



帝奥微

Professional / Cooperation / Innovation / Challenge



2022

Product Brochure

Dioo Microcircuits Co., Ltd Jiangsu

Company Profile

Dioo Microcircuits Co., Ltd Jiangsu is an IC chip design company focusing on R&D, design, and sales of high performance analog chips. The core management team, with more than ten years of working experience, all hail from Fairchild Semiconductor.

Dioo maintains technological innovation as its core concept and has put consistent effort and attention toward analog chip design and development. Dioo has coordinated a development business strategy around a diverse "all product business line", which has allowed Dioo to continuously provide high performance, low power consumption, and quality reliable IC analog chip products to its customers.



The analog signal chain is responsible for signal processing, signal amplification, and signal detection.

The branches of analog signals include general-purpose operational amplifiers, audio amplifiers, high-precision operational amplifiers, low-power operational amplifiers, high-speed operational amplifiers, current sensors, comparators, analog switches, high-speed switches, filter buffer drivers, audio line drivers, etc.



Power management is responsible for the conversion, distribution, and detection of devices.

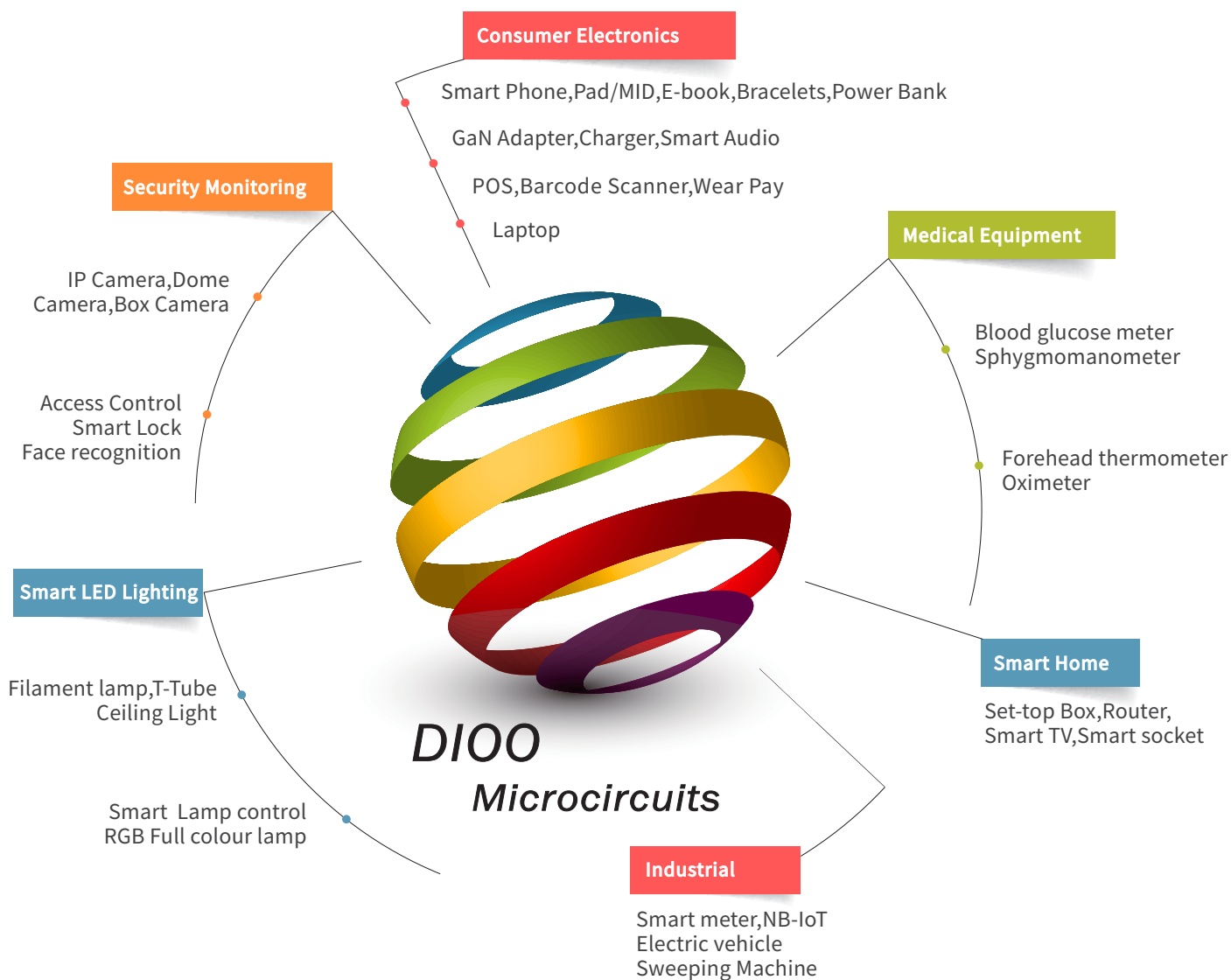
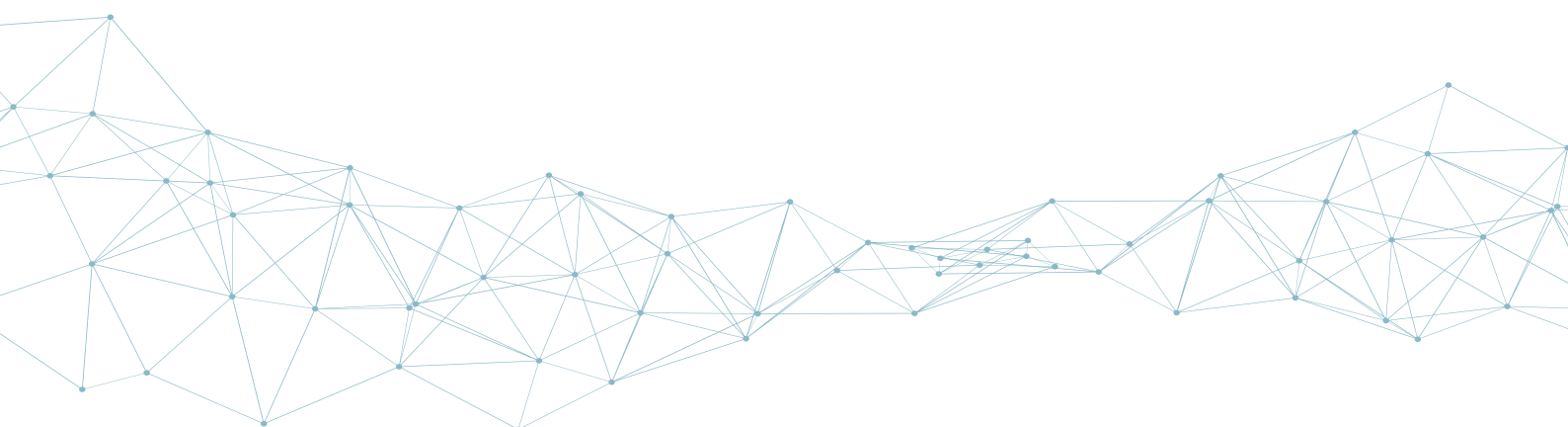
The branches of power management chips include DC switching buck converters, linear regulators, load switches, overvoltage protection ICs, overcurrent protection ICs, MOSFET drivers, motor drivers, Li-ion battery charger ICs, LED drivers, LED flash drivers, backlight drivers, etc.



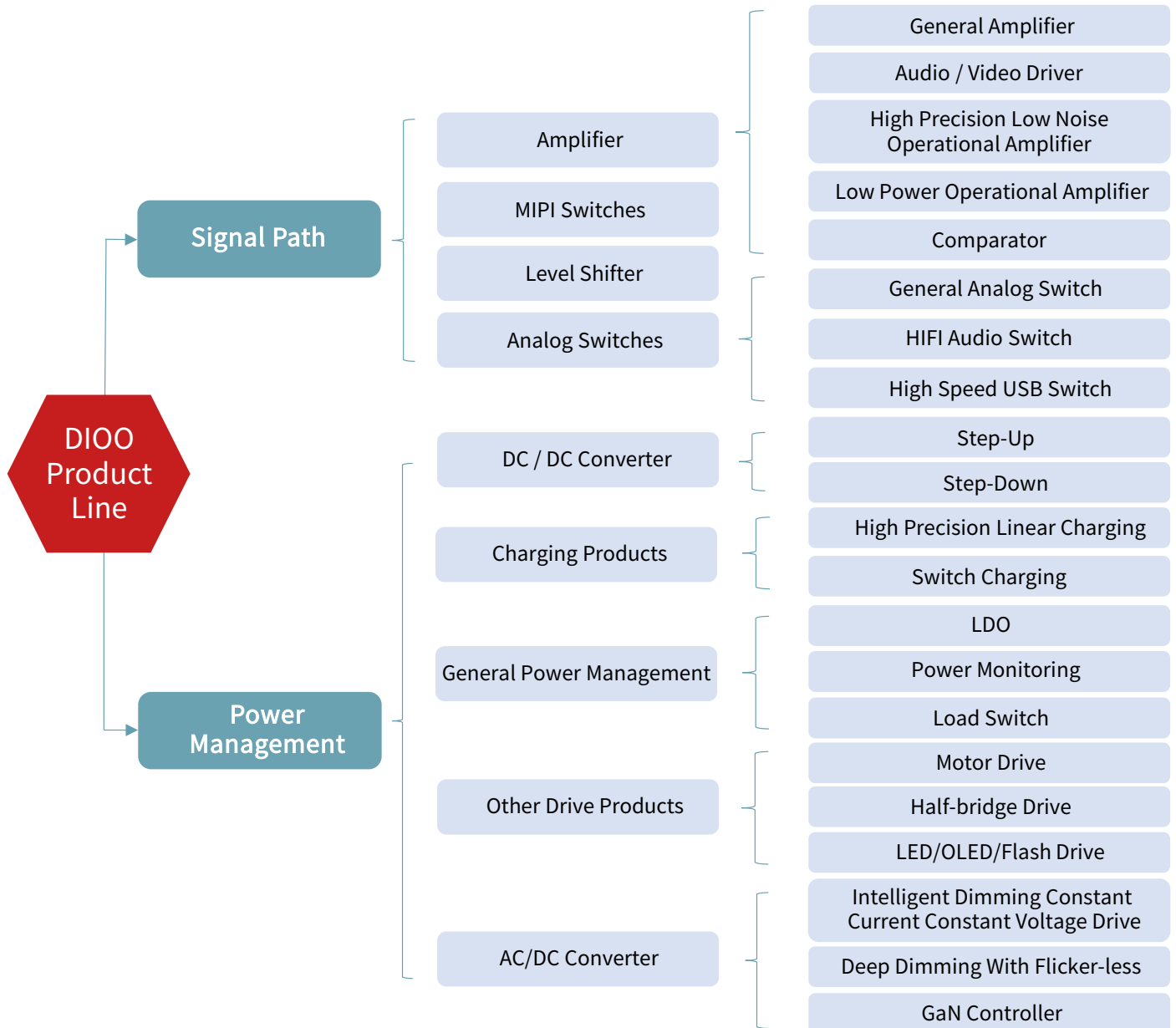
The high-voltage power supply product line offers highly integrated power conversion ICs that support various isolated and non-isolated power supply topologies; They are widely used in high power adapters, chargers, smart lighting, smart meters, and industrial power supplies.

High voltage power supply products include high-frequency synchronous rectifier, GaN controller, smart lighting control and ripple-remover IC, intelligent power protection IC, APFC constant current and constant voltage controller, etc.

