1A, 400V - 600V Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Ideal for automated placement
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	1	A
V_{RRM}	400 - 600	V
I_{FSM}	20	A
$T_{J\ MAX}$	175	°C
Package	Micro SMA	

APPLICATIONS

- Converter
- Free wheeling
- LED lighting
- Adapters

MECHANICAL DATA

- Case: Micro SMA
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.006 g (approximately)

Micro SMA

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER	**SYMBOL**	**S1GM**	**S1JM**	**UNIT**
Marking code on the device		A5	A7	
Repetitive peak reverse voltage	V_{RRM}	400	600	V
Forward current	$I_{F(AV)}$	1		A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	20		A
Junction temperature	T_J	- 55 to +175		°C
Storage temperature	T_{STG}	- 55 to +175		°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead Thermal Resistance	$R_{\Theta JL}$	30	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	110	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	I_F = 1A,T_J = 25°C	V_F	-	1.10	V
Reverse current @ rated V_R per diode (2)	T_J = 25°C	I_R	-	1	μA
	T_J = 125°C		-	50	μA
Junction capacitance	1 MHz, V_R=4.0V	C_J	5	-	pF
Reverse recovery time	I_F=0.5A ,I_R=1.0A I_{RR}=0.25A	t_{rr}	780	-	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING
S1GMHRSG	Micro SMA	3000 / 7" Plastic reel
S1JMHRSG	Micro SMA	3000 / 7" Plastic reel
S1GM RSG	Micro SMA	3000 / 7" Plastic reel
S1JM RSG	Micro SMA	3000 / 7" Plastic reel

Note :

1. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

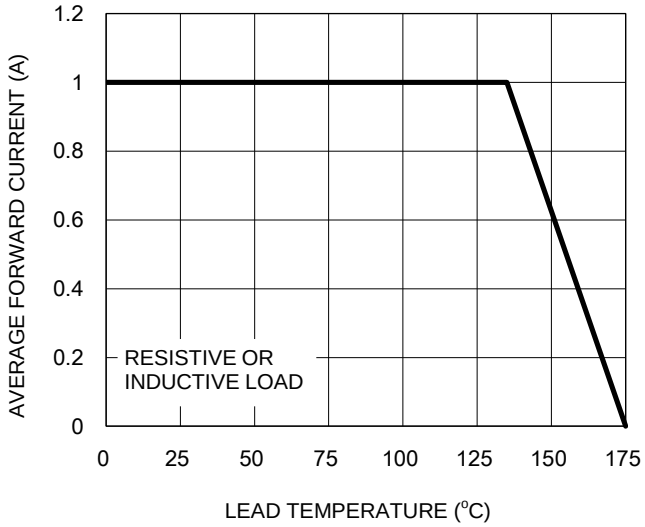


Fig.2 Typical Junction Capacitance

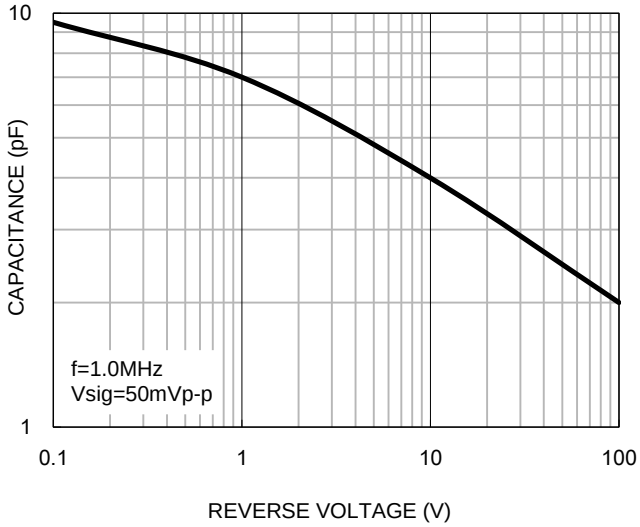


Fig.3 Typical Reverse Characteristics

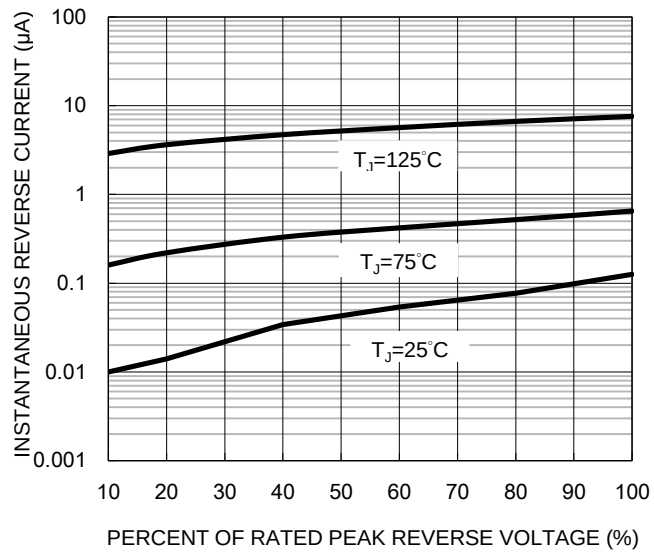
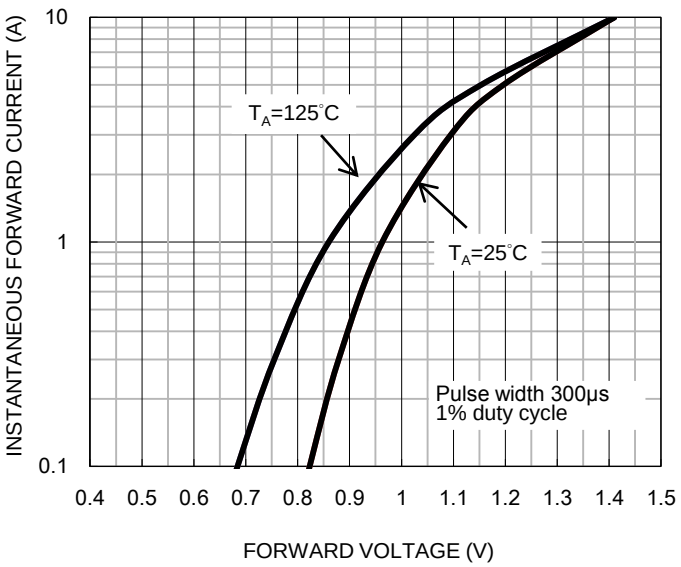


Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current

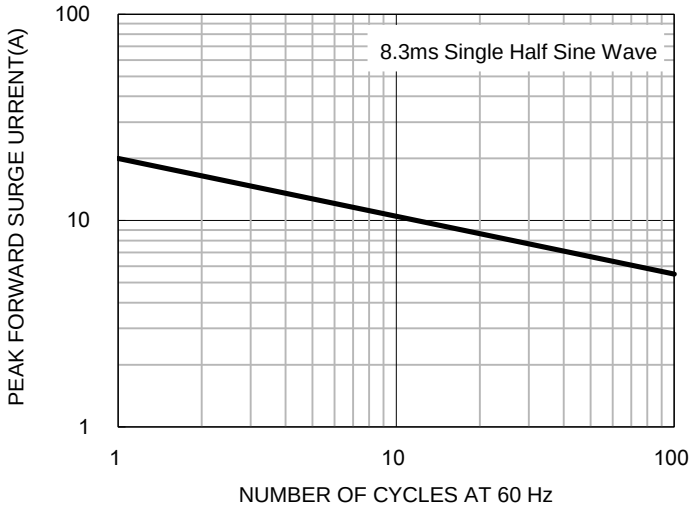
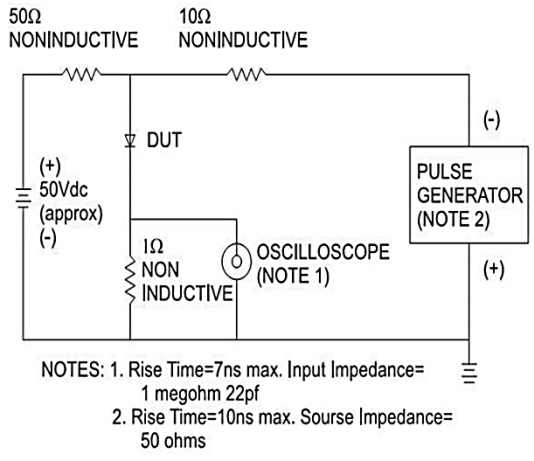
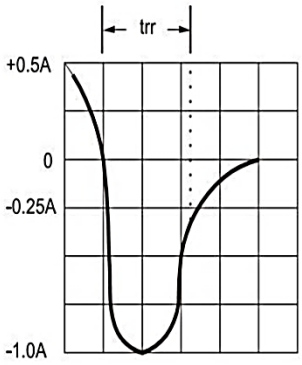


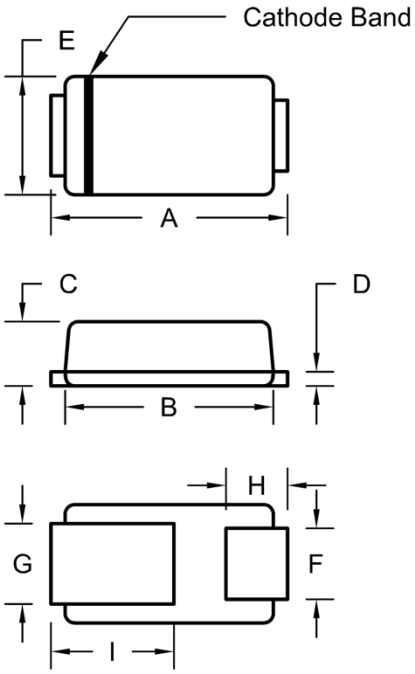
Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram





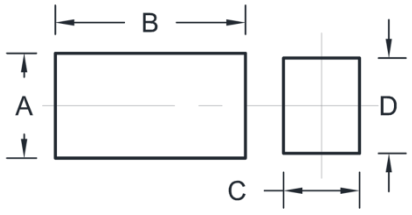
PACKAGE OUTLINE DIMENSIONS

Micro SMA



DIM	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.30	2.70	0.091	0.106
B	2.10	2.30	0.083	0.091
C	0.63	0.73	0.025	0.029
D	0.10	0.20	0.004	0.008
E	1.15	1.35	0.045	0.053
F	0.65	0.85	0.026	0.034
G	0.75	0.95	0.030	0.037
H	0.55	0.75	0.022	0.030
I	1.10	1.50	0.043	0.059

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.10	0.043
B	2.00	0.079
C	0.80	0.031
D	1.00	0.039

MARKING DIAGRAM

P/N = Marking Code
YW = Date Code

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