} (V)		t _{on} , t _{off} (ns)	+	V _{RRM} (V)	I _F (mA)	V _F (V)		@	I _F (mA)	C _T (pF)
			MIN	MAX	MAX				MIN	MAX	MAX	MAX				MAX	MAX	MAX	MAX	
CMLM0205	SOT-563	Combination: N-Channel MOSFET and Low V _F Schottky diode	60	280	2.0 3.0		0.5 0.05		10 5.0	1.0	2.5	20	+	40	500	0.27 0.35 0.47	10 100 500			50
CMLM0574	SOT-563	Combination: N-Channel MOSFET and Low V _F Schottky diode	30	450	0.46 0.56 0.73		0.2 0.1 0.075		4.5 2.5 1.8	0.5	1.0	— / —	+	40	500	0.27 0.35 0.47	10 100 500			50
CMLM0575	SOT-563	Combination: N-Channel MOSFET and Low V _F Schottky diode	20	650	0.23 0.275 0.7		0.6 0.5 0.35		4.5 2.5 1.8	0.5	1.1	10, 25 (TYP)	+	40	500	0.27 0.35 0.47	10 100 500			50
CTLM7110-M832D	TLM832D	Combination: N-Channel MOSFET and Low V _F Schottky diode	20	1000	0.10 0.14 0.25		0.5 0.5 0.1		4.5 2.5 1.5	0.5	1.2	25, 140 (TYP)	+	40	1000	0.29 0.36 0.45 0.55	10 100 500 1000			—

P-Channel MOSFET and Low V_F Schottky Diode

			P-Channel MOSFET								Low V _F Schottky Diode								
TYPE NO.	CASE	DESCRIPTION	B _V DSS (V)	I _D (mA)	r _{DS(ON)} (Ω)	@	I _D (A)	@	V _{GS} (V)	V _{GS(th)} (V)		t _{on} , t _{off} (ns)	+	V _{RRM} (V)	I _F (mA)	V _F (V)	@	I _F (mA)	C _T (pF)
			MIN	MAX	MAX				MIN	MAX	MAX	MAX		MAX	MAX	MAX	MAX	MAX	MAX
CMLM0584	SOT-563	Combination: P-Channel MOSFET and Low V _F Schottky diode	30	450	1.1 2.0 3.3		0.43 0.2 0.1		4.5 2.5 1.8	0.5	1.0	– / –	+	40	500	0.27 0.35 0.47		10 100 500	50
CMLM0585	SOT-563	Combination: P-Channel MOSFET and Low V _F Schottky diode	20	650	0.36 0.5 0.8		0.35 0.3 0.15		4.5 2.5 1.8	0.5	1.0	38, 48 (TYP)	+	40	500	0.27 0.35 0.47		10 100 500	50
CMLM0305	SOT-563	Combination: P-Channel MOSFET and Low V _F Schottky diode	50	280	2.0 2.5 3.0		0.05 0.05 0.05		5.0 2.5 1.8	0.75	1.2	–	+	40	500	0.27 0.35 0.47		10 100 500	50
CMLM0305T	SOT-563	Combination: P-Channel MOSFET and Low V _F Schottky diode	50	280	1.5 1.9 2.3		0.05 0.05 0.05		5.0 2.5 1.8	0.75	1.2	–	+	40	500	0.27 0.35 0.47		10 100 500	50
CMLM8205	SOT-563	Combination: P-Channel MOSFET and Low V _F Schottky diode	50	280	2.5 3.0		0.5 0.05		10 5.0	1.0	2.5	20	+	40	500	0.27 0.35 0.47		10 100 500	50
CTLM8110- M832D	TLM832D	Combination: P-Channel MOSFET and Low V _F Schottky diode	20	860	0.150 0.142 0.200 0.240		0.95 0.77 0.67 0.2		4.5 4.5 2.5 1.8	0.45	1.0	20, 25 (TYP)	+	40	1000	0.45		500	–

MDM™ Multi Discrete Module (continued)



SOT-563 Case

1.7 x 1.7 x 0.6



TLM832D Case

3.1 x 2.1 x 1.0



Package dimensions shown are maximum values in mm.

Low $V_{CE(SAT)}$ Small Signal Transistor and Low V_F Schottky Diode

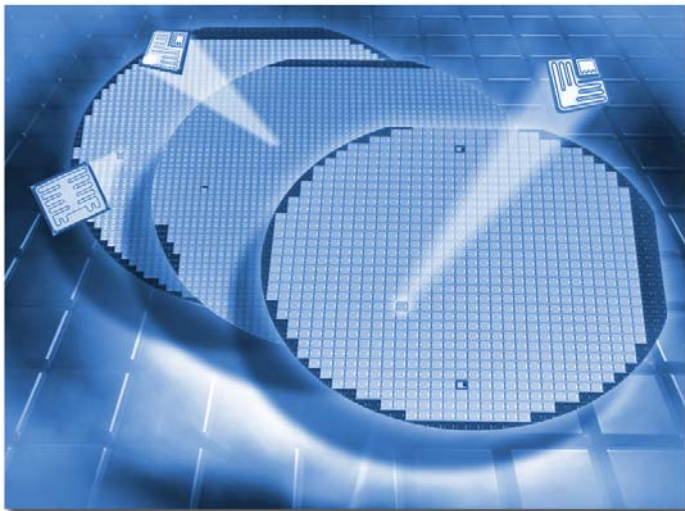
			Low V _{CE(SAT)} Small Signal Transistor						+	Low V _F Schottky Diode					
TYPE NO.	CASE	DESCRIPTION	BV _{CBO} (V)	BV _{CEO} (V)	BV _{EBO} (V)	V _{CE(SAT)} (V)		@ I _C (mA)		V _{RRM} (V)	I _F (mA)	V _F (V)	@ I _F (mA)	C _T (pF)	
			MIN	MIN	MIN	TYP	MAX	MAX							MAX
CMLM0405	SOT-563	Combination: Low V _{CE(SAT)} General Purpose NPN transistor and Low V _F Schottky diode	60	40	6.0	0.057 0.090	0.1 0.2	10 50	+	40	500	0.27 0.35 0.47	10 100 500	50	
CMLM0605	SOT-563	Combination: Low V _{CE(SAT)} General Purpose PNP transistor and Low V _F Schottky diode	60	40	6.0	0.05 0.10	0.1 0.2	10 50		+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM0705	SOT-563	Combination: Low V _{CE(SAT)} General Purpose PNP transistor and Low V _F Schottky diode	60	60	5.0	0.113 0.280	0.2 0.7	150 500			+	40	500	0.27 0.35 0.47	10 100 500
CMLM2205	SOT-563	Combination: Low V _{CE(SAT)} General Purpose NPN transistor and Low V _F Schottky diode	100	45	6.0	0.09 0.12	0.15 0.50	150 500	+			40	500	0.27 0.35 0.47	10 100 500
CMLM3405	SOT-563	Combination: Low V _{CE(SAT)} General Purpose NPN transistor and Low V _F Schottky diode	40	25	6.0	0.250	0.45	1000		+		40	500	0.27 0.35 0.47	10 100 500
CMLM7405	SOT-563	Combination: Low V _{CE(SAT)} General Purpose PNP transistor and Low V _F Schottky diode	40	25	6.0	0.275	0.45	1000			+	40	500	0.27 0.35 0.47	10 100 500
CTLM1034-M832D	TLM832D	Combination: Low V _{CE(SAT)} General Purpose NPN transistor and Low V _F Schottky diode	40	25	6.0	0.250	0.45	1000	+			40	1000	0.29 0.36 0.45 0.55	10 100 500 1000
CTLM1074-M832D	TLM832D	Combination: Low V _{CE(SAT)} General Purpose PNP transistor and Low V _F Schottky diode	40	25	6.0	0.275	0.45	1000		+		40	1000	0.29 0.36 0.45 0.55	10 100 500 1000



Up-screening for bare die

Central offers a broad range of up-screening options for Bare die.

www.centrasemi.com/baredie



Up-screening options available:

- MIL-PRF-38534 equivalent screening for Class K and Class H
- MIL-PRF-19500 equivalent screening for Class KC and Class HC
- Customer-specific screening

Bare die applications:

- Solar
- Smart Wearables
- Medical
- Industrial
- Mil/Aero

Require custom die?



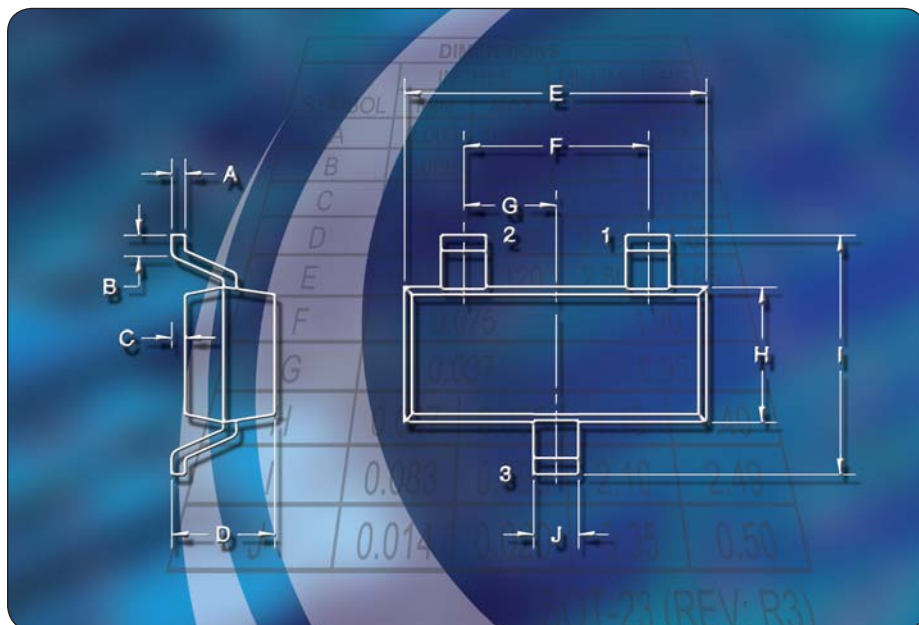
**Challenges
welcome**

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Semiconductor Corp.

www.centrasemi.com

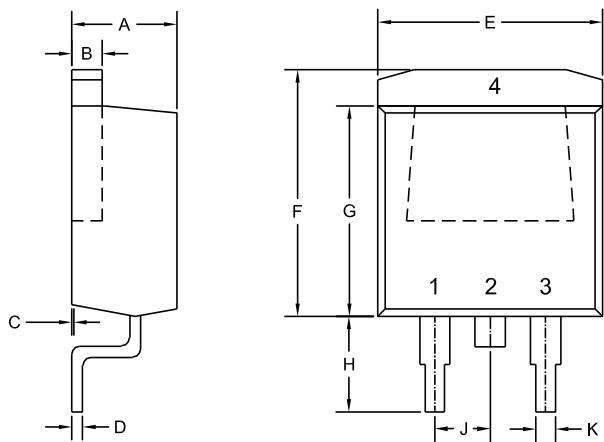


Package Mechanical Specifications

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Package Mechanical Specifications

D²PAK

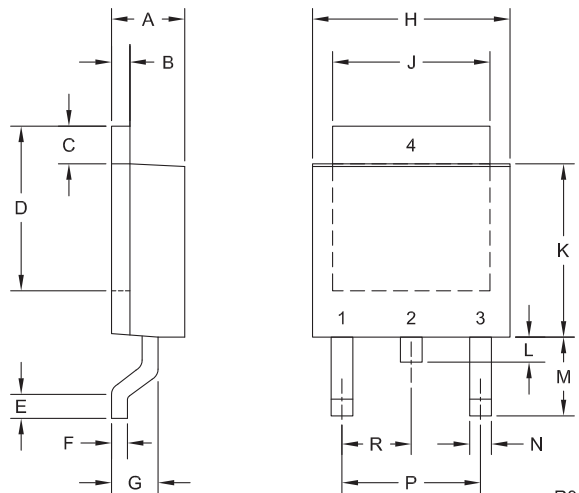


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.163	0.189	4.14	4.80
B	0.045	0.055	1.14	1.40
C	0.000	0.010	0.00	0.25
D	0.012	0.028	0.30	0.70
E	0.386	0.409	9.80	10.40
F	0.378	0.417	9.60	10.60
G	0.335	0.358	8.50	9.10
H	0.197	0.236	5.00	6.00
J	0.093	0.108	2.35	2.75
K	0.030	0.035	0.75	0.90

D2PAK (REV: R2)

R2

DPAK

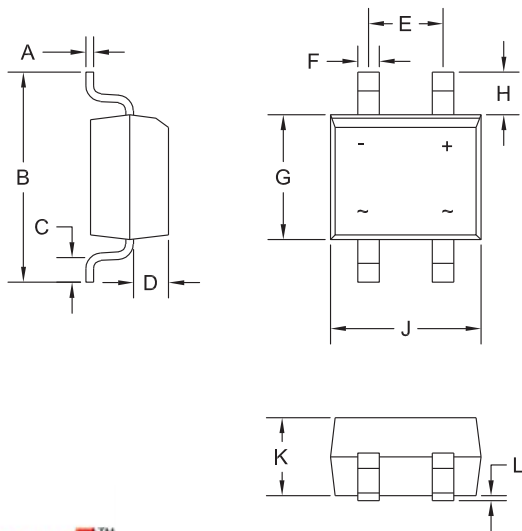


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.083	0.108	2.10	2.75
B	0.016	0.032	0.40	0.81
C	0.035	0.063	0.89	1.60
D	0.203	0.228	5.15	5.79
E	0.020	-	0.51	-
F	0.018	0.024	0.45	0.60
G	0.051	0.071	1.30	1.80
H	0.248	0.268	6.30	6.81
J	0.197	0.217	5.00	5.50
K	0.209	0.245	5.30	6.22
L	0.025	0.040	0.64	1.02
M	0.090	0.115	2.30	2.91
N	0.012	0.045	0.30	1.14
P	0.180	-	4.60	-
R	0.090	-	2.30	-

DPAK (REV: R0)

R0

HD DIP

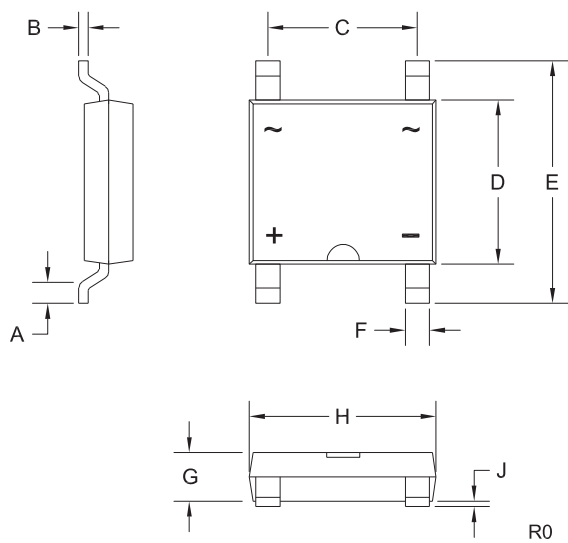


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.006	0.014	0.15	0.35
B	-	0.275	-	7.00
C	0.027	0.043	0.70	1.10
D	0.035	0.051	0.90	1.30
E	0.090	0.106	2.30	2.70
F	0.019	0.031	0.50	0.80
G	0.150	0.165	3.80	4.20
H	0.051	0.067	1.30	1.70
J	0.177	0.193	4.50	4.90
K	0.090	0.106	2.30	2.70
L	0.000	0.008	0.00	0.20

HD DIP (REV: R2)

R2

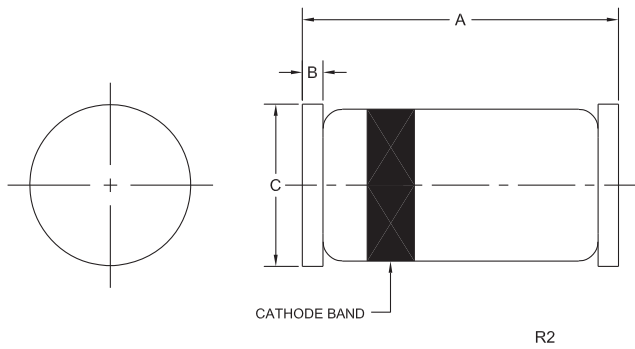
LPDIP



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.019	0.028	0.50	0.70
B	0.007	0.012	0.20	0.30
C	0.153	0.162	3.90	4.10
D	0.167	0.179	4.25	4.55
E	0.248	0.264	6.30	6.70
F	0.023	0.028	0.60	0.70
G	0.045	0.058	1.15	1.45
H	0.190	0.203	4.85	5.15
J	0.002	0.006	0.05	0.15

LPDIP (REV: R0)

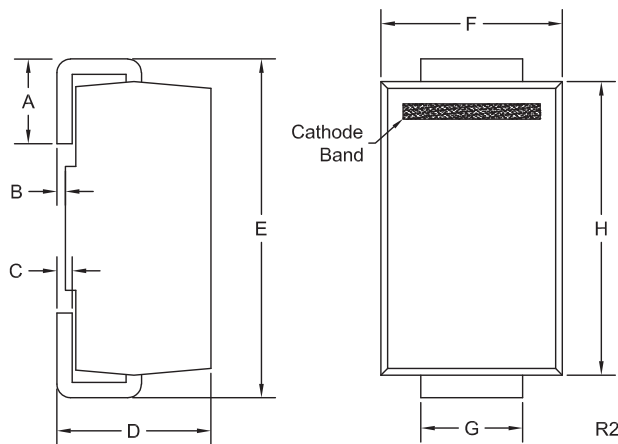
MELF



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.185	0.217	4.70	5.50
B	0.012	0.022	0.30	0.56
C (DIA)	0.094	0.110	2.40	2.80

MELF (REV:R2)

SMA

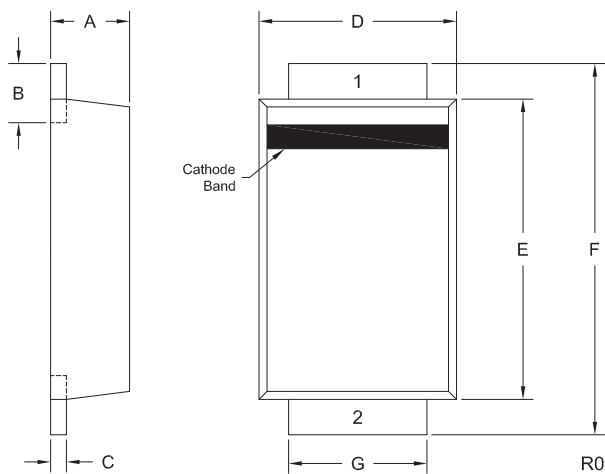


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.006	0.012	0.15	0.30
D	0.078	0.103	1.98	2.62
E	0.188	0.220	4.78	5.59
F	0.090	0.115	2.29	2.92
G	0.050	0.070	1.27	1.78
H	0.157	0.181	3.99	4.60

SMA (REV: R2)

Package Mechanical Specifications (continued)

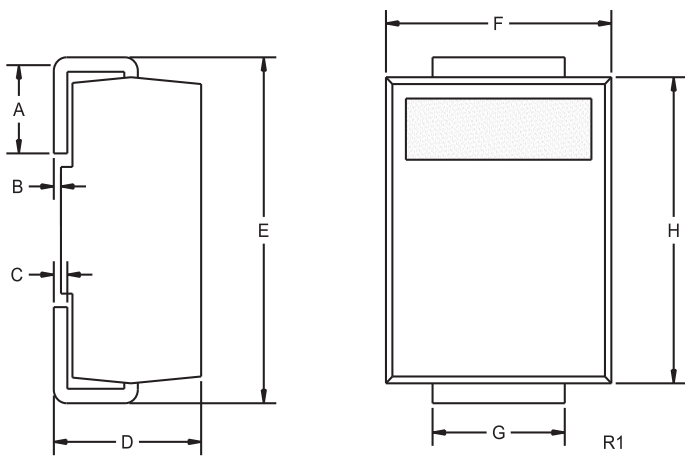
SMAFL



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.90	1.10
B	0.021	0.038	0.55	0.95
C	0.006	0.010	0.15	0.25
D	0.094	0.103	2.40	2.60
E	0.145	0.154	3.70	3.90
F	0.177	0.193	4.50	4.90
G	0.065	0.073	1.65	1.85

SMAFL (REV: R0)

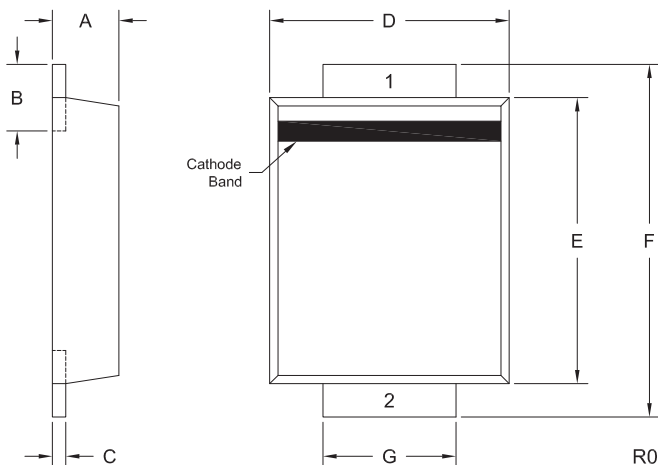
SMB



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.006	0.012	0.15	0.30
D	0.086	0.096	2.18	2.44
E	0.200	0.220	5.08	5.59
F	0.130	0.150	3.30	3.81
G	0.077	0.083	1.96	2.11
H	0.160	0.180	4.06	4.57

SMB (REV: R1)

SMBFL

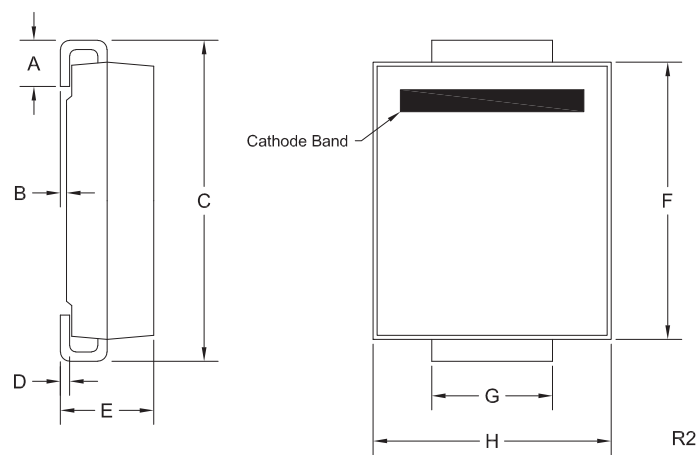


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.90	1.10
B	0.031	0.048	0.80	1.20
C	0.006	0.010	0.15	0.25
D	0.137	0.146	3.50	3.70
E	0.161	0.178	4.10	4.50
F	0.200	0.217	5.10	5.50
G	0.074	0.083	1.90	2.10

SMBFL (REV: R0)

Package Mechanical Specifications (continued)

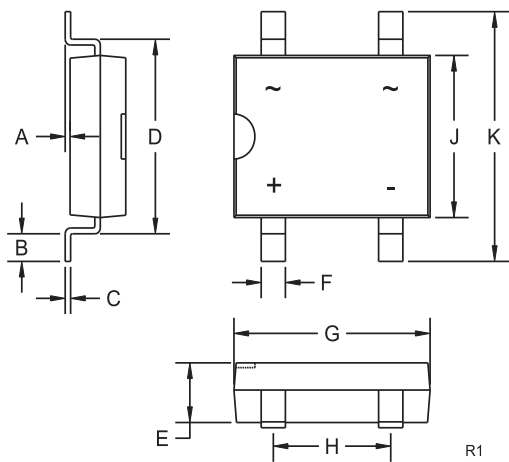
SMC



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.002	0.008	0.05	0.20
C	0.305	0.320	7.75	8.13
D	0.006	0.012	0.15	0.31
E	0.079	0.103	2.00	2.62
F	0.260	0.280	6.60	7.11
G	0.108	0.128	2.75	3.25
H	0.220	0.245	5.59	6.22

SMC (REV: R2)

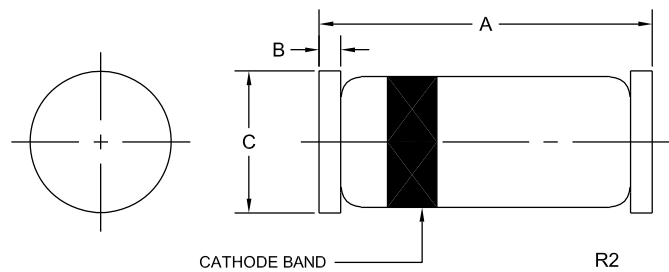
SMDIP



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.008	0.10	0.20
B	0.040	0.060	1.02	1.52
C	0.009		0.23	
D	0.290	0.310	7.37	7.87
E	0.086	0.098	2.18	2.49
F	0.038	0.042	0.97	1.07
G	0.316	0.335	8.03	8.51
H	0.195	0.205	4.95	5.21
J	0.245	0.255	6.22	6.48
K	0.360	0.410	9.14	10.41

SMDIP (REV: R1)

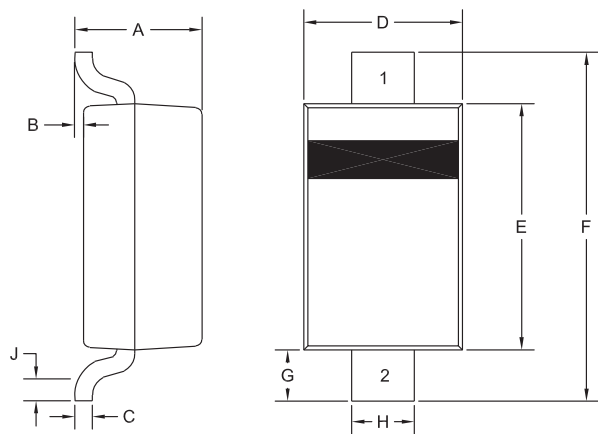
SOD-80



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.014		0.35	
C (DIA)	0.049	0.067	1.25	1.70

SOD-80 (REV:R2)

SOD-123

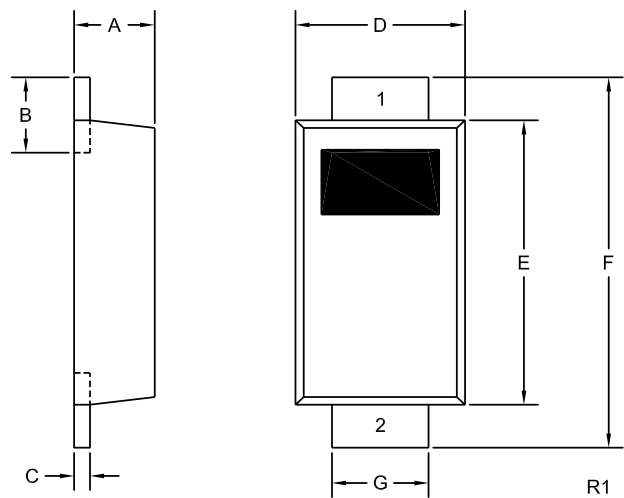


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	0.000	0.005	0.00	0.12
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.110	2.50	2.80
F	0.142	0.154	3.60	3.90
G	0.016	-	0.40	-
H	0.020	0.028	0.50	0.70
J	0.010	-	0.25	-

SOD-123 (REV:R5)

R5

SOD-123F

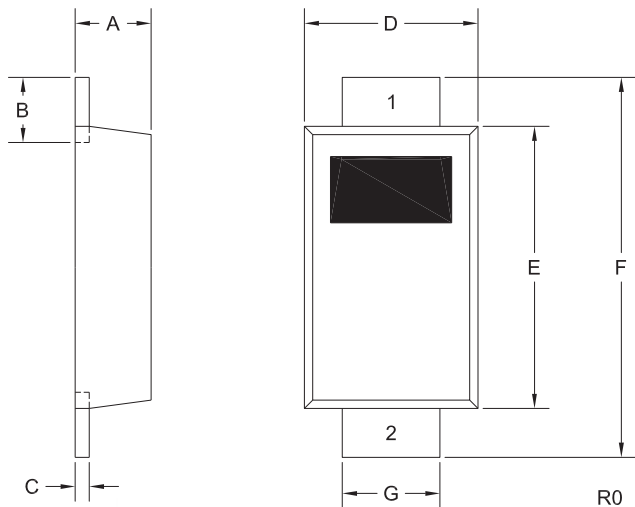


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.88	1.08
B	0.020	0.031	0.50	0.80
C	0.004	0.008	0.10	0.20
D	0.065	0.077	1.65	1.95
E	0.104	0.116	2.65	2.95
F	0.140	0.156	3.55	3.95
G	0.030	0.041	0.75	1.05

SOD-123F (REV:R1)

R1

SOD-123FL



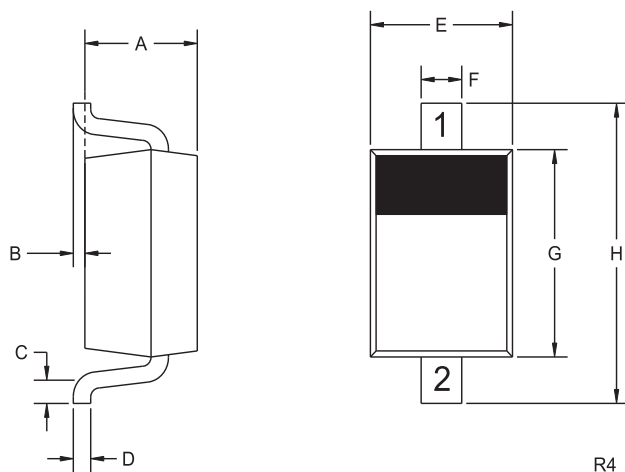
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.024	0.031	0.60	0.80
B	0.020	0.028	0.50	0.70
C	0.003	0.007	0.08	0.18
D	0.059	0.067	1.50	1.70
E	0.094	0.110	2.40	2.80
F	0.130	0.146	3.30	3.70
G	0.031	0.039	0.80	1.00

SOD-123FL (REV:R0)

R0

Package Mechanical Specifications (continued)

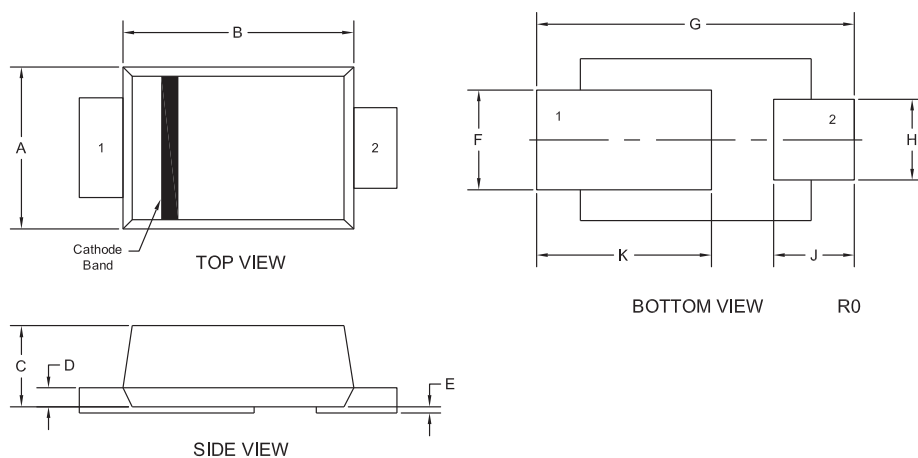
SOD-323



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.031	0.039	0.80	1.00
B	0.000	0.004	0.00	0.10
C	0.008	-	0.20	-
D	0.004	0.007	0.11	0.19
E	0.045	0.053	1.15	1.35
F	-	0.014	-	0.35
G	0.063	0.071	1.60	1.80
H	0.094	0.102	2.40	2.60

SOD-323 (REV: R4)

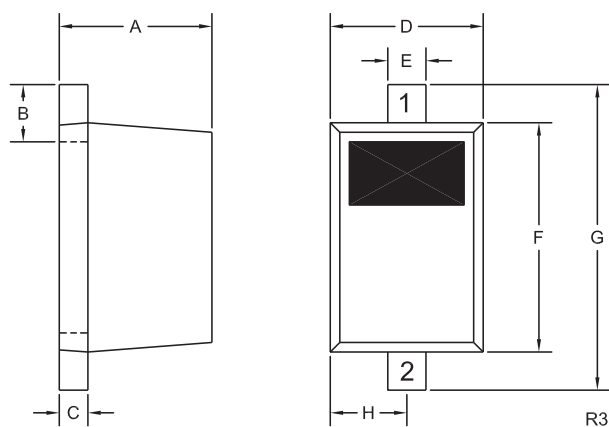
SOD-323FL



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.047	0.055	1.20	1.40
B	0.068	0.077	1.75	1.95
C	0.021	0.030	0.55	0.75
D	0.004	0.008	0.10	0.20
E	-	0.004	-	0.10
F	0.025	0.038	0.65	0.95
G	0.090	0.107	2.30	2.70
H	0.017	0.030	0.45	0.75
J	0.015	0.032	0.40	0.80
K	0.045	0.061	1.15	1.55

SOD-323FL (REV:R0)

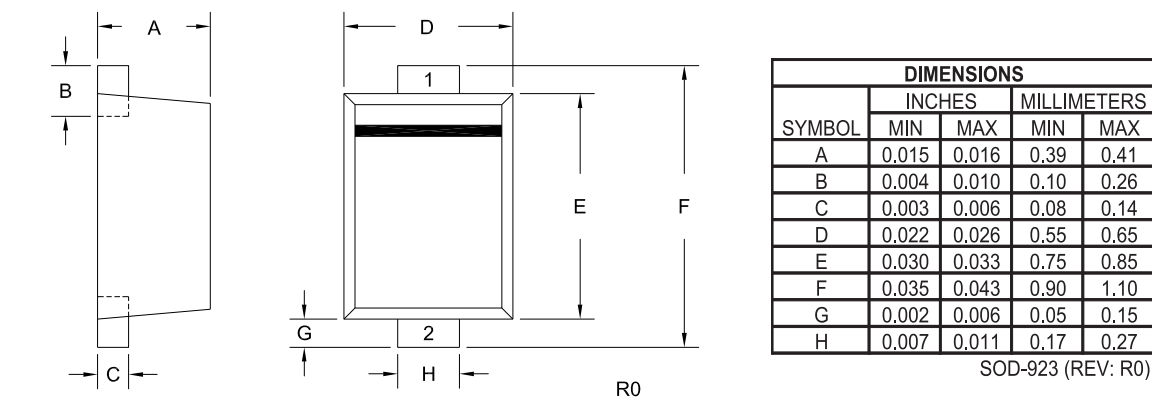
SOD-523



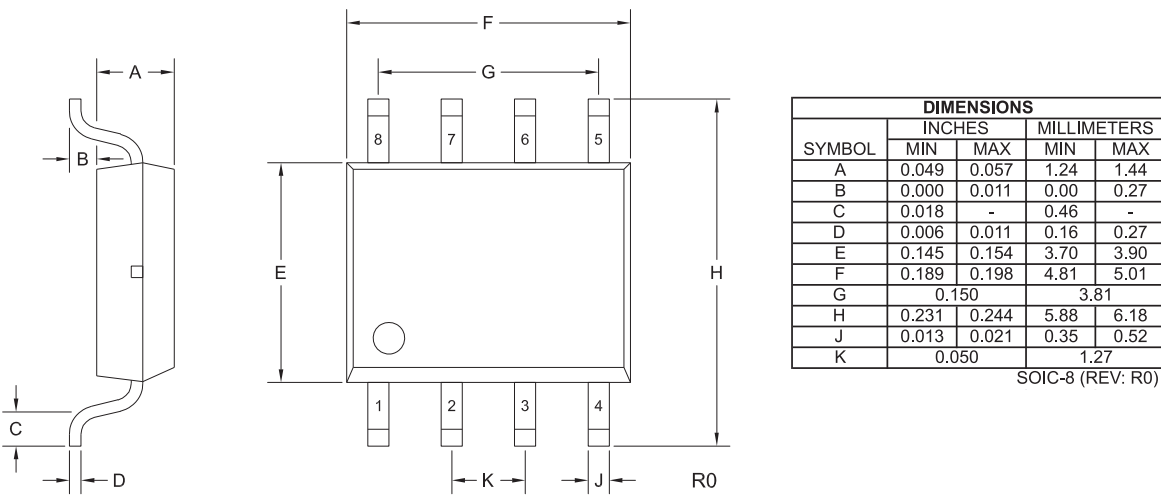
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.020	0.031	0.50	0.80
B	0.008	0.016	0.20	0.40
C	0.002	0.008	0.05	0.20
D	0.028	0.035	0.70	0.90
E	0.008	0.014	0.20	0.35
F	0.039	0.055	1.00	1.40
G	0.055	0.071	1.40	1.80
H	0.016		0.40	

SOD-523 (REV: R3)

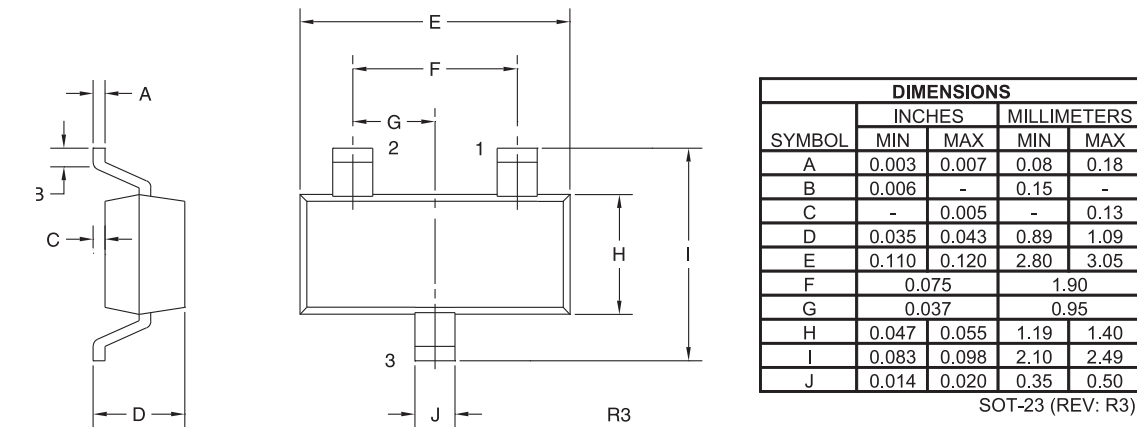
SOD-923



SOIC-8

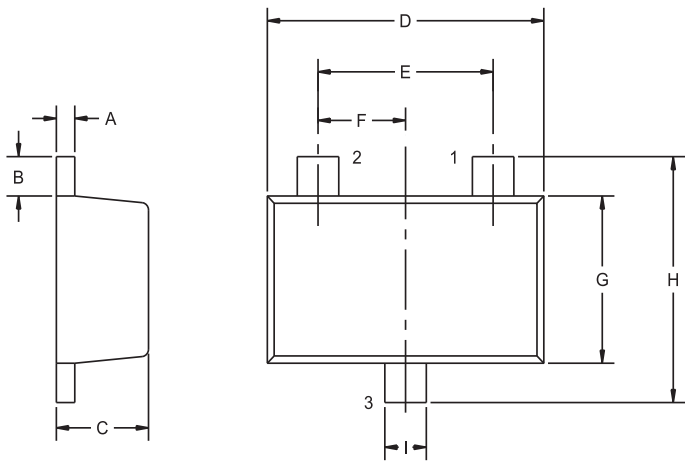


SOT-23



Package Mechanical Specifications (continued)

SOT-23F

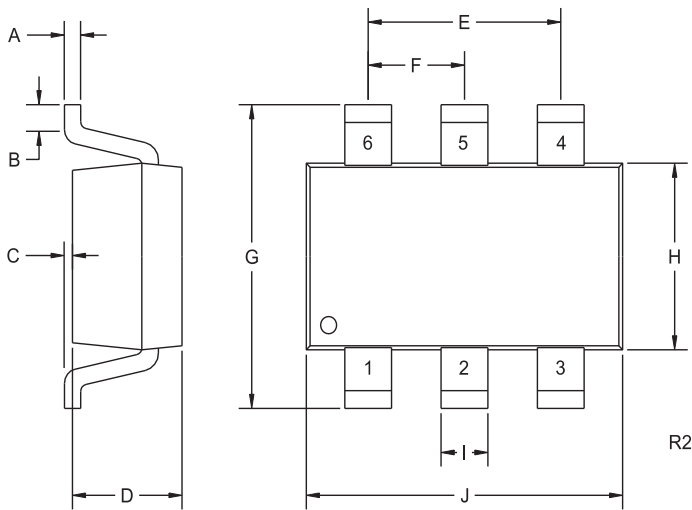


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.008	0.10	0.20
B	0.012	0.020	0.30	0.50
C	0.031	0.039	0.80	1.00
D	0.110	0.118	2.80	3.00
E	0.075		1.90	
F	0.037		0.95	
G	0.059	0.067	1.50	1.70
H	0.091	0.098	2.30	2.50
I	0.014	0.018	0.35	0.45

SOT-23F (REV: R1)

R1

SOT-26

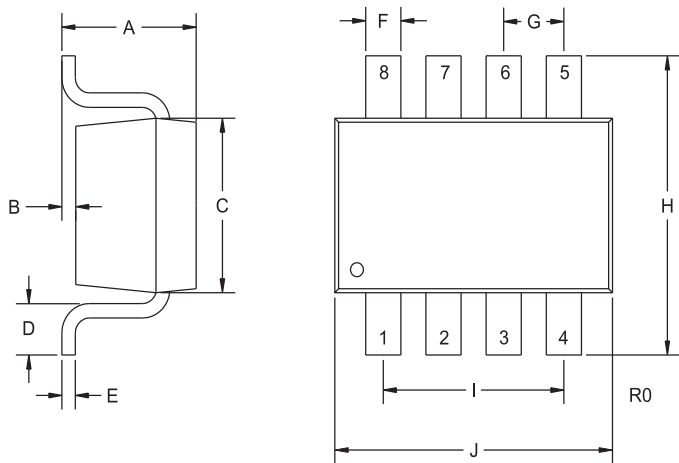


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.11	0.19
B	0.016	-	0.40	-
C	-	0.004	-	0.10
D	0.039	0.047	1.00	1.20
E	0.074	0.075	1.88	1.92
F	0.037	0.038	0.93	0.97
G	0.102	0.118	2.60	3.00
H	0.059	0.067	1.50	1.70
I	0.016		0.41	
J	0.110	0.118	2.80	3.00

SOT-26 (REV: R2)

R2

SOT-28



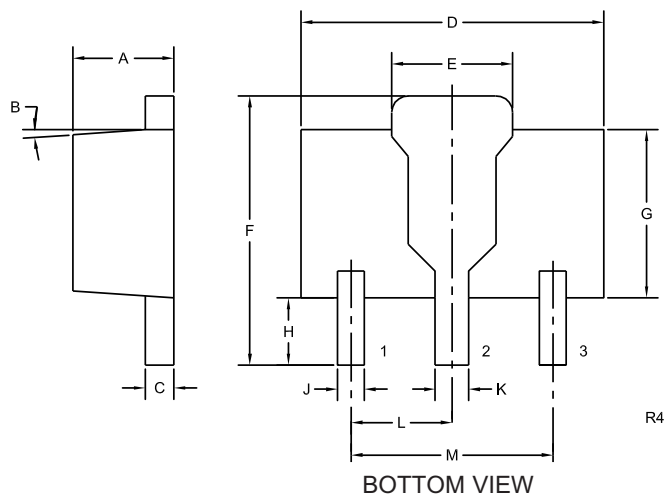
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.057	0.90	1.45
B	0.000	0.006	0.00	0.15
C	0.059	0.069	1.50	1.75
D	0.014	0.022	0.35	0.55
E	0.004	0.008	0.09	0.20
F	0.009	0.015	0.22	0.38
G	0.026		0.65	
H	0.102	0.118	2.60	3.00
I	0.077		1.95	
J	0.110	0.118	2.80	3.00

SOT-28 (REV: R0)

R0

Package Mechanical Specifications (continued)

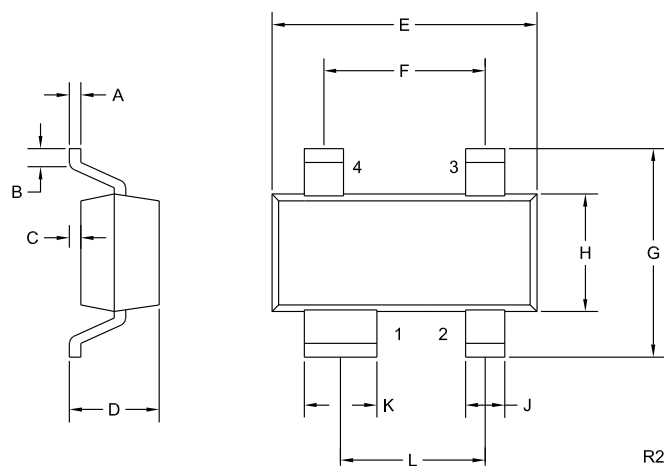
SOT-89



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

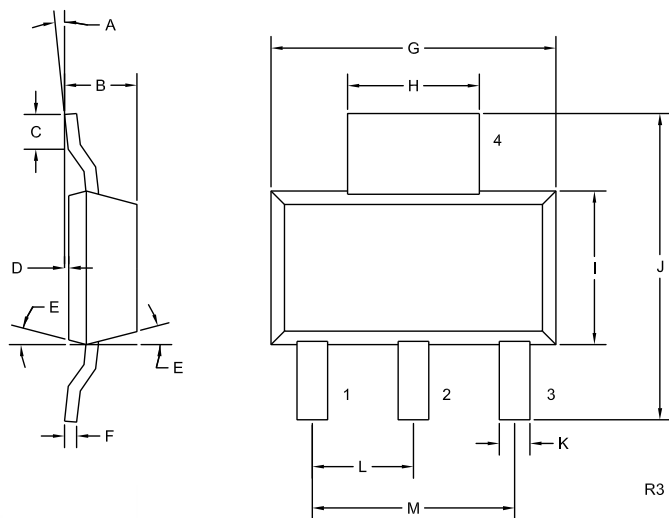
SOT-143



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.006	0.08	0.15
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	-	0.045	-	1.14
E	0.110	0.120	2.79	3.04
F	0.075		1.90	
G	-	0.098	-	2.50
H	0.047	0.055	1.19	1.40
J	0.014	0.020	0.36	0.50
K	0.030	0.037	0.76	0.93
L	0.067		1.70	

SOT-143 (REV: R2)

SOT-223

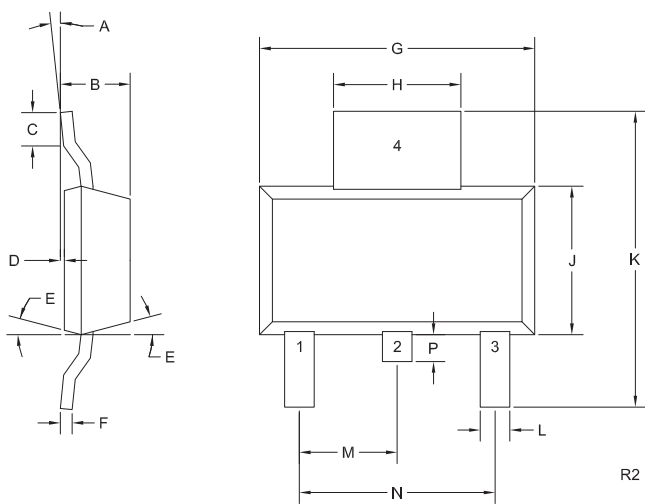


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	---	0.45	---
D	0.000	0.004	0.00	0.10
E	15°		15°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.70
J	0.264	0.287	6.70	7.30
K	0.024	0.033	0.60	0.85
L	0.091		2.30	
M	0.181		4.60	

SOT-223 (REV: R3)

Package Mechanical Specifications (continued)

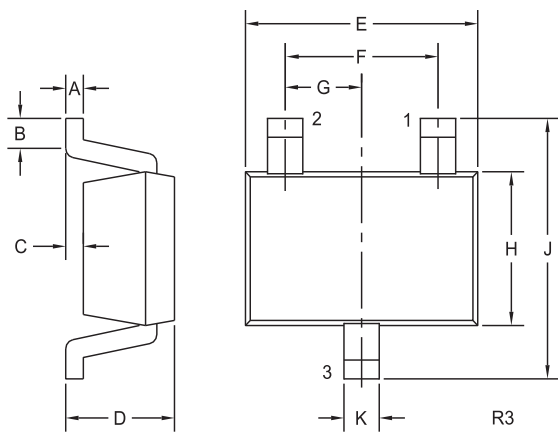
SOT-223C



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	-	0.45	-
D	0.000	0.004	0.00	0.10
E	15°		15°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
J	0.130	0.146	3.30	3.70
K	0.264	0.287	6.70	7.30
L	0.024	0.033	0.60	0.85
M	0.091		2.30	
N	0.181		4.60	
P	-	0.025	-	0.64

SOT-223C (REV: R2)

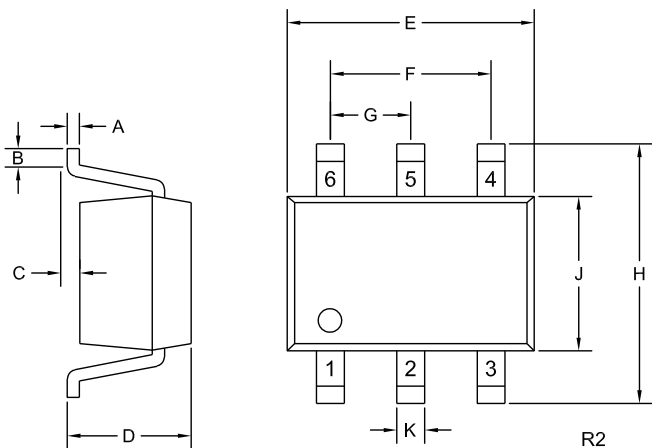
SOT-323



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.008	0.05	0.20
B	0.004	-	0.10	-
C	-	0.004	-	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.045	0.053	1.15	1.35
J	0.079	0.087	2.00	2.20
K	0.008	0.016	0.20	0.40

SOT-323 (REV: R3)

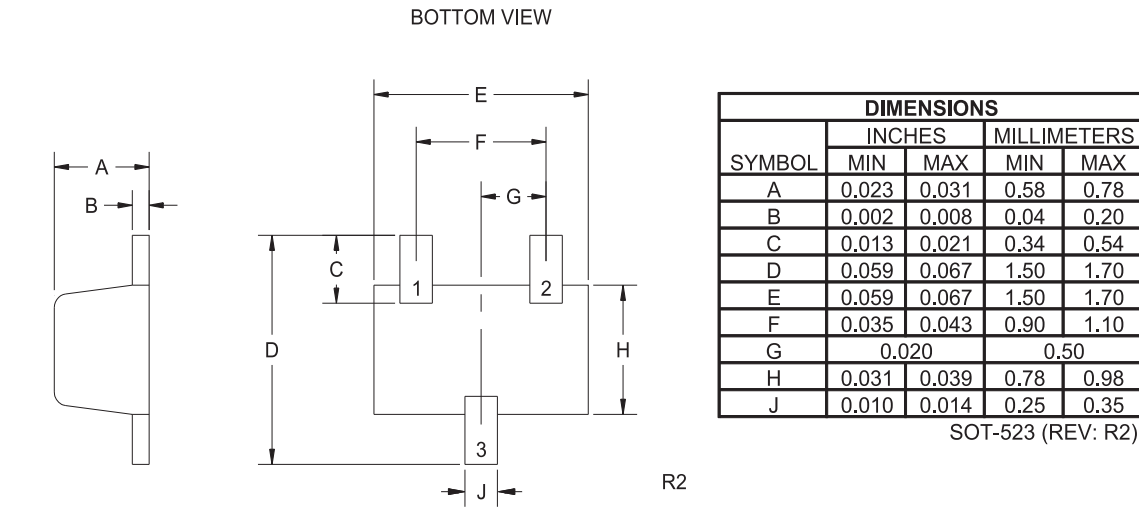
SOT-363



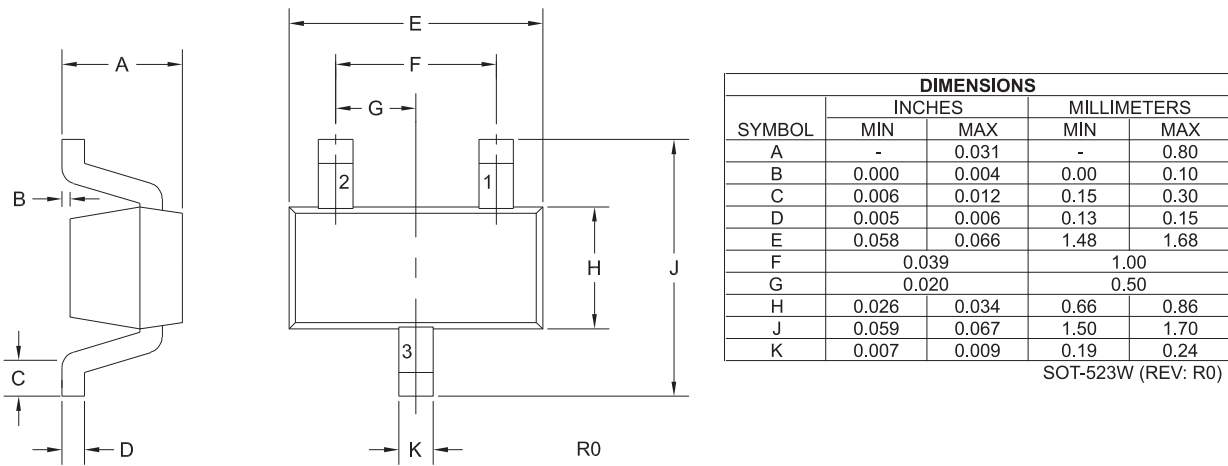
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.010	0.10	0.25
B	0.005	-	0.12	-
C	0.000	0.004	0.00	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.075	0.091	1.90	2.30
J	0.043	0.055	1.10	1.40
K	0.006	0.012	0.15	0.30

SOT-363 (REV: R2)

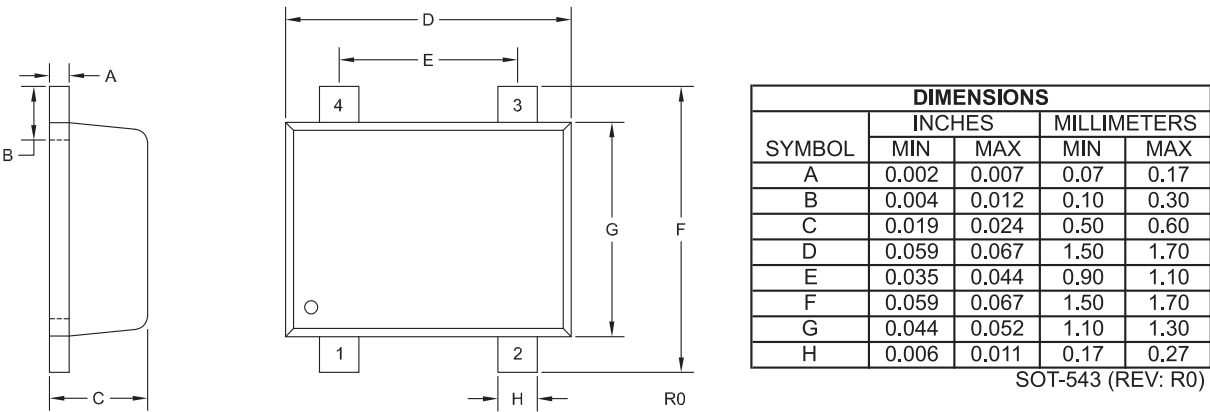
SOT-523



SOT-523W

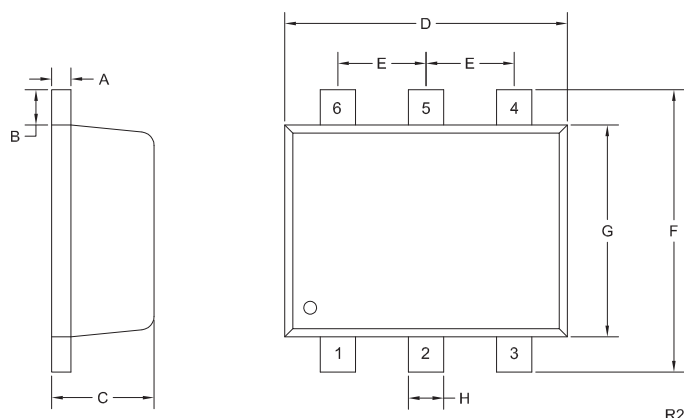


SOT-543



Package Mechanical Specifications (continued)

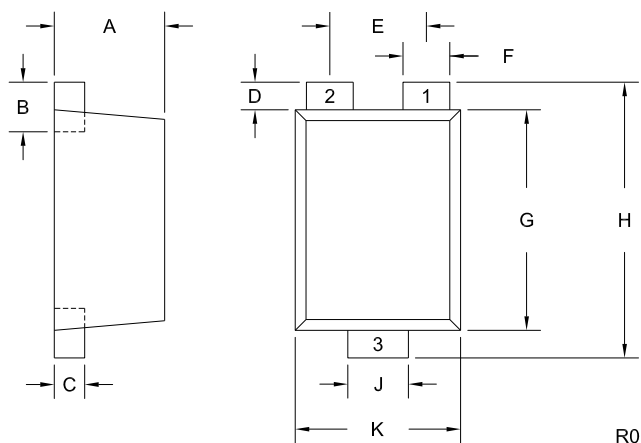
SOT-563



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

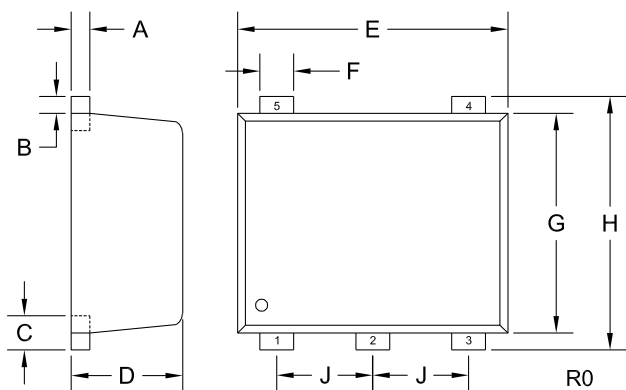
SOT-923



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.015	0.016	0.39	0.41
B	0.004	0.010	0.10	0.26
C	0.003	0.006	0.08	0.14
D	0.002	0.006	0.05	0.15
E	0.014		0.35	
F	0.005	0.009	0.12	0.22
G	0.030	0.033	0.75	0.85
H	0.035	0.043	0.90	1.10
J	0.007	0.011	0.17	0.27
K	0.022	0.026	0.55	0.65

SOT-923 (REV: R0)

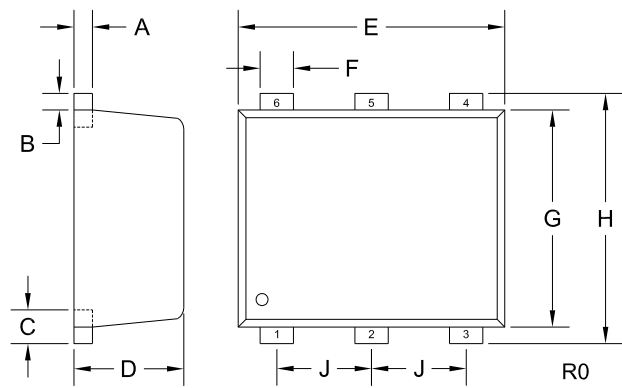
SOT-953



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.006	0.050	0.150
B	0.002	0.006	0.050	0.150
C	0.005	0.007	0.125	0.175
D	0.016	0.020	0.400	0.500
E	0.037	0.041	0.950	1.050
F	0.004	0.008	0.100	0.200
G	0.030	0.033	0.750	0.850
H	0.037	0.041	0.950	1.050
J	0.014		0.350	

SOT-953 (REV: R0)

SOT-963

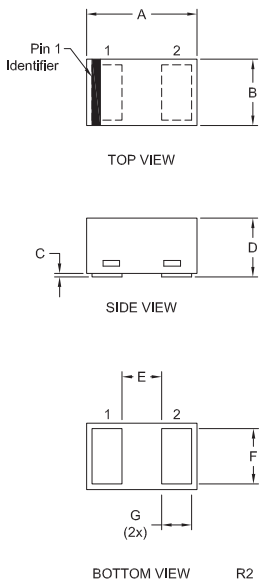


SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.006	0.050	0.150
B	0.002	0.006	0.050	0.150
C	0.005	0.007	0.125	0.175
D	0.016	0.020	0.400	0.500
E	0.037	0.041	0.950	1.050
F	0.004	0.008	0.100	0.200
G	0.030	0.033	0.750	0.850
H	0.037	0.041	0.950	1.050
J	0.014		0.350	

SOT-963 (REV: R0)

Leadless Packages, Mechanical Specifications

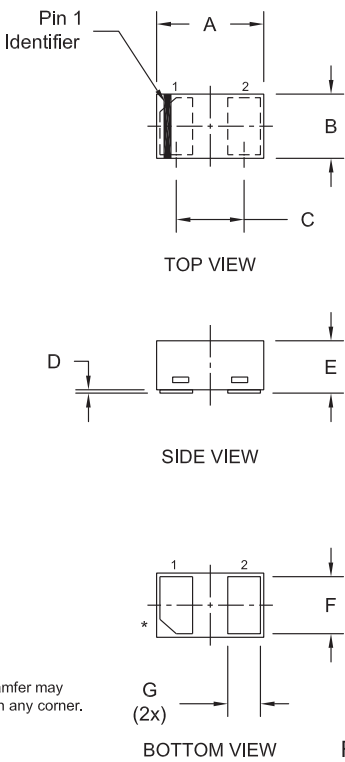
SOD-882



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.042	0.95	1.05
B	0.022	0.026	0.55	0.65
C	0.000	0.002	0.00	0.05
D	0.017	0.022	0.45	0.55
E	0.014		0.36	
F	0.017	0.022	0.45	0.55
G	0.008	0.013	0.22	0.32

SOD-882 (REV:R2)

SOD-882L

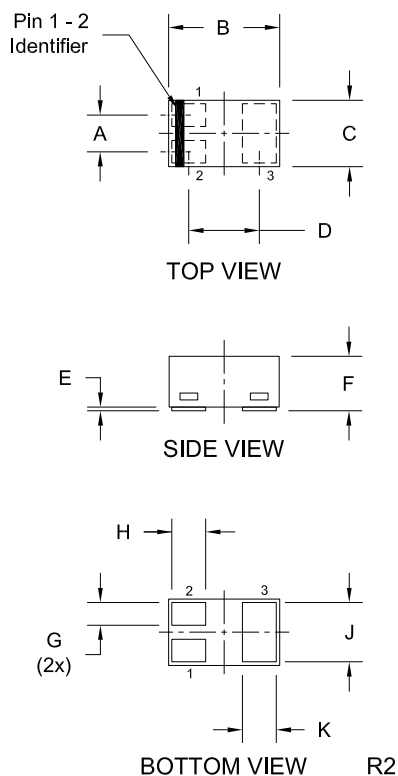


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.041	0.95	1.05
B	0.022	0.026	0.55	0.65
C	0.026		0.65	
D	0.000	0.002	0.00	0.05
E	0.012	0.016	0.30	0.40
F	0.018	0.022	0.45	0.55
G	0.008	0.012	0.20	0.30

SOD-882L (REV:R2)

Leadless Packages, Mechanical Specifications (continued)

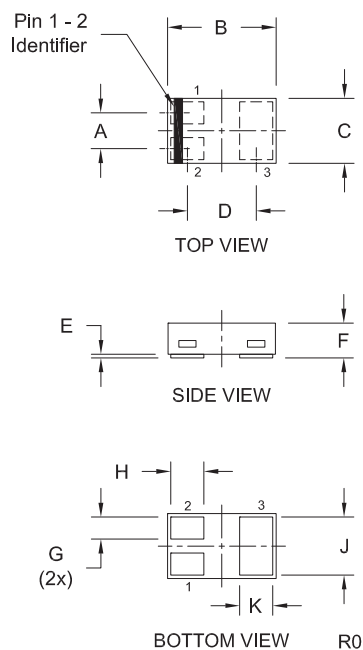
SOT-883L



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.016	0.30	0.40
G	0.005	0.007	0.13	0.18
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

SOT-883L (REV:R2)

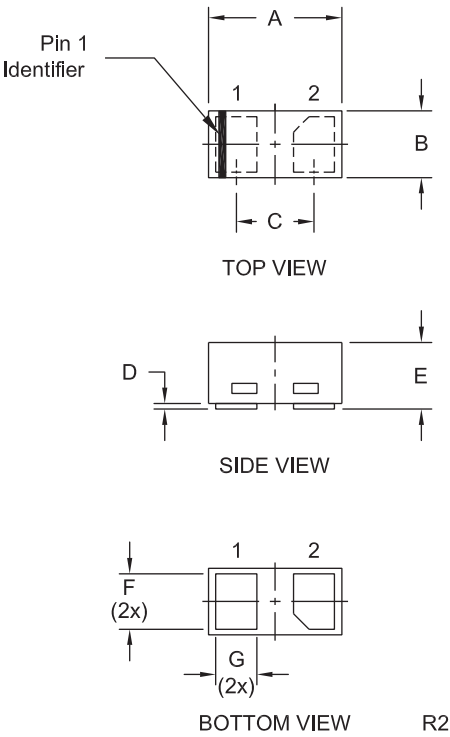
SOT-883VL



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.013	0.30	0.32
G	0.004	0.008	0.10	0.20
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

SOT-883VL (REV:R0)

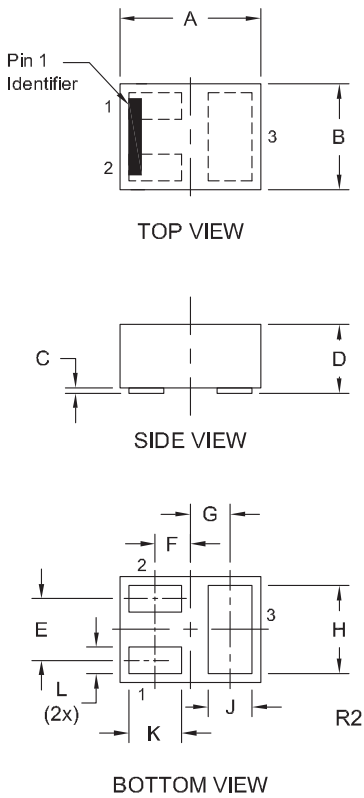
TLM2D3D6



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.022	0.026	0.55	0.65
B	0.010	0.014	0.25	0.35
C	0.014		0.35	
D	0.000	0.002	0.00	0.05
E	0.011	0.013	0.28	0.32
F	0.008	0.012	0.20	0.30
G	0.005	0.009	0.13	0.24

TLM2D3D6 (REV: R2)

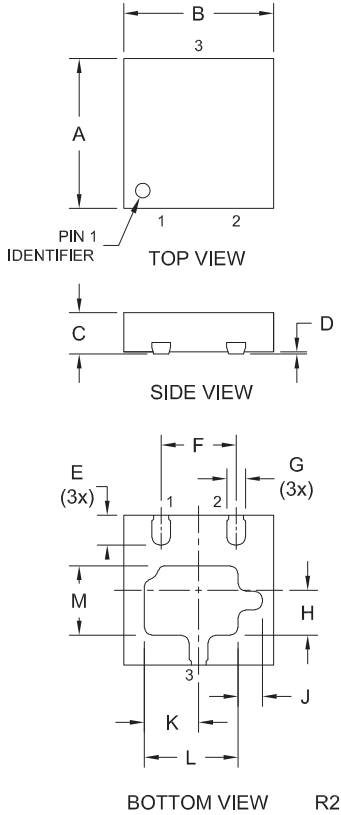
TLM3D6D8



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.029	0.034	0.75	0.85
B	0.021	0.026	0.55	0.65
C	0.000	0.002	0.00	0.05
D	0.012	0.016	0.31	0.40
E	0.014		0.35	
F	0.008		0.20	
G	0.009		0.225	
H	0.017	0.022	0.45	0.55
J	0.008	0.012	0.20	0.30
K	0.010	0.014	0.25	0.35
L	0.004	0.008	0.10	0.20

TLM3D6D8 (REV: R2)

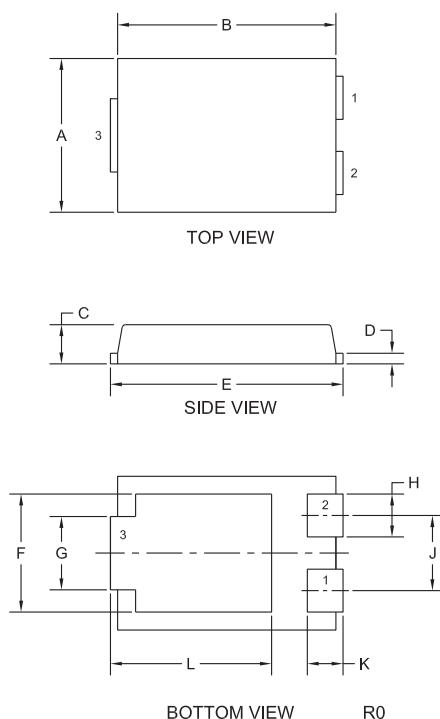
TLM322S



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.076	0.081	1.95	2.05
B	0.076	0.081	1.95	2.05
C	0.019	0.024	0.50	0.60
D	0.000	0.002	0.00	0.05
E	0.011	0.020	0.30	0.50
F	0.039		1.00	
G	0.007	0.012	0.18	0.30
H	0.017	0.028	0.45	0.70
J	0.008	0.017	0.22	0.43
K	0.024	0.033	0.62	0.83
L	0.043	0.054	1.10	1.35
M	0.030	0.041	0.77	1.03

TLM322S (REV:R2)

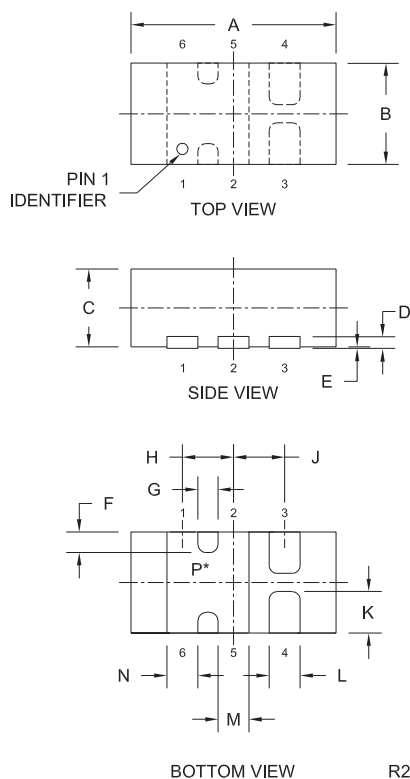
TLM364



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.167	0.172	4.25	4.35
B	0.238	0.243	6.05	6.15
C	0.039	0.048	1.00	1.20
D	0.009	0.014	0.25	0.35
E	0.250	0.262	6.35	6.65
F	0.128	0.136	3.25	3.45
G	0.076	0.085	1.95	2.15
H	0.044	0.052	1.10	1.30
J	0.083		2.10	
K	0.035	0.044	0.90	1.10
L	0.171	0.183	4.35	4.65

TLM364 (REV:R0)

TLM621

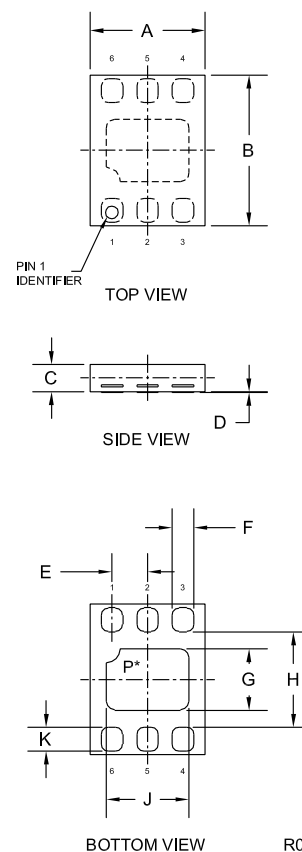


Exposed pad P connects pins 1, 2, 5, and 6

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007	0.012	0.180	0.300
N	0.007	0.012	0.180	0.300

TLM621 (REV: R2)

TLM621H

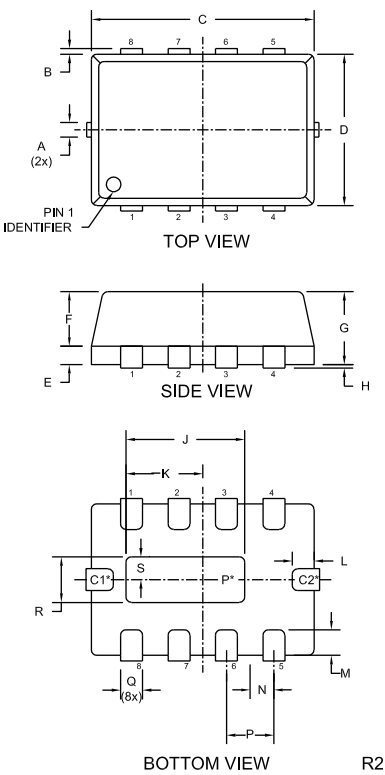


*Exposed pad P internally connected to pins 3 and 4

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.053	0.065	1.35	1.65
B	0.073	0.085	1.85	2.15
C	0.012	0.016	0.30	0.40
D	0.000	0.002	0.00	0.05
E	0.020		0.50	
F	0.008	0.012	0.20	0.30
G	0.027	0.035	0.69	0.89
H	0.053	0.057	1.35	1.45
J	0.039	0.047	0.99	1.19
K	0.011	0.015	0.28	0.38

TLM621H (REV:R0)

TLM832

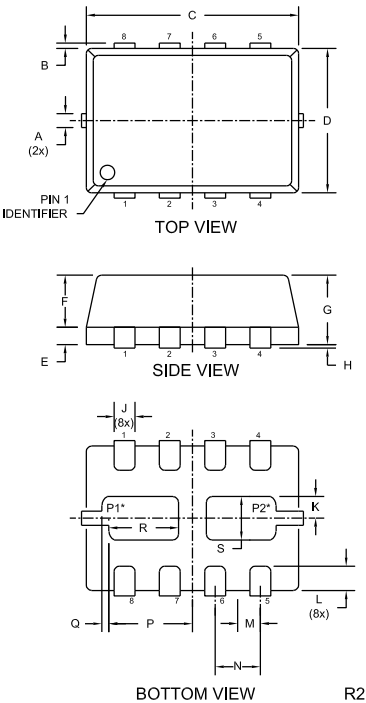


* Note:
- Exposed pad P internally connected to pins 1, 2, 3, 6, 7, 8
- Exposed metallized connection C1 internally connected to pins 1, 2, 3, 6, 7, 8
- Exposed metallized connection C2 internally connected to pin 5

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.007	0.012	0.170	0.300
B	-	0.005	-	0.125
C	0.114	0.122	2.900	3.100
D	0.075	0.083	1.900	2.100
E	0.006	0.010	0.150	0.250
F	0.026	0.030	0.650	0.750
G	0.031	0.039	0.800	1.000
H	0.000	0.002	0.000	0.050
J	0.059	0.067	1.500	1.700
K	0.036	0.044	0.910	1.110
L	0.008	0.018	0.200	0.450
M	0.008	0.018	0.200	0.450
N	0.013		0.325	
P	0.026		0.650	
Q	0.009	0.013	0.240	0.340
R	0.017	0.025	0.430	0.630
S	0.006	0.014	0.160	0.360

TLM832 (REV: R2)

TLM832D

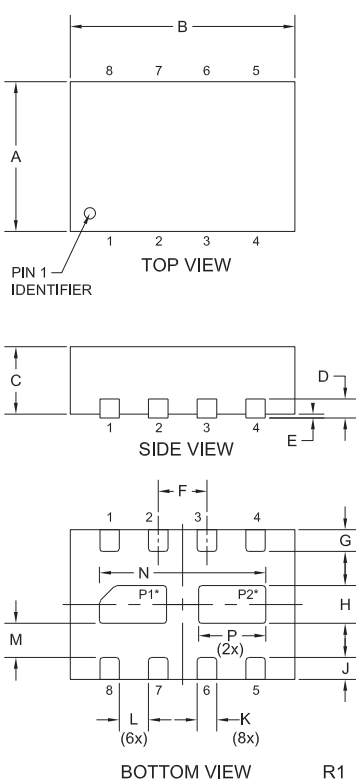


* Note:
- Exposed pad P1 common to pins 7 and 8
- Exposed pad P2 common to pins 5 and 6

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.007	0.012	0.170	0.300
B	-	0.005	-	0.125
C	0.114	0.122	2.900	3.100
D	0.075	0.083	1.900	2.100
E	0.006	0.010	0.150	0.250
F	0.026	0.030	0.650	0.750
G	0.031	0.039	0.800	1.000
H	0.000	0.002	0.000	0.050
J	0.009	0.013	0.240	0.340
K	0.006	0.014	0.160	0.360
L	0.008	0.018	0.200	0.450
M	0.013		0.325	
N	0.026		0.650	
P	0.040	0.048	1.010	1.210
Q	0.004		0.100	
R	0.032	0.040	0.820	1.020
S	0.017	0.025	0.430	0.630

TLM832D (REV: R2)

TLM832DS



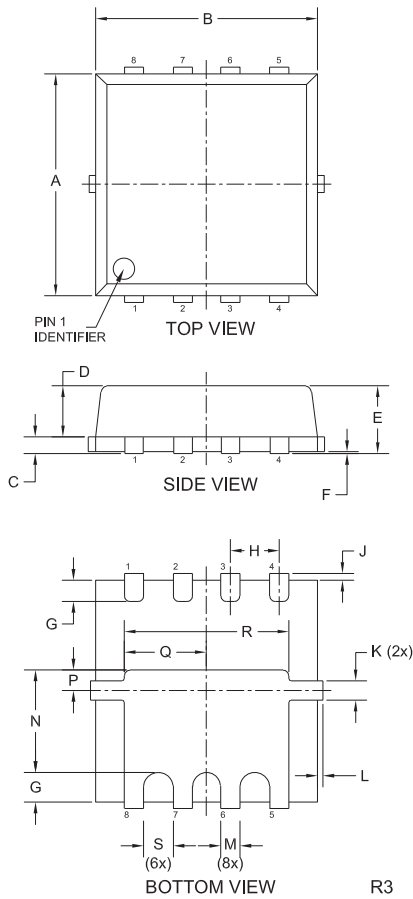
* Exposed pad P1 common to pins 7 and 8
Exposed pad P2 common to pins 5 and 6

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.077	0.081	1.95	2.05
B	0.116	0.120	2.95	3.05
C	0.031	0.039	0.80	1.00
D	0.006	0.010	0.16	0.25
E	0.000	0.002	0.00	0.05
F	0.026		0.65	
G	0.008	0.016	0.19	0.40
H	0.014	0.024	0.35	0.61
J	0.008	0.016	0.19	0.40
K	0.008	0.012	0.21	0.31
L	0.013	0.017	0.34	0.44
M	0.006	--	0.15	--
N	0.087		2.22	
P	0.029	0.039	0.74	1.00

TLM832DS (REV:R1)

Leadless Packages, Mechanical Specifications (continued)

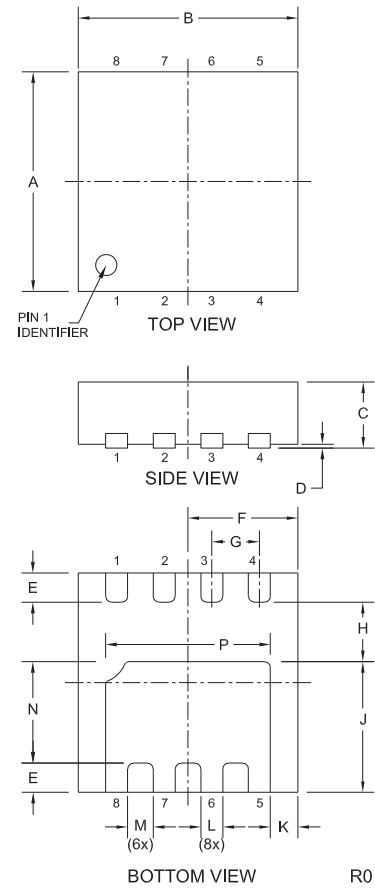
TLM833



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.114	0.122	2.90	3.10
B	0.114	0.122	2.90	3.10
C	0.006	0.010	0.15	0.25
D	0.026	0.030	0.65	0.75
E	0.031	0.039	0.80	1.00
F	0.000	0.002	0.00	0.05
G	0.008	0.018	0.20	0.45
H	0.026		0.65	
J	--	0.005	--	0.125
K	0.007	0.012	0.17	0.30
L	--	0.005	--	0.125
M	0.011	0.015	0.29	0.39
N	0.049	0.057	1.25	1.45
P	0.006	0.014	0.15	0.35
Q	0.040	0.048	1.01	1.21
R	0.085	0.093	2.16	2.36
S	0.012	0.016	0.30	0.40

TLM833 (REV:R3)

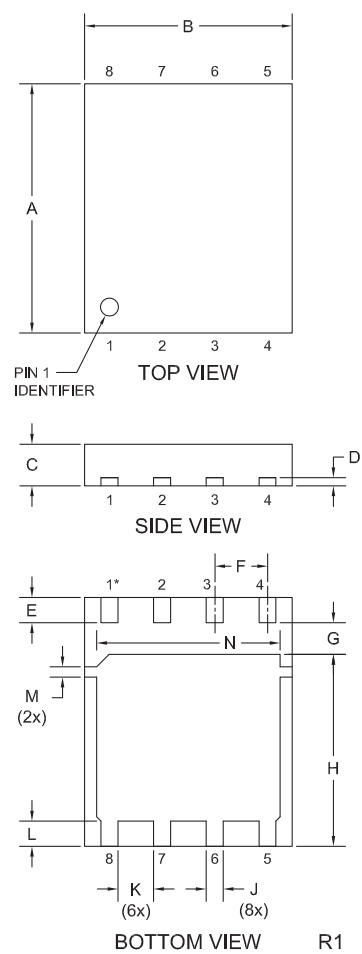
TLM833S



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.112	0.124	2.85	3.15
B	0.112	0.124	2.85	3.15
C	0.031	0.039	0.80	1.00
D	0.000	0.002	0.00	0.05
E	0.012	0.020	0.30	0.50
F	0.056	0.062	1.43	1.57
G	0.026		0.65	
H	0.030	0.033	0.75	0.85
J	0.065	0.073	1.65	1.85
K	0.012	0.016	0.30	0.40
L	0.010	0.014	0.25	0.35
M	0.012	0.016	0.30	0.40
N	0.047	0.057	1.20	1.45
P	0.081	0.091	2.07	2.32

TLM833S (REV:R0)

TLM856

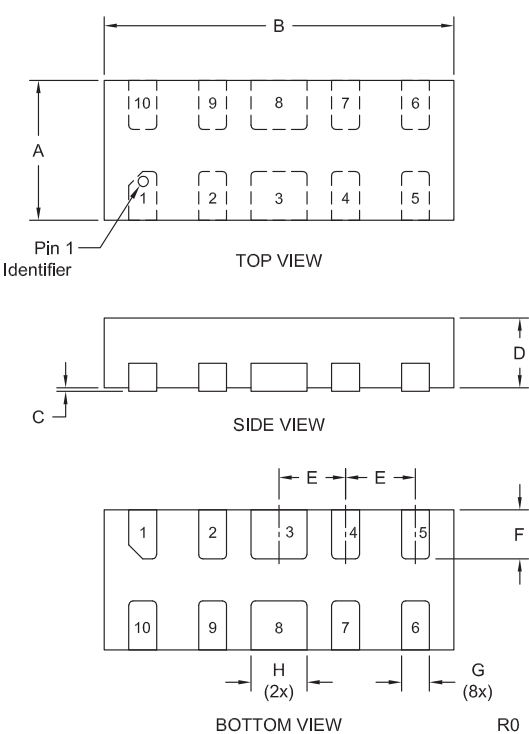


* Pins 1, 2, and 3 are internally connected

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.232	0.240	5.90	6.10
B	0.193	0.201	4.90	5.10
C	0.037	0.040	0.95	1.025
D	0.008		0.20	
E	0.022	0.026	0.56	0.66
F	0.050		1.27	
G	0.028	0.032	0.71	0.81
H	0.180	0.184	4.58	4.68
J	0.014	0.018	0.36	0.46
K	0.034		0.86	
L	0.022	0.026	0.56	0.66
M	0.008	0.012	0.20	0.30
N	0.172	0.176	4.37	4.47

TLM856 (REV:R1)

TLM1031



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.041	0.95	1.05
B	0.096	0.100	2.45	2.55
C	0.000	0.002	0.00	0.05
D	0.018	0.022	0.45	0.55
E	0.020		0.50	
F	0.012	0.016	0.30	0.40
G	0.006	0.010	0.15	0.25
H	0.014	0.018	0.35	0.45

TLM1031 (REV:R0)

Vision Statement



QUALITY POLICY

- ◆ Our definition of quality is **Complete Customer Satisfaction**.
- ◆ We are dedicated to manufacturing Competitively Priced, **Quality Products** delivered on time and professionally serviced.
- ◆ We define **Excellence** as surpassing our customers' expectations.
- ◆ Our perpetual challenge is the pursuit of **Achieving Excellence** in everything we do, and we strive to accomplish this by utilizing **Ongoing Training** for **Continuous Improvement** in all areas.
- ◆ We recognize that customer satisfaction results in **Repeat Business**.



Product Support

Central's sales-operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom packing
- Custom bar coding for shipments

Designer Support/Services

Central's engineering team is ready to discuss your design challenges. Just ask.

- Quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

CERTIFICATE

TUV Rheinland of North America, Inc.
1300 Massachusetts Avenue, Suite 103, Boxborough, MA 01719



Hereby certifies that

Central™
Semiconductor Corp.

145 Adams Avenue
Hauppauge, NY 11788, USA

has established and maintains a quality management system for the

Design and Manufacture of Discrete Semiconductors

An audit was performed and documented in Report No 7654.
Proof has been furnished that the requirements according to

ISO 9001:2008

are fulfilled.

Further clarification regarding the scope of this certificate and the applicability of
ISO 9001:2008 requirements may be obtained by contacting TRNA.

Certificate Registration No.

74 300 7654

Certificate Issue Date
December 03, 2015



Certificate Expiration Date
December 02, 2018

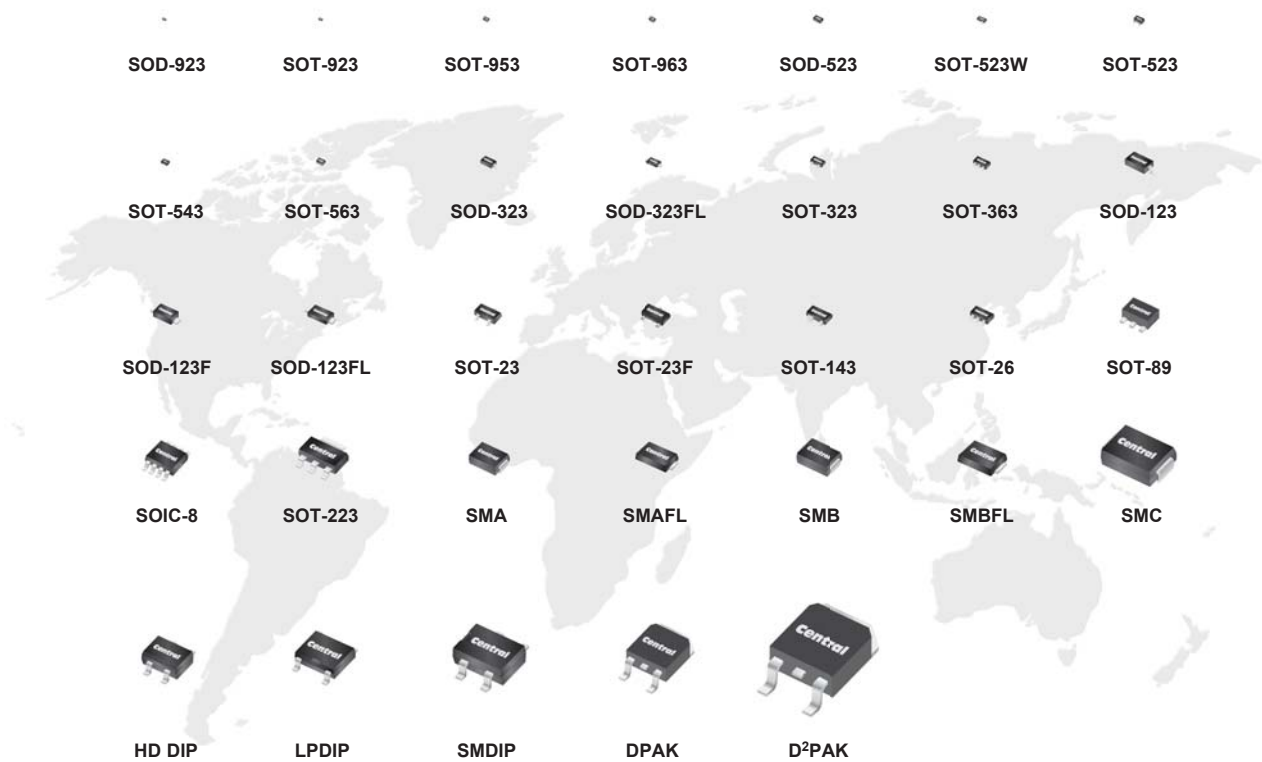
Revised 11/20/2015
Certification Decision: 11/19/2015

Certification of Management Systems

® TUV, TÜV and TÜV are registered trademarks. Utilization and application requires prior approval.

Central™
Semiconductor Corp.

Surface Mount Packages (Actual Size)



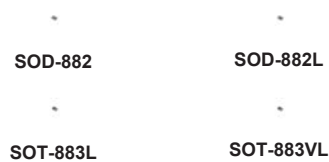
TLM™ Tiny Leadless Module

Bottom View



TLP™ Tiny Leadless Package

Bottom View



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