Target Market



Products Introduction



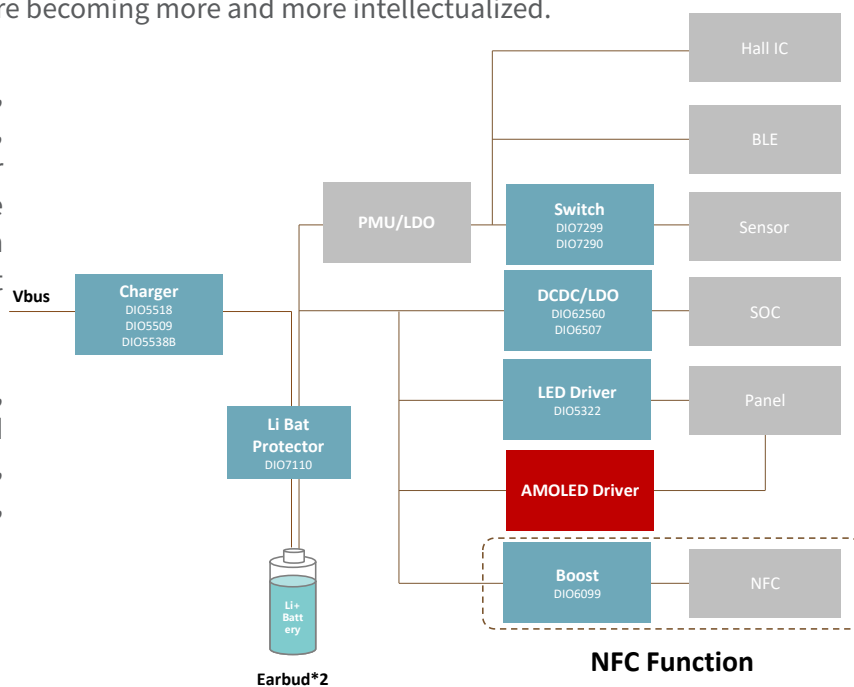
Application Diagram

Smart Watches & Bracelets

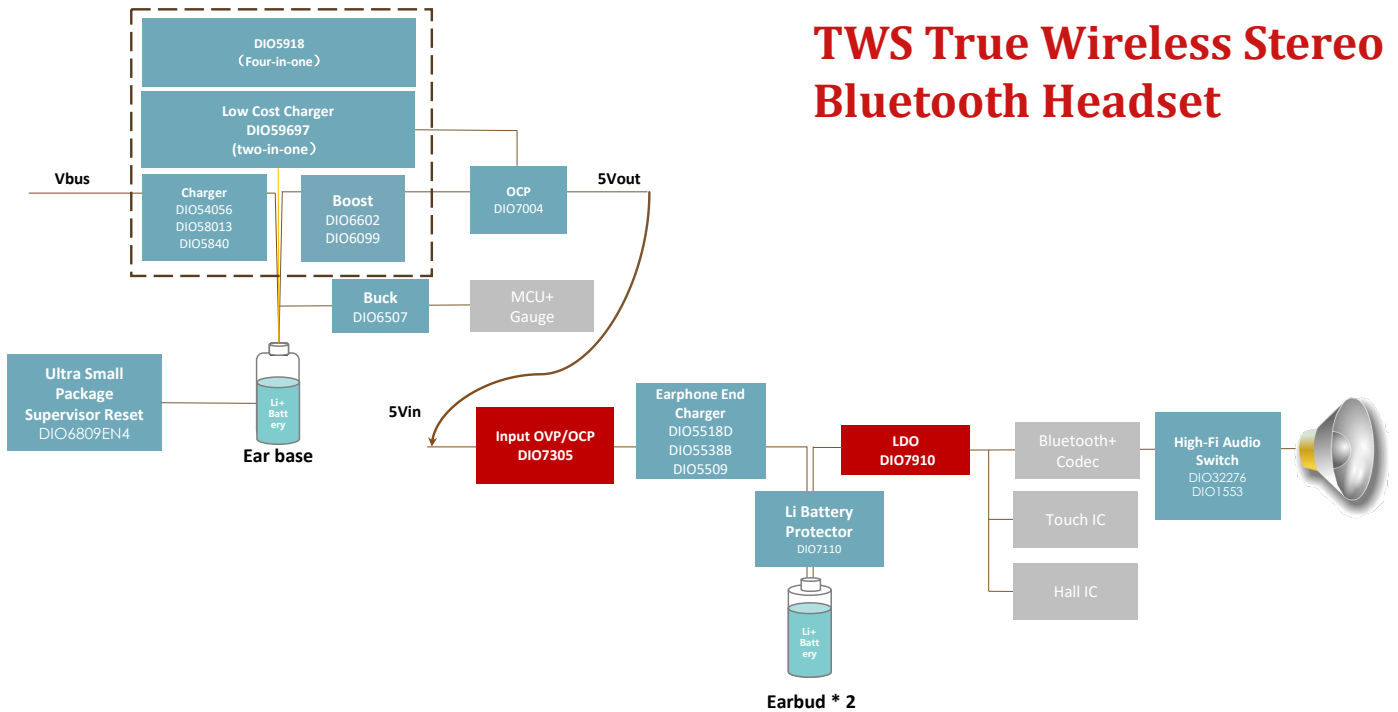
Smartwatches and bracelets are not only able to display time but also possesses a plethora of monitoring functions that can detect temperature, blood oxygen level, blood pressure, and heart rate, allowing consumers to be aware of their own physical and health conditions at any moment. With the development of technology, a portion of smartwatches are becoming more and more intellectualized.

Equipped with access to communication, social media, entertainment platforms, e-payment, GPS tracking and other auxiliary functions, these smart wearable products are growing significantly in attention and are greatly popular amidst consumers.

Our solution includes a battery protector, a linear charge IC, overvoltage and overcurrent protection, load switches, low dropout regulators, buck converters, boost converters, etc.



TWS True Wireless Stereo Bluetooth Headset



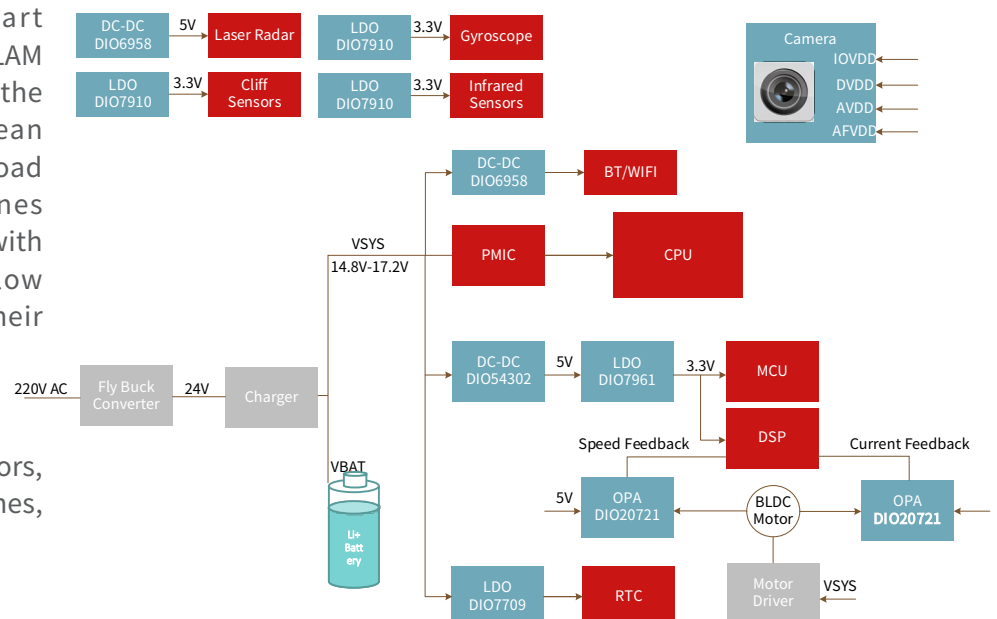
TWS, True Wireless Stereo, earphones do not require wired connection, free from the shackles of traditional wired earphones; through Bluetooth technology, the left and right earbuds form a stereo respectively sound system. Along with technology namely professional acoustic pickup, smart noise-reduction, and AI noise-reduction, TWS earphone are able to provide consumers with the perfect sound experience.

Our solution includes buck converters, low dropout regulators, boost converters, low power small package load switches, analog switches, audio switches, a lithium battery charging IC (bottom compartment), an ultra-thin lithium battery charging IC (headset), an overvoltage protection IC, a reset IC, etc.

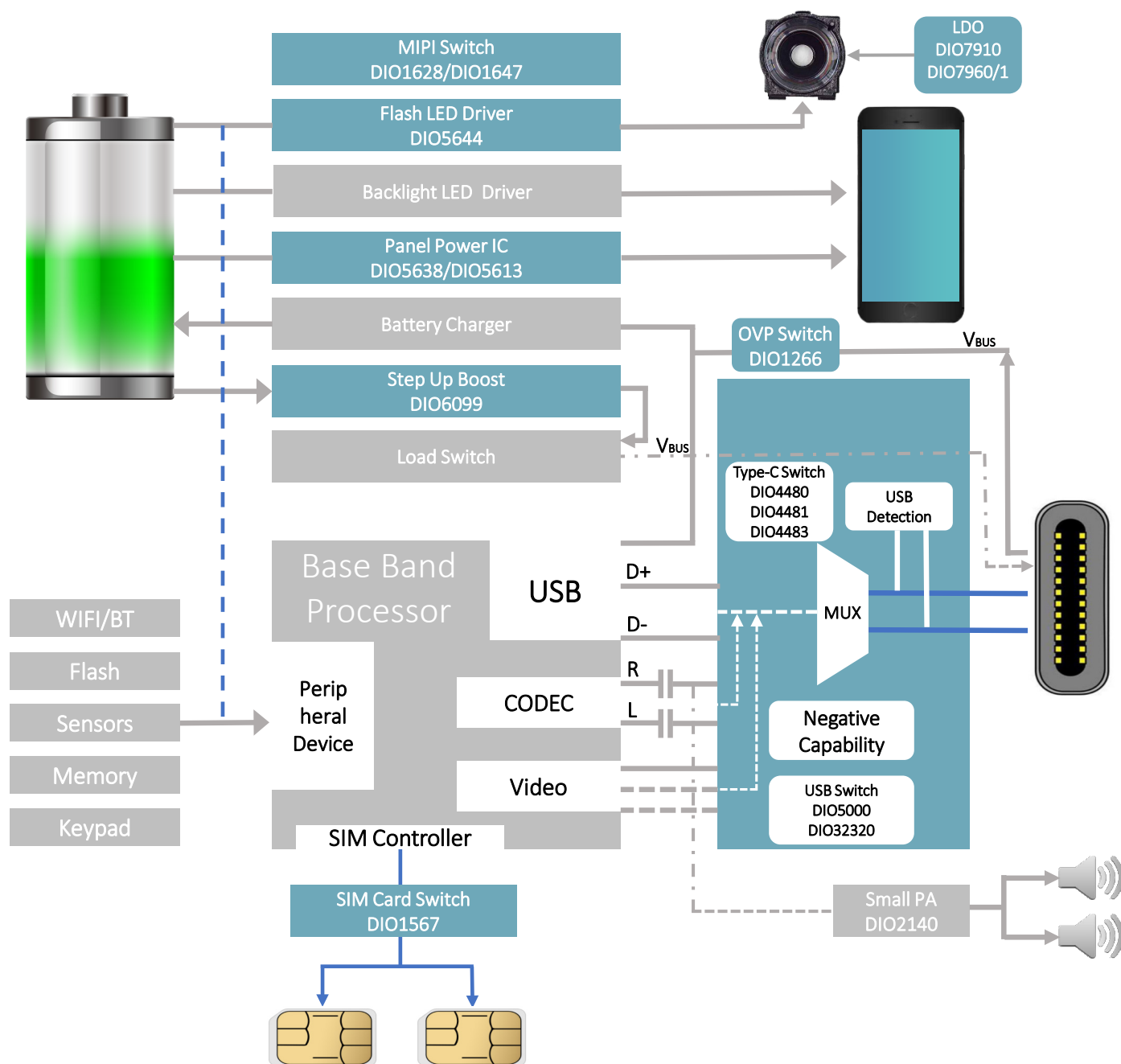
Floor Cleaning Robot

Floor Sweep Robots are smart home appliances that utilizes SLAM modeling technology. It allows the machine to autonomously clean the floor, lightening the workload of daily chores. These machines are most commonly equipped with brushes and vacuums that allow them to sweep garbage into their trash collecting compartment.

Our solution includes buck converters, low dropout regulators, current detectors, analog switches, operational amplifiers, etc.



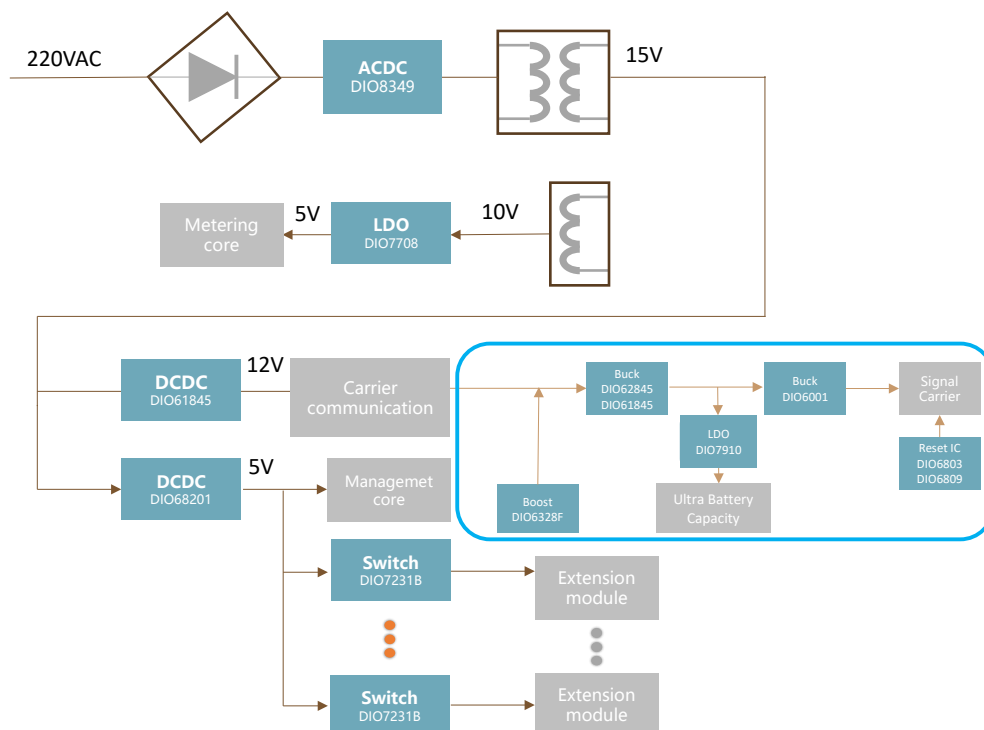
5G Mobile Phone Solution



5G mobile phone is a medium for human-computer interaction, information exchange, and communication between two or more media.

Our solution includes high-speed USB switches, Buck converters, LDOs, Boost converters, Charger ICs, OVP, Load switches, OCP, a flash driver, a LED backlight driver, a current sensor, Audio PAs, analog switches, a MIPI switch, an LCD bias driver, etc.

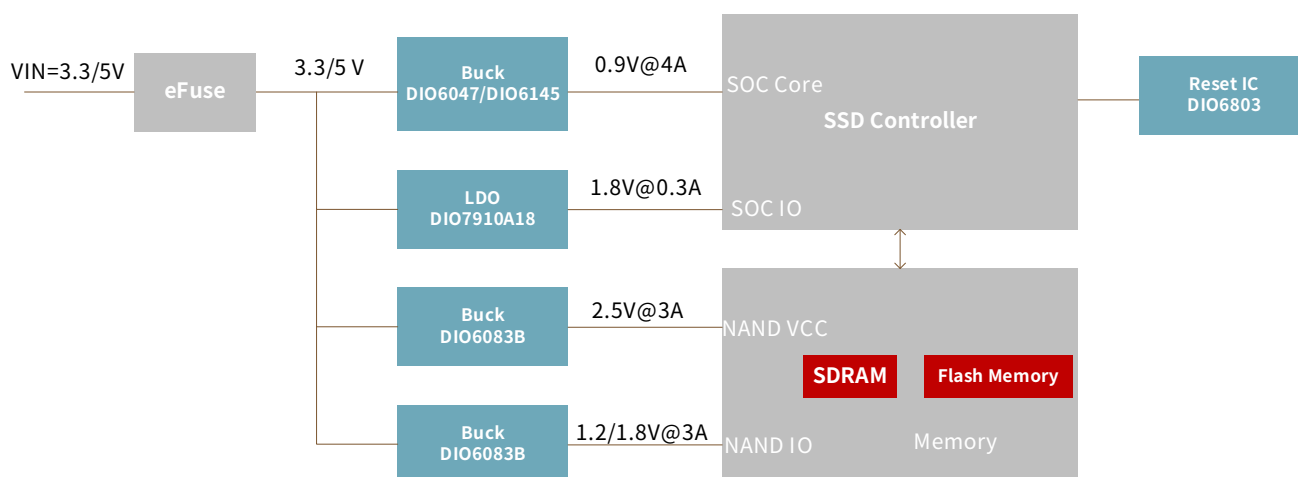
Electricity meters



An electricity meter is used to measure electric energy. Standard division separates and classify electricity meters into national grid meter, southern grid meter, grid meter, or overseas meter. Depending on the situation and application, it can be divided into single-phase meter, three-phase meter, and intelligent meter.

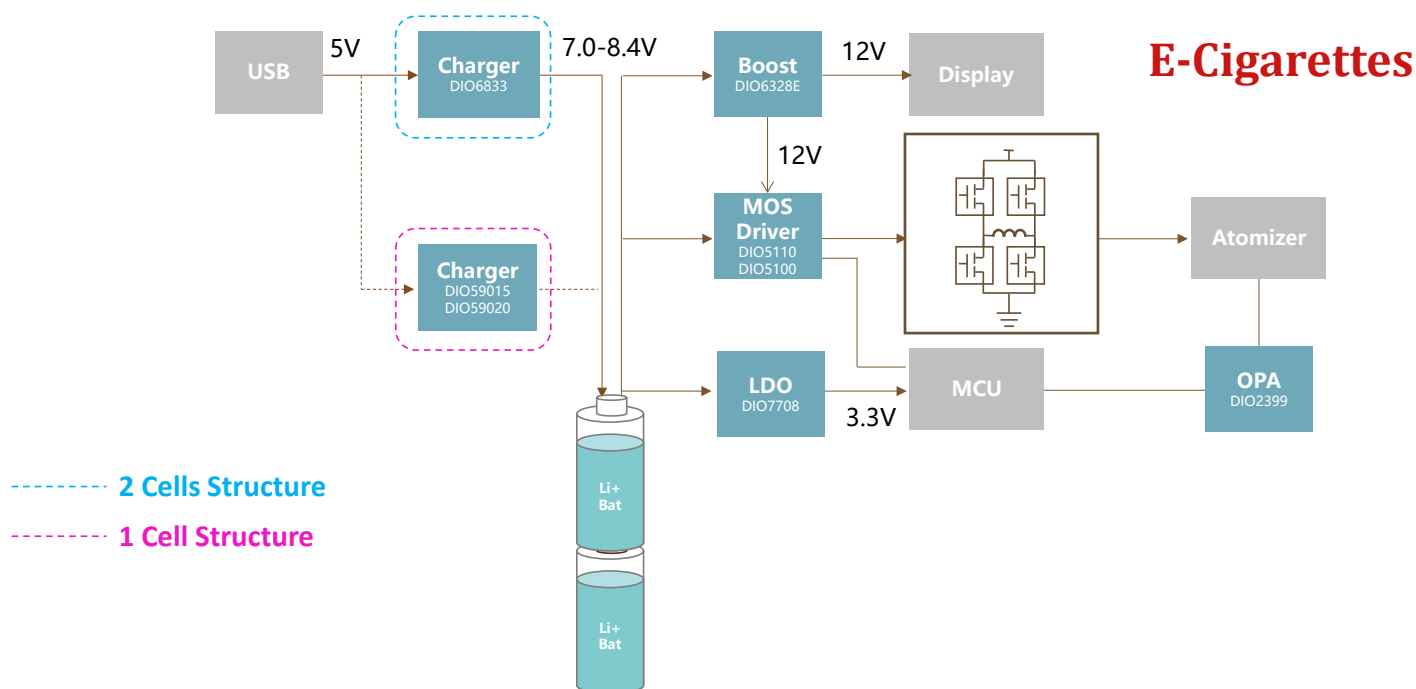
Our solution includes buck converters, boost converters, low dropout regulators, an ACDC controller, load switches, etc.

Solid State Drive



A Solid State Disk, also known as Solid State Drive, or SSD for short, is a hard disk composed of memory chips fixed in a certain array. Because the transmission speed of SSD is higher than traditional solid state disk, it is mostly used in computers and servers.

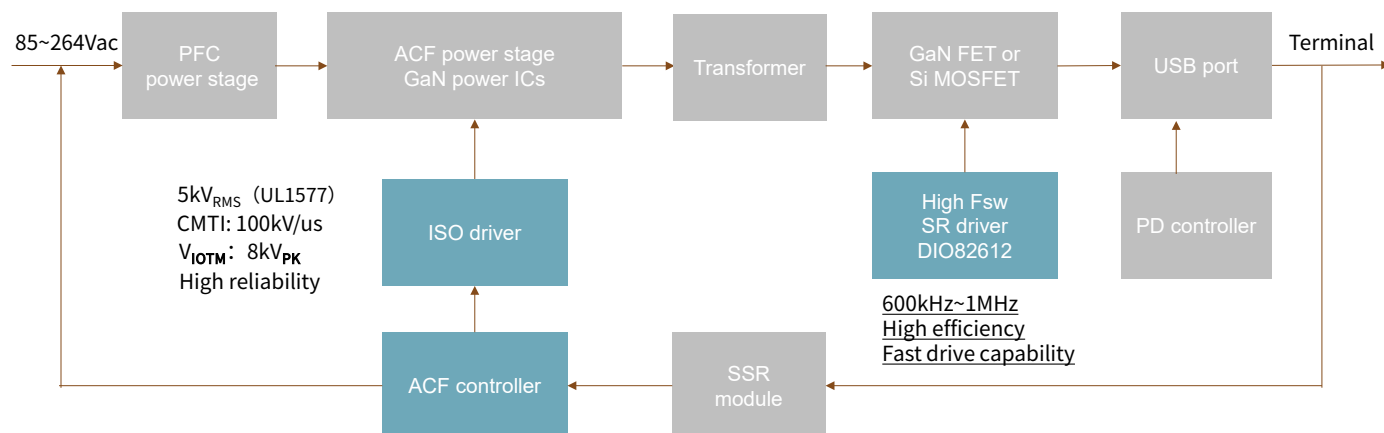
Our solution involves buck converters, low dropout regulators, a reset IC, etc.



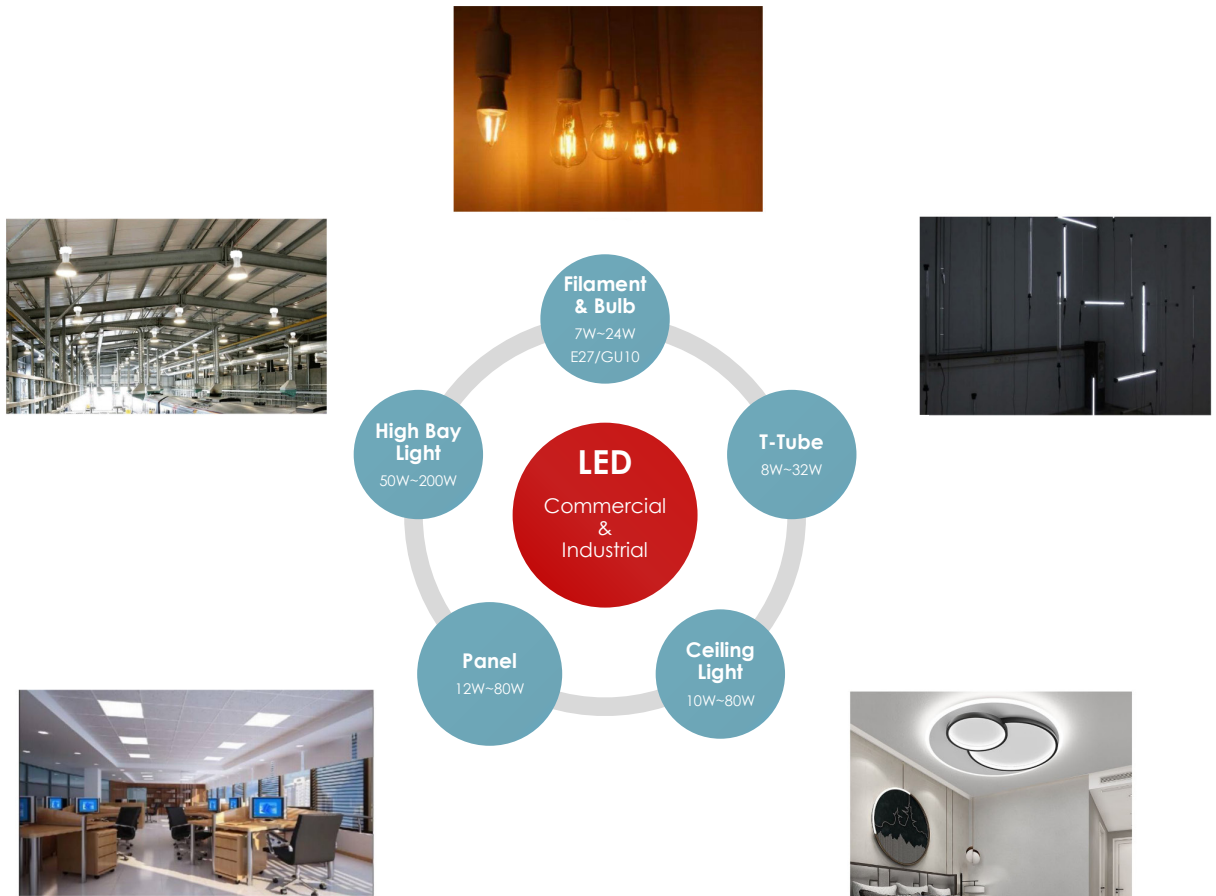
Electronic cigarettes are electronic products aiming to imitate cigarettes through an electronic liquid (commonly known as E-liquid or E-juice) powered by a rechargeable lithium polymer battery that drives an atomizer and heats the e-liquid in the atomization tank. Electronic cigarettes do not need to be lighted - ergo do not produce smoke - and only produce "vapor" that do not contain any tar nor carbon monoxide. In fact, groups of professionals in the medical community believe that these electronic products are great potential nicotine substitute and can also reduce the impact of traditional cigarettes on the body as well as reduce possibilities of fire hazards. With all these health and safety benefits, e-cigarettes are incredibly popular amongst nicotine consumers.

Our solution includes buck converters, low dropout regulators, a boost converter, load switches, a high precision zero temperature drift current sensor, analog switches, MOS drivers, a lithium battery charging IC, etc.

GaN Adapters

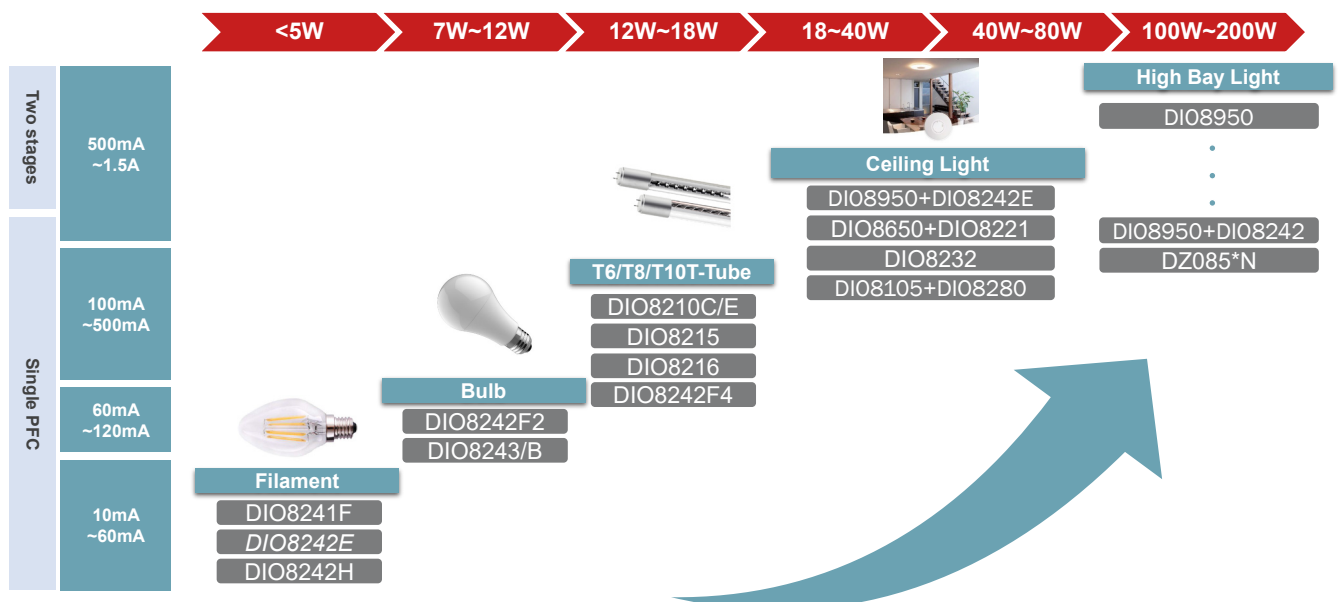


The MHz high-frequency synchronous rectifier is suitable for the GaN high-power quick charging applications. It is not only highly compatible with QR and ACF systems, but it also enables highly reliable and differentiated designs with low thermal resistance packages, helping customers to quickly implement smaller size and varied power levels of high-performance USB PD quick charging solutions.

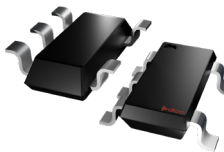
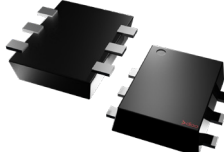
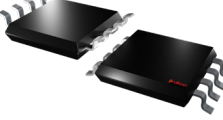
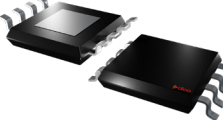
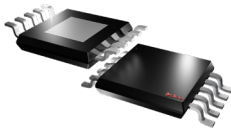
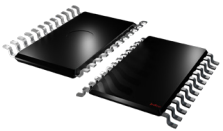


LEDs are the most common and popular light source nowadays, and with energy saving and long service life, LEDs will be ubiquitous.

Our solution includes APFC constant current flyback LED drivers, APFC constant current buck LED drivers, APFC constant current boost LED drivers, APFC constant voltage LED drivers, full-power flicker-free series, filament lamp series, Type B&A+B solutions, intelligent dimming total solutions, etc.



Package Selection

WLCSP0.9*0.9-4	WLCSP1.0*1.5-6	WLCSP1.3*1.8-12	WLCSP1.5*2.1-15	WLCSP2.0*2.0-36
				
DFN1.2*1.6-4	DFN1.8*2-6	DFN2*2-6	DFN2*2-8	DFN2*3-14
				
DFN3*3-10	DFN3*3-12	DQFN1.4*1.8-10	QFN3*3-16	QFN4*4-20
				
SOT23-3	SOT23-5	SOT23-6	TSOT23-6	SOT-563
				
SOIC-8	SOIC-14	MSOP-8	EP-MSOP8	MSOP-10
				
EP-MSOP10	TSSOP-16	TSSOP-20	TSSOP-24	EP-TSSOP-28
				

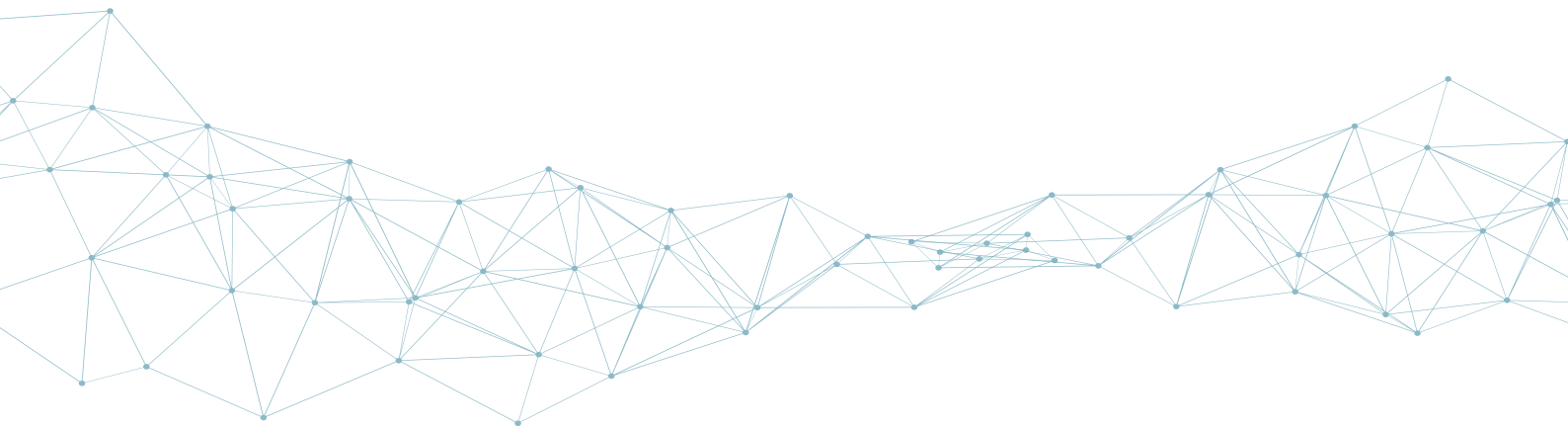
Products List

DC Switching Boost Converter

Part number	Description	Supply Voltage Vin (V)	Quiescent Current Iq (uA)	Output Voltage (V)
DIO6328E	25V 2.3A 1MHz, Asynchronous DC Boost Converter	2.3-25	100	2.3-25
DIO6328F	25V 2.3A 1MHz, Asynchronous DC Boost Converter	2.3-25	100	2.3-25
DIO6305B	5V 1.1A 1.2MHz, Synchronous DC Boost Converter	2.7-5.25	30	3-5.25
DIO6650	5V 1.2A 1.2MHz, 5V Fixed Output, Synchronous DC Boost Converter	2.7-4.5	30	5
DIO6650B	5V 0.75A 1.0MHz, 5V Fixed Output, Low Power Synchronous DC Boost Converter	0.7-4.5	12	5
DIO6602		0.7-5	12	1.8-5.5
DIO6602A	5V 1.5A 1.0MHz, Low Power Synchronous DC Boost Converter	0.7-4.5	12	1.8-3.8
DIO6605B	5V 1.2A 1.2MHz, Fixed 5V Output, Synchronous DC boost converter	2.7-4.5	30	5
DIO6099	5.5V 1.0A 1.0MHz, Synchronous DC Boost Converter	0.9-5.5	0.4	1.8-5.5
DIO6199B	5.5V 1.0A 1.0MHz, Synchronous DC Boost Converter	1.1-5.5	0.4	2.0-5.5
DIO6095	5V 0.9A 1.0MHz, 5V Fixed Output, Synchronous DC Boost Converter	0.9-5.5	0.4	5
DIO6197	3.3V 1MHz, 3.3V Fixed Output, Low Power Synchronous Boost Converter with Low Input Voltage	0.9-5.5	1	3.3

DC Switching Buck Converter

Part number	Description	Supply Voltage Vin (V)	Quiescent Current Iq (uA)	Output Voltage (V)	Iout (A)
DIO61845	40V 0.6A 2000KHz, Synchronous DC Buck Converter	5-40	150	Adj	0.6
DIO60845	40V 0.6A 650KHz, Synchronous DC Buck Converter	5-40	150	Adj	0.6



DC switching boost converter is a converter that converts a known DC voltage to another fixed or adjustable DC voltage. The output voltage is higher than the input voltage. Below are the following parameters: efficiency, ripple, dynamic response, static power consumption, frequency, and package size, of the boost converter. The main parameters can be used to select the right solution according to the requirements of different applications.

I _{out} (A)	V _{FB} (V)	F _{sw} (MHz)	R _{on} (mΩ)	Enable	Features	Package	Cross Reference
2.3	0.6	1	150	H	OCP/OVP/OTP	SOT23-6	SY7208C
2.3	0.2	1	150	H	OCP/OVP/OTP	SOT23-6	ETA1611
1.1	0.5	1.2	400	H	OCP/OVP OTP/SCP	SOT23-6	SGM6605-ADJ
1.2	-	1.2	400	H	OCP/OTP	TSOT23-6	SGM6605-5.0
0.75	-	1	350	H	OCP/OTP	TSOT23-6	
0.75	0.5	1	350	H	OCP/OTP/SCP	SOT23-6	
1.5	0.5	1	350	H	OCP/OTP/SCP	SOT23-6	TLV61220
1.2	-	1.2	400	H	OCP/OTP/SCP	SOT23-6 DFN2*3-8	AW3605
1	1	1	250	H	OCP/OVP OTP/SCP	SOT23-6 DFN2*2-6 WLCSP-6	
1	1	1	250	H	OCP/OVP OTP/SCP	SOT23-6 DFN2*2-6	
0.9	-	1	300	H	OCP/OVP OTP/SCP	DFN2*2-6 WLCSP-6	
0.9	-	1	250	H	OCP/OTP UVLO/Bypass	SOT23-5	TPS61097

DC switching buck converter is a converter that converts a known DC voltage to another fixed or adjustable DC voltage. The output voltage is lower than the input voltage. It is used in a wide range of applications, including almost any electronic product. The main parameters of a switching buck converter include efficiency, ripple, dynamic response, static power consumption, frequency, package size, etc. The main parameters can be used to select the right solution according to the requirements of different applications.

V _{FB} (V)	F _{sw} (MHz)	MOSFET(H/L) (mΩ)	Enable	Control Mode	Feature	Package	Cross Reference
0.8	2	400/200	H	PWM PSM	OCP/OTP/SCP	SOT23-6	MP2457 TPS560430
0.8	0.65	400/200	H	PWM PSM	OCP/OTP/SCP	SOT23-6	MP2439

DC Switching Buck Converter

Part number	Description	Supply Voltage Vin (V)	Quiescent Current Iq (uA)	Output Voltage (V)	Iout (A)
DIO62845B	28V 1A 500KHz, Synchronous DC Buck Converter	4.5-28	140	Adj	1
DIO68201	28V 2A 500KHz, Synchronous DC Buck Converter	4.5-28	140	Adj	2
DIO62845		4.5-28	140	Adj	2
DIO54270		4.5-28	140	Adj	2
DIO54302	28V 3A 500KHz, Synchronous DC Buck Converter	4.5-28	140	Adj	3
DIO54335		4.5-28	140	Adj	3
DIO69209	24V 2A 700KHz, Synchronous DC Buck Converter, Light Load Continuous Mode	4.5-24	700	Adj	2
DIO69309	24V 3A 700KHz, Synchronous DC Buck Converter, Light Load Continuous Mode	4.5-24	700	Adj	3
DIO6912	24V 2A 500KHz, Synchronous DC Buck Converter, Light Load Continuous Mode	4.5-24	140	Adj	2
DIO6913	24V 3A 500KHz, Synchronous DC Buck Converter, Light Load Continuous Mode	4.5-24	140	Adj	3
DIO6920	24V 500KHz 2A, Synchronous DC Buck Converter, VENH=1.5V	4.5-24	140	Adj	2
DIO6920H	24V 500KHz 2A, Synchronous DC Buck Converter, VENH=0.8V	4.5-24	140	Adj	2
DIO69201	24V 700KHz 2A, Synchronous DC Buck Converter, High Speed Dynamic Response	4.5-24	140	Adj	2
DIO6922	24V 2A 500KHz, Synchronous DC Buck Converter	4.5-24	140	Adj	2
DIO6930	24V 3A 500KHz, Synchronous DC Buck Converter	4.5-24	140	Adj	3
DIO69301	24V 3A 700KHz, Synchronous DC Buck Converter, High Speed Dynamic Response	4.5-24	190	Adj	3
DIO6957	24V 2A 500KHz, Synchronous DC Buck Converter, Small Package	4.5-24	140	Adj	2
DIO6958	20V 3A 800KHz, Synchronous DC Buck Converter, Small Package	4.5-20	140	Adj	3
DIO6970	24V 2A 500KHz, Synchronous DC Buck Converter	4.5-24	140	Adj	2
DIO6971	24V 3A 500KHz, Synchronous DC Buck Converter	4.5-24	140	Adj	3
DIO62560B	5V 0.6A 1.5MHz, Synchronous DC Buck Converter	2.5-5.5	40	Adj	0.6
DIO6002	5V 1.2A 1.5MHz, Synchronous DC Buck Converter, Small Package	2.5-5.5	40	Adj	1.2
DIO6001	5V/1A, 1.5MHz, Synchronous DC Buck Converter	2.5-5.5	40	Adj	1
DIO6100/B		2.5-5.5	40	Adj	1
DIO6507		2.5-5.9	40	Adj	1
DIO6010		2.5-5.5	40	Adj	1

VFB (V)	Fsw (MHz)	MOSFET(H/L) (mΩ)	Enable	Control Mode	Feature	Package	Cross Reference
0.8	0.5	130/90	H	COT PWM	OCP/OTP/SCP	SOT23-6	AOZ1282L ETA2845
0.6	0.5	130/90	H	COT PWM	OCP/OTP/SCP	SOT23-6	TPS54202 SY8201
0.8	0.5	130/90	H	COT PWM	OCP/OTP/SCP	SOT23-6	MP2451 LM2842
0.8	0.5	120/75	H	COT PWM	OCP/OTP/SCP	TSOT23-6	
0.6	0.5	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	TPS54302
0.765	0.5	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	
0.765	0.7	120/75	H	COT PWM	OCP/OTP/SCP	TSOT23-6	TPS562208 TPS562209
0.765	0.7	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	TPS563208 TPS563209
0.6	0.5	130/90	H	COT PWM	OCP/OTP/SCP	SOT23-6	SY8120
0.6	0.5	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	SY8113
0.765	0.5	120/75	H(1.5V)	COT PWM	OCP/OTP/SCP	TSOT23-6	TPS562200 TPS562201
0.765	0.5	120/75	H(0.8V)	COT PWM	OCP/OTP/SCP	TSOT23-6	
0.765	0.7	120/70	H	COT PWM PSM	OCP/OTP/SCP	TSOT23-6	TPS562200 TPS562201
0.6	0.5	130/90	H	COT PWM	OCP/OTP/SCP	DFN2*2-6	
0.765	0.5	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	TPS56339 TPS563200
0.765	0.7	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	TPS563200 TPS563201
0,8	0.5	130/65	H	COT PWM	OCP/OTP/SCP	SOT-563	MP1652,MP1657
0,8	0.8	63/36	H	COT PWM	OCP/OTP/SCP/QOD	SOT-563	MP1653, MP1658
0.8	0.5	120/75	H	COT PWM	OCP/OTP/SCP	TSOT23-6	MP1470
0.8	0.5	80/40	H	COT PWM	OCP/OTP/SCP	TSOT23-6	MP1471
0.6	1.5	230/170	H	PWM	OTP/SCP	DFN2*2-6	
0.6	1.5	230/170	H	PWM	OTP/SCP	SOT23-5	SY8088CAAC
0.6	1.5	230/170	H	PWM	OTP/SCP	SOT23-5 DFN2*2-6	SY8008 TLV62568
0.6	1.5	230/170	H	PWM	OTP/SCP	SOT23-5 DFN2*2-6	SY8008
0.6	1.5	230/170	H	PWM	OTP/SCP	DFN1.6*1.6-6	RP507K
0.6	1.5	230/170	H	PWM	OTP/SCP	SOT23-5 DFN2*2-6	PAM2305,RT8010A TLV62568,LM3671 SGM6013

DC Switching Buck Converter

Part number	Description	Supply Voltage Vin (V)	Quiescent Current Iq (uA)	Output Voltage (V)	Iout (A)
DIO6015B	5V 1.5A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	1.5
DIO6012	5V 2A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	2
DIO6012B		2.7-5.5	80	Adj	2
DIO6022		2.7-5.5	80	Adj	2
DIO6905		2.7-5.5	80	Adj	2
DIO6905	5V 2A 1.8MHz, Synchronous DC Buck Converter	2.3-5.5	15	Adj	2
DIO6905B	5V 2A 1.8MHz, Synchronous DC Buck Converter	2.3-5.5	15	Adj	2
DIO6905C	5V 2A 1.65MHz, Synchronous DC Buck Converter	2.3-5.5	15	Adj	2
DIO6905E	5V 2A 1.8MHz, Synchronous DC Buck Converter	2.3-5.5	15	Adj	2
DIO6023	5V 2.5A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	2.5
DIO6083	5V 3.5A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	3.5
DIO6083B	5V 3.5A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	3.5
DIO6073	3-way Power Management Chip with 36V Buck & 18V Boost	8.2-36	500	3.3	0.5
		0.75-6		3.24	0.5
		3.3		2.55	0.07
DIO6063	5V 3.5A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	3.5
DIO6013	5V 3A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	3
DIO6047	5V 4A 1MHz, Synchronous DC Buck Converter	2.7-5.5	80	Adj	4
DIO6145	5.5V 6A 1.2MHz, Synchronous DC Buck Converter	2.8-5.5	40	Adj	6
DIO6690	5.5V 2A 1.8MHz, Synchronous DC Buck Converter	2.3-5.5	30	Adj	2

Li-ion Battery Protection IC

Part number	Description	Battery Voltage (V)	Operating Current IOP (uA)	Battery Under Voltage Threshold VUV (V)	Over-Charge Voltage Threshold VOV (V)
DIO7110	Ultra-small Packaged Li-ion Battery Overcharge/ Overdischarge Protection IC, Built-in MOSFET	0-5.5	1.3	2.4-3	4.2-4.55
DIO7111		0-5.5	1.3	2.4-3	4.2-4.55

VFB (V)	Fsw (MHz)	MOSFET(H/L) (mΩ)	Enable	Control Mode	Feature	Package	Cross Reference
0.6	1	180/120	H	PWM	OTP/SCP	SOT23-5	SY8009A TLV62566
0.6	1	100/80	H	PWM	OTP/SCP/OVP	SOT23-5 SOT23-6	SY8009BEBBC SY8009CAAC
0.6	1	100/80	H	PWM	OTP/SCP/OVP	SOT23-5 SOT23-6 DFN2*2-8	SY8009B
0.6	1	130/100	H	PWM	OTP/SCP/OVP	SOIC-8	SY8082
0.6	1.8	120/80	H	COT/PWM	OCP/OTP SCP/QOD	SOT563	MP1605C
0.6	1.8	120/80	H	COT/PWM	OCP/OTP SCP/QOD/PG	SOT563 DFN2*2-8	SY8892E,RT5760A(B) TLV62569P,TLV62084
0.6	1.8	120/80	H	COT/PWM	OCP/OTP SCP/QOD/PG	SOT563	SY8892E,RT5760A(B) TLV62569P,TLV62084
0.6	1.8	120/80	H	COT/PWM	OCP/OTP SCP/QOD/PG	SOT563 DFN2*2-8	SY8892E
0.6	1	100/70	H	PWM	OTP/SCP/OVP	SOT23-6	SY8032E
0.6	1	100/70	H	PWM	OTP/SCP/OVP	DFN2*2-8	SY8003 RT5797A
0.6	1	100/70	H	PWM	OTP/SCP/OVP	DFN2*2-8	SY8003
-	0.63	600/330	H	PWM/PFM	OVP/OTP	EP-SOIC8 QFN3*4-24	ETA9073
0.8	1	-	H				
-	-	-	H				
0.6	1	90/70	H	PWM	OCP/SCP OVP/OTP	DFN3*3-10	SY8063
0.6	1	100/70	H	PWM	OCP/SCP OVP/OTP	SOIC-8	SY8083 TPS5432
0.6	1	100/70	H	PWM	OCP/SCP OVP/OTP	QFN3*3-16	SY8047
0.6	1.2	20/12	H	COT/PWM /PFM	OCP/OTP SCP/QOD	DFN2*3-12	MP2145
0.6	1.8	120/80	H	COT/PFM	OCP/OTP SCP/QOD	DFN2*1.5-8	MT6690

Pass Resistance RP(mΩ)	Over-Discharge Current Iod (A)	Discharge Short-Circuit Current Isc (A)	Features	Package	Cross Reference
56	A/B:1.33 C/D:0.66	2*Iod/3*Iod	OVP/UVLO/OTP/SCP	DFN1.5*2-6	SGM41100
56	A/B:1.33 C/D:0.66	2*Iod/3*Iod	OVP/UVLO/OTP/SCP	DFN2*2-6	XB6096IS

Li-ion Battery Linear Charging IC

Part number	Description	Supply Voltage (V)	Charging terminated IBAT (DONE) (uA)	Charge current (Max) (A)	Absolute Max (V)	Vin (Max) (V)	OVP Threshold (V)
DIO5030	36V High Withstand Voltage, 600mA Linear Charging IC, JEITA Specification Compliant, No Charge T>45°C	4.45-6.3	6	0.6	36	32	6.5
DIO5050	30V High Withstand Voltage, 1A Linear Charging IC, JEITA Specification Compliant, No Charge T>50°C	4.45-6.3	1	0.6	30	28	6.6
DIO5060A	28V High Withstand Voltage, 600mA Linear Charging IC, Supports Power Path, JEITA Specification Compliant, No Charge T>45°C	4.35-6.5	50	0.6	28	25	6.5
DIO5060B	28V High Withstand Voltage, 600mA Linear Charging IC, Supports Power Path, JEITA Specification Compliant, No Charge T>45	4.35-6.5	50	0.6	28	25	6.5
DIO5081	36V High Withstand Voltage, 600mA Linear Charging IC, JEITA Specification Compliant, No Charge T>45°C	4.6-6.5	1	0.6	36	32	6.7
DIO5090C	36V High Withstand Voltage, 600mA Linear Charging IC, JEITA Specification Compliant, No Charge T>55°C	4.45-6.3	1	1	36	32	6.5
DIO5090X	36V High Withstand Voltage, 1A Linear Charging IC, JEITA Specification Compliant, No Charge A:T>50°C B/D:T>45°C	4.45-6.3	1	1	36	32	6.5
DIO5508	1A Linear Charging IC	4.5-5.5	136	1	10	-	6
DIO5508A		4.5-5.5	136	1	10	-	5.86
DIO5508B	600mA Linear Charging IC	4.5-5.5	136	0.6	10	-	6
DIO5508H		4.5-5.5	136	0.6	10	-	6
DIO5508CD10	800mA Linear Charging IC	4.5-5.5	136	0.8	10	-	6
DIO5508CCD10		4.65-5.5	136	0.8	10	-	6.2
DIO5509	250mA Linear Charging IC	4.5-5.5 B:4.65-5.5 C:4.7-5.5	80	0.25	10	-	6
DIO5509H	100mA Linear Charging IC	4.5-5.5 B:4.65-5.5 C:4.7-5.5	80	0.1	10	-	6
DIO5518B	500mA Linear Charging IC	4.5-5.5	130	0.5	10	-	6
DIO5518C	750mA Linear Charging IC	4.65-5.5	130	0.75	10	-	6.2
DIO5518D	300mA Linear Charging IC	4.5-5.5	130	0.3	10	-	6
DIO5518E		4.5-5.5	130	0.3	10	-	6
DIO5519		4.5-5.5	136	0.3	10	-	6
DIO5519B		4.5-5.5	136	0.3	10	-	6
DIO5538	100mA Linear Charging IC	4.5-5.5	100	0.1	10	-	6
DIO5538B		4.5-5.5	100	0.1	10	-	6
DIO5538C		4.5-5.5	100	0.1	10	-	6
DIO5538D		4.5-5.5	100	0.1	10	-	6
DIO5538BCN8		4.5-5.5	100	0.1	10	-	6
DIO5538CST5		4.65-5.5	100	0.1	10	-	6
DIO5840A	36V High Withstand Voltage, 1A Linear Charging IC, JEITA Specification Compliant, No Charge T>50°C	4.45-6.3	1	1	36	24	6.5

Battery Regulation voltage (V)	Recharge Threshold (V)	Trickle Threshold (V)	Control interface	NTC Terminal	Charge Mode	Features	Package	Cross Reference
4.2	4.05	2.5	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	SOT23-6	
4.2	4.05	2.5	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	DQFN1.8*1.4-10	
A420:4.2 A440:4.4 A445:4.45	A420:4.05 A440:4.25 A445:4.3	2.5	VIN	N	TC/CC/CV	OVP/OTP/SC/PG	DFN2*2-10	
B420:4.2 B440:4.4 B445:4.45	B420:4.05 B440:4.25 B445:4.3	2.5	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN2*2-10	
4.35	4.2	2.56	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	DQFN1.8*1.4-10	
4.2	4.05	2.5	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	EP-MSOP10	
4.2	4.25	2.5	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	EP-MSOP10	
4.2	4.05	2.9	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	EP-SOIC8 EP-MSOP8	CN3152
4.1	3.95	2.83	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	EP-SOIC8 EP-MSOP8	
4.2	4.05	2.9	VIN	N	TC/CC/CV	OVP/OTP/SC/PG	SOT23-6 DFN2*2-6	TP4057
4.2	4.05	2.9	IO	Y	TC/CC/CV	OVP/OTP/SCP/PG	DFN2*2-8	
4.2	4.05	2.9	IO	Y	TC/CC/CV	OVP/OTP/SCP/PG	DFN3*3-10	
4.35	4.2	2.6	IO	Y	TC/CC/CV	OVP/OTP/SCP/PG	DFN3*3-10	
4.2 B:4.35 C:4.4	4.05 B:4.2 C:4.25	2.5	VIN	N	TC/CC/CV	OVP/OTP/SC/PG	DFN1*1-6	HP4059
H:4.2 HB:4.35 HC:4.4	H:4.05 HB:4.2 HC:4.25	2.5	VIN	N	TC/CC/CV	OVP/OTP/SC/PG	DFN1*1-6	
4.2	4.05	2.9	VIN	N	TC/CC/CV	OVP/OTP/SCP/PG	SOT23-5	LTC4054 BL4054B-4.2 TP4054
4.35	4.2	2.6	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN2*2-6	
4.2	4.05	2.9	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN2*2-6	WS4518D
4.2	4.05	2.9	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	SOT23-5	WS4518E
4.2	4.05	2.5	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN1.2*1.2-6	
4.35	4.2	2.5	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN1.2*1.2-6	
4.2	4.05	2.9	VIN	N	TC/CC/CV	OVP/OTP/SC/PG	SOT23-5	LTC4054L
4.2	4.05	2.9	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN1.8*2-6	
4.35	4.2	2.9	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN1.8*2-6	
4.4	4.25	2.9	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN1.8*2-6	
4.2	4.05	2.9	IO	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN2*2-8	
4.4	4.25	2.5	VIN	N	TC/CC/CV	OVP/OTP/SC/PG	SOT23-5	
4.2	4.05	2.5	VIN	Y	TC/CC/CV	OVP/OTP/SC/PG	DFN2*2-10	BQ24040

Li-ion Battery Linear Charging IC

Part number	Description	Supply Voltage (V)	Charging terminated IBAT (DONE) (uA)	Charge current (Max) (A)	Absolute Max (V)	Vin (Max) (V)	OVP Threshold (V)
DIO5840B/D	36V High Withstand Voltage, 1A Linear Charging IC, JEITA Specification Compliant, No Charge T>45°C	4.45-6.3	1	1	36	24	6.5
DIO5840J	36V High Withstand Voltage, 1A Linear Charging IC, JEITA Specification Compliant, No Charge T>55°C	4.45-6.25	1	1	36	32	6.5
DIO5841J		4.45-6.25	1	1	36	24	6.7
DIO54056	1A Linear Charging IC	4.5-5.5	80	1	36	-	6.4
DIO59073	28V High Withstand Voltage, 1.2A Linear Charging IC	4.35-6.4	1.3	1.2	28	26	6.6
DIO59074		4.35-6.4	1.3	1.2	28	26	10.5
DIO59075		4.35-6.4	1.3	1.2	28	26	6.6
DIO59078		4.35-6.4	1.3	1.2	28	26	6.6
DIO59079		4.35-6.4	1.3	1.2	28	26	6.6
DIO50581A	300mA Linear Charging IC	4.7-5.5	90	0.3	30	-	6.4
DIO50581B		4.7-5.5	90	0.3	30	-	6.4
DIO50581D		4.7-5.5	90	0.3	30	-	6.4
DIO54056A	800mA Linear Charging IC	4.75-5.5	80	0.8	36	-	6.4
DIO54056B		4.75-5.5	80	0.8	36	-	6.4
DIO54056C		4.75-5.5	80	0.8	36	-	6.4
DIO58011	100mA Linear Charging IC	4.5-5.5	82	0.1	36	-	6.4
DIO58011B		4.65-5.5	82	0.1	36	-	6.8
DIO58013	1A Linear Charging IC	4.5-5.5	73.8	1	36	-	6.4
DIO58013B		4.65-5.5	73.8	1	36	-	6.8
DIO58013A		4.5-5.5	73.8	1	36	-	6.4
DIO58056		4.5-5.5	73.8	1	36	-	6.4
DIO58056B		4.65-5.5	73.8	1	36	-	6.6
DIO58056C		4.7-5.5	73.8	1	36	-	6.7
DIO58056D		4.75-5.5	73.8	1	36	-	6.8
DIO58561	100mA Linear Charging IC	4.5-5.5	82	0.1	36	-	6.4
DIO58561B		4.65-5.5	82	0.1	36	-	6.8

Battery Regulation voltage (V)	Recharge Threshold (V)	Trickle Threshold (V)	Control interface	NTC Terminal	Charge Mode	Features	Package	Cross Reference
4.2	4.05	2.5	VIN	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10	
4.2	4.05	2.5	VIN	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10	
4.35	4.2	2.5	VIN	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10	BQ24045
4.2	4.05	2.5	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10 EP-SOIC8	ETA4056 PST4056
4.2	4.1	3	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	QFN3*3-16	BQ24073
4.2	4.1	3	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	QFN3*3-16	
4.2	4.1	3	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	QFN3*3-16	
4.2	4.1	3	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	QFN3*3-16	
4.1	4	3	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	QFN3*3-16	
4.4	4.25	2.5	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10 DFN3*3-10	
4.365	4.215	2.5	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10 DFN3*3-10	
4.2	4.05	2.5	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-10 DFN3*3-10	
4.4	4.25	2.6	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8	
4.35	4.2	2.6	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8	PST4056
4.2	4.05	2.6	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8	PST4056
4.2	4.05	2.5	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN3*3-10	
4.35	4.2	2.6	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN3*3-10	
4.2	4.05	2.5	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN3*3-10	MP2602 LP28013
4.35	4.2	2.6	IO	Y	TC/CC/CV	OVP/OTP SCP/PG	DFN3*3-10	
4.2	4.05	2.5	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN3*3-10	
4.2	4.05	2.5	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8 EP-SOIC8	SGM4056
4.35	4.2	2.6	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8 EP-SOIC8	
4.4	4.25	2.62	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8 EP-SOIC8	
4.45	4.3	2.65	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8 EP-SOIC8	
4.2	4.05	2.5	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8	SGM40561
4.35	4.2	2.6	IO	N	TC/CC/CV	OVP/OTP SCP/PG	DFN2*2-8	

Double Cell Li-ion Battery Switching Charging IC

Part number	Description	Operating Vop(V)	Quiescent Current(uA)	Charge current (Max) (A)
DIO6833A	18V, 2A, Dual Li-ion Battery Synchronous Boost Charging IC	4.375-5.5	200	2
DIO6833B		3.6-5.5	200	2
DIO6833C	18V, 2A, Dual Li-ion Battery Synchronous Boost Charging IC, Judged as TUP and OTP by Voltage Comparison	4.375-5.5	200	2
DIO6833E		3.6-5.5	200	2
DIO6833F		4.375-5.5	200	2

Single Cell Li-ion Battery Switching Charging IC

Part number	Description	Supply Voltage (V)	Current in high impedance (uA)	Charge current (Max) (A)	Battery charge voltage VOREG (V)
DIO59015	1.5A Switch Charging IC, Supports OTG Function, I2C Control	4-6	5	1.5	4.2-4.4
DIO59016		4-6	5	1.5	4.2-4.4
DIO59020	2A Switch Charging IC, Supports OTG Function, I2C Control	4-6	12	2	4.2-4.4
DIO59110X	1.5A Switch Charging IC, Supports OTG Function, I2C Control	4-6	12	1.5	A:4.2 B:4.3 C:4.35 D:4.4
DIO59111X	1.5A Switch Charging IC	4-6	12	1.5	A:4.2 B:4.3 C:4.35 D:4.4
DIO59120X	2A Switch Charging IC, Supports OTG Function	4-6	12	2	A:4.2 B:4.3 C:4.35 D:4.4
DIO59121X	1.5A Switch Charging IC	4-6	12	2	A:4.2 B:4.3 C:4.35 D:4.4
DIO5908	1.5A Switch Charging IC, Supports Power Path, & JEITA Specification Compliant	4.5-5.5	5	1.5	4.2
DIO5908B		4.5-5.5	5	1.5	4.35
DIO5918A5		4.5-5.5	5	1.5	420CN20: 4.2 435CN20: 4.35 440CN20: 4.4
DIO5918A0	0.5A Switch Charging IC, Supports Power Path, & JEITA Specification Compliant	4.5-5.5	5	0.7	420CN20: 4.2 435CN20: 4.35 440CN20: 4.4
DIO5918B5	1.5A Switch Charging IC, Supports Power Path, & JEITA Specification Compliant	4.5-5.5	5	1.5	420CN20: 4.2 435CN20: 4.35 440CN20: 4.4
DIO5918B0	0.5A Switch Charging IC, Supports Power Path, & JEITA Specification Compliant	4.5-5.5	5	0.5	420CN20: 4.2 435CN20: 4.35 440CN20: 4.4

Battery charge voltage VCV(V)	Recharge Threshold(V)	Trickle Threshold(V)	Fsw(MHz)	Control interface	Features	Package	Cross Reference
8.4/8.7	VCV-0.2	5.6	1	IO	OVP/OTP SCP/STAT	QFN3*3-16	
8.4/8.7	VCV-0.2	5.6	1	IO	OVP/OTP SCP/STAT	QFN3*3-16	
8.4/8.7	VCV-0.2	5.6	1	IO	OVP/OTP SCP/STAT	QFN3*3-16	SY6982C
8.4/8.7	VCV-0.2	5.6	1	IO	OVP/OTP SCP/STAT	QFN3*3-16	SY6982E
8.4	VCV-0.4	5.6	1	IO	OVP/OTP SCP/STAT	QFN3*3-16	SY6982F

The battery charger chip is a chip that can charge and control a wide range of batteries. It can charge single and dual lithium batteries and any product that uses Li-ion batteries. The main parameters of the charger IC include charging efficiency, temperature rise, maximum charging current, availability of software configuration, NTC, overvoltage protection, and package size.

Recharge Threshold (V)	Trickle Threshold (V)	Fsw (MHz)	Control interface	Features	Package	Cross Reference
VOREG-(0.05~0.2)	2	2	IIC	OTG/OVP/SCP/OTP	TQFN3*3-16, DFN3*3-12	
VOREG-(0.05~0.2)	2	2	IIC	OTG/OVP/SCP/OTP	TQFN3*3-16, DFN3*3-12	
VOREG-(0.05~0.2)	2	1.5	IIC	OTG/OVP/SCP/OTP	DFN3*3-12	
A:4.1 B:4.2 C:4.25 D:4.3	2	2	IO	OTG/OVP/SCP/OTP/PG	DFN3*3-12	
A:4.1 B:4.2 C:4.25 D:4.3	2	2	IO	OTG/OVP/SCP/OTP/PG	DFN3*3-12	
A:4.1 B:4.2 C:4.25 D:4.3	2	1.5	IO	OTG/OVP/SCP/OTP/PG	DFN3*3-12	
A:4.1 B:4.2 C:4.25 4:.3	2	1.5	IO	OTG/OVP/SCP/OTP/PG	DFN3*3-12	
4.05	2.5	0.5	IO	OTG/OVP/SCP/OTP	EP-SOIC8	
4.2	2.5	0.5	IO	OTG/OVP/SCP/OTP	EP-SOIC8	
420CN20: 4.2 435CN20: 4.35 440CN20:4.4	2.5	0.5	IO	OTP/OVP/SCP/OTP	QFN3*3-20	
420CN20:4.05 435CN20:4.2 440CN20:4.25	2.5	0.5	IO	OTG/OVP/SCP/OTP	QFN3*3-20	
420CN20:4.05 435CN20:4.2 440CN20:4.25	2.5	0.5	IO	OTG/OVP/SCP/OTP	QFN3*3-20	
420CN20:4.05 435CN20:4.2 440CN20:4.25	2.5	0.5	IO	OTG/OVP/SCP/OTP/PG	QFN3*3-20	

Low Dropout Linear Voltage Regulators

Part number	Description	Input Voltage Vin (V)	Quiescent Current Iq(μA)	Output Voltage (V)	VFB (V)	Vd(mV)
DIO7708A	30V 300mA, Low Power Linear Voltage Regulator, Supports Adjustable Output Voltage & Fixed Output Voltage	2.5-30	4	ADJ: 1.2-5 FIX: 1.2-3.3	1.2	240
DIO7708B		2.5-30	4	ADJ: 1.2-5 FIX: 1.2-3.3	1.2	240
DIO7708X390	15V 300mA Low Power Linear Voltage Regulator, Fixed Output Voltage 3.9V	2.5-15	3	FIX:3.9	-	150
DIO7708X400	15V 300mA Low Power Linear Voltage Regulator, Fixed Output Voltage 4V	2.5-15	3	FIX:4	-	260
DIO7708X420	15V 300mA Low Power Linear Voltage Regulator, Fixed Output Voltage 4.2V	2.5-15	3	FIX:4.2	-	150
DIO7709	30V 300mA, Low Power Linear Voltage Regulator, Fixed Output Voltage	2.5-30	4	FIX:1.2-3.3	-	240
DIO7709330A	30V 300mA Low Power Linear Voltage Regulator, Fixed Output Voltage 3.3V	2.5-30	4	FIX:3.3	-	260
DIO78XX	30V 300mA Low Power Linear Voltage Regulator	2.5-30	30	ADJ: 5-24V FIX: 9/12/15/28/24V	1.2	240
DIO7805	30V 300mA, Low Power Linear Voltage Regulator, Fixed Output Voltage 5.0V	2.5-30	4	FIX:5	-	240
DIO7758	5V 300mA Low Power Linear Voltage Regulator	1.6-5.5	25	ADJ: 0.8 V-3.3 V	-	140
DIO7982	5V 150mA, Ultra-Low Power 0.5μA Linear Voltage Regulator	1.8-5.5	0.5	FIX:1.2-3.6	-	170
DIO7964	5V 120mA, Three Terminal Linear Voltage Regulator	4.5-5.5	137	1.0/1.8/3.3	-	
DIO7910	300mA, Ultra-Low Noise, Low Power Linear Voltage Regulator	1.6-5.5	25	FIX:0.8-3.3	-	140
DIO7960	250mA, Ultra-Low Noise, Low Power Linear Voltage Regulator	1.65-5.5	18	FIX:1-3.3	-	100
DIO7961	450mA, Ultra-Low Noise, Low Power Linear Voltage Regulator	1.65-5.5	18	FIX:1-3.3	-	180

LDO is a low dropout linear regulator that reduces a known voltage linearly to the desired DC voltage. The main parameters of LDO include voltage accuracy, voltage drop, ripple, power factor, dynamic response, package size, etc. The LDO is suitable for small currents and low-efficiency requirements compared to DC switching type buck converters.

I _{out} (max) (A)	PSRR (dB@1kHz)	Line Regulation (mV)	Load Regulation (mV)	Output Voltage Noise (uVrms)	Accuracy	Features	Package	Cross Reference
0.3	60	10	10	36	±2%	OCP/ OTP/QOD	TSOT23-5 SOT23-5 DFN2*2-6	NCP718A
0.3	60	10	10	36	±2%	OCP/OTP	TSOT23-5 SOT23-5 DFN2*2-6	NCP718B
0.3	60	10	10	36	±2%	OCP/OTP	SOT89-3 SOT23-5	
0.3	60	10	10	36	±2%	OCP/OTP	SOT89-3 SOT23-5	
0.3	60	10	10	36	±2%	OCP/OTP	SOT89-3 SOT23-5	
0.3	60	10	10	36	±2%	OCP/OTP	SOT89-3 SOT23-5 DFN2*2-6	SGM2200 HT75XX
0.3	60	5	10	36	±1%	OCP/OTP	SOT23-5	TPS70933DBVR
0.15	60	0.04%	0.25%	36	±2%	OCP/OTP/ QOD	TO252-3 SOT89-3 DFN2*2-6 SOT23-5 SOIC-8	MC78L00
0.3	60	10	10	36	±2%	OCP/OTP	TO252-3 SOT89-3 DFN2*2-6	TPS70950DRV1T
0.3	75	0.02%/V	40	70	±1%	OCP/ OTP/QOD	DFN2*2-6	
0.15	57	0.012%/V	8	85	±1%	OTP/QOD	DFN1*1-4 SOT23-5 DFN0.8*0.8-4	NCP170
0.12*3		1%	0.20%		±2%	OCP/OTP	EP-MSOP-8 EP-SOIC-8	
0.3	80	0.02%/V	30	70	±1%	OCP/OTP QOD	DFN1*1-4 SOT23-5 DFN0.8*0.8-4	WL2836, NCP114,SGM203 TPS732XX, TLV702XX, TPS7A05,ETA5053,WR 0332,WL2810,WL2820
250	98	0.2	0.001 (CSP,DFN) 0.005 (SOT23)	10	±1%	OCP/OTP QOD	WLCSP-4 DFN-4	NCP160
450	98	0.2	0.001 (CSP,DFN) 0.005 (SOT23)	10	±1%	OCP/OTP QOD	WLCSP-4 DFN-4 SOT23-5	NCP161

Load Switch

Part number	Description	Input Voltage Vin (V)	Quiescent Current Iq (uA)	Iout (A)
DIO1266	Overvoltage Protection Load Switch	2.5-40	80	3
DIO1280	30V Overvoltage Protection IC, Built-in 100V Surge Absorber Tube	2.5-25	80	3
DIO1280B		2.5-25	80	3
DIO1280C		2.5-25	80	3
DIO1281		2.5-25	58	3
DIO1286		2.5-20	80	3
DIO7002A	5.5V 2.5A 70 mΩ, Overcurrent Protection IC	2.7-5.5	60	1
DIO7002B		2.7-5.5	60	1
DIO7003HA/LA	5.5V 2.0A 75 mΩ, Overcurrent Protection IC, Fixed Current	2.7-5.5	50	0.35
DIO7003HB/LB		2.7-5.5	50	0.7
DIO7003HC/LC		2.7-5.5	50	1
DIO7003HD/LD		2.7-5.5	50	1.5
DIO7003HE/LE		2.7-5.5	50	2
DIO7004HA/LA	5.5V 2.0A 75 mΩ, Overcurrent Protection IC, Fixed Current, Built-in Output Discharge Resistor, Short-circuit Current Foldback Function	2.7-5.5	50	0.35
DIO7004HB/LB		2.7-5.5	50	0.7
DIO7004HC/LC		2.7-5.5	50	1
DIO7004HD/LD		2.7-5.5	50	1.5
DIO7004HE/LE		2.7-5.5	50	2
DIO7004NHA/LA	5.5V 2.0A 75 mΩ, Overcurrent Protection IC, Fixed Current, Short-circuit Current Foldback Function	2.7-5.5	50	0.35
DIO7004NHB/LB		2.7-5.5	50	0.7
DIO7004NHC/LC		2.7-5.5	50	1
DIO7004NHD/LD		2.7-5.5	50	1.5
DIO7004NHE/LE		2.7-5.5	50	2
DIO7305	Overvoltage and Overcurrent Protection IC	3-30	128	1.5
DIO7005HA/LA	5.5V 2.0A 75 mΩ, Overcurrent Protection IC	2.7-5.5	50	0.35
DIO7005LB/LB		2.7-5.5	50	0.7
DIO7005HC/LC		2.7-5.5	50	1

Load switches can effectively control and protect against short circuiting or faults under specific conditions, such as overcurrent, overvoltage, etc. The main parameters of a load switch are equivalent impedance, response time, capacitive voltage/current, and package size. The main types of load switch products are overvoltage protection switch, overcurrent protection switch, and general purpose switch.

Enable	Rds (mΩ)	Features	Package	Cross Reference
L	30	OVP/OTP/PG	WLCSP1.3*1.8-12	FPF2280, AW3290X, KTS1680C SGM40666, SGM40654
L	30	OVP/OTP/PG	WLCSP1.3*1.8-12	FPF2280
L	30	OVP/OTP/PG	WLCSP1.3*1.8-12	FPF2280,AW32905
L	30	OVP/OTP/PG	WLCSP1.3*1.8-12	BD6047GUL
L	20	OVP/OTP/PG	WLCSP1.3*1.8-12	FPF2281
L	30	OVP/OTP/PG	WLCSP1.3*1.8-12	FPF2280
H	70	OCP/OTP/RCB	SOT23-5	SY6280,MT9700
L	70	OCP/OTP/RCB	SOT23-5	SY6280
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	TPS2061(5), AP2161, AP2171 RT9742GN, RT9742HN
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	TPS2068, TPS2069, RT9742EN, RT9742FN
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	RT9742CN, RT9742DN
H/L	75	OCP/OTP/RCB/PG/QOD	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	
H/L	75	OCP/OTP/RCB/PG/QOD	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	
H/L	75	OCP/OTP/RCB/PG/QOD	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	AP2171, RT9742GG RT9742HG, TPS2065D
H/L	75	OCP/OTP/RCB/PG/QOD	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	TPS2069D, RT9742EG RT9742FG
H/L	75	OCP/OTP/RCB/PG/QOD	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	SY6288C(D), RT9742CG RT9742DG
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EPMSOP08/MSOP-8	
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	TPS2061(5), AP2161, AP2171 RT9742GN, RT9742HN
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	TPS2068, TPS2069 RT9742EN, RT9742FN
H/L	75	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	RT9742CN, RT9742DN
H	110	OVP/OCP/OTP/PG	DFN2*2-8	LP5305
H/L	75	OCP/OTP/RCB	SOT23-5	
H/L	75	OCP/OTP/RCB	SOT23-5	
H/L	75	OCP/OTP/RCB	SOT23-5	

Load Switch

Part number	Description	Input Voltage Vin (V)	Quiescent Current Iq (uA)	Iout (A)
DIO7005HD/LD	5.5V 2.0A 75 mΩ, Overcurrent Protection IC	2.7-5.5	50	1.5
DIO7005HE/LE		2.7-5.5	50	2
DIO7164HA/LA	5.5V 2.0A 75 mΩ, Overcurrent Protection IC, Fixed Current	2.7-5.5	50	0.35
DIO7164HB/LB		2.7-5.5	50	0.7
DIO7164HC/LC		2.7-5.5	50	1
DIO7164HD/LD		2.7-5.5	50	1.5
DIO7195B	5.5V 2.5A 55 mΩ, Overcurrent Protection IC	1.8-5.5	75	2.5
DIO7300	5.5V 2.0A 60 mΩ, Load Switch	1.8-5.5	100	2
DIO7301	5.5V 2.0A 48 mΩ, Load Switch	1.8-5.5	100	2
DIO7301B		1.8-5.5	100	2
DIO7330	5.5V 2.4A 40 mΩ, Load Switch	1.8-5.5	100	2.4
DIO7330B		1.8-5.5	100	2.4
DIO7527A	5.5V 1.0A 70 mΩ, Overcurrent Protection IC	2.7-5.5	70	1
DIO7527B		2.7-5.5	70	1
DIO7527C		2.7-5.5	70	1
DIO7527D		2.7-5.5	70	1
DIO7552	5.5V 2.5A 70 mΩ, Overcurrent Protection IC	2.7-5.5	70	2.5
DIO7553		2.7-5.5	70	2.5
DIO7552B		4.75-5.5	70	2.5
DIO7553B		4.75-5.5	70	2.5
DIO7231	5.5V 0.3A 135 mΩ, Overcurrent Protection IC	2.7-5.5	50	0.275
DIO7231B		2.7-5.5	50	0.15
DIO7063A	5.5V 0.9A 75 mΩ, Overcurrent Protection IC, Fixed Current	2.7-5.5	50	0.9
DIO7063B		2.7-5.5	50	0.9
DIO7963	5V 0.2A Overcurrent Protection Switch +5V 170mA LDO	4.5-5.5		0.385
DIO7929	5.5V 2A 60 mΩ, Convertible Rate Control Load Switch	1.8-5.5	100	2
DIO7929B	5.5V 2A 45 mΩ, Convertible Rate Control Load Switch	1.8-5.5	100	2

Enable	Rds (mΩ)	Features	Package	Cross Reference
H/L	75	OCP/OTP/RCB	SOT23-5	
H/L	75	OCP/OTP/RCB	SOT23-5	
H/L	75	OCP/OTP/RCB/PG	SOT23-5	
H/L	75	OCP/OTP/RCB/PG	SOT23-5	
H/L	75	OCP/OTP/RCB/PG	SOT23-5	
H/L	75	OCP/OTP/RCB/PG	SOT23-5	AIC6164
H	55	OVP/OCP/OTP/RCB/PG	WLCSP0.98*1.48-6	FPF2195, TPS22980
H	60	RCB	SOT23-5	
H	48	RCB	SOT23-5	DIO7300
H	48	RCB/QOD	SOT23-5	
H	40	RCB	DFN1.2*1.6-4	NCP330
H	40	RCB	DFN1.2*1.6-4	NCP330
H	70	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	G527
H	70	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	G527
H	70	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	G527
H	70	OCP/OTP/RCB/PG	SOT23-5/SOIC-8 EP-MSOP8/MSOP-8	G527
L	70	OTP/RCB/PG	SOT23-6/DFN2*2-6	TPS2552, NCP380L
H	70	OTP/RCB/PG	SOT23-6/DFN2*2-6	TPS2553, NCP380H
L	70	OTP/RCB/PG/QOD	SOT23-6/DFN2*2-6	TPS2552, NCP380L
H	70	OTP/RCB/PG/QOD	SOT23-6/DFN2*2-6	TPS2553, NCP380H
N/A	136	OCP/OTP/RCB	SOT23	
N/A	136	OCP/OTP/RCB/QOD	SOT23	AP2331
H	75	OCP/OTP/RCB/PG	SOT23-5/MSOP-8	SY6288A1
L	75	OCP/OTP/RCB/PG	SOT23-5/MSOP-8	SY6288B
H	400	OCP/OTP/RCB	EP-SOIC-8	
H	60	RCB/QOD	SOT23-6	AOZ1320CI
H	45	RCB/QOD	SOT23-6	AOZ1320CI

Load Switch

Part number	Description	Input Voltage Vin (V)	Quiescent Current Iq (uA)	Iout (A)
DIO7290	5V 1.5A, Low Power Consumption Load Switch, Ultra-small Package, Built-in EN Pull-down Resistor	1.2-5.5	0.031	2
DIO7290B	5V 1.5A, Low Power Load Switch, Ultra-small Package	1.2-5.5	0.031	1.5
DIO7291	5V 1.5A, Low Power Consumption Load Switch, Ultra-small Package, Built-in EN Pull-down Resistor	1.2-5.5	0.014	1.5
DIO7296	5V 0.5A, Low Power Load Switch, Ultra-small Package	1.0-5.5	0.03	0.5
DIO7297		1.2-5.5	0.03	0.5
DIO7298	3.6V, 2A, Low Power Load Switch, Ultra-small Package	1.0-3.6	0.04	2
DIO7299	5V 2A, Low Power Load Switch, Ultra-small Package	1.2-5.5	0.031	2
DIO7320	Two Channel 5V, 2.4A Per Channel, 40 mΩ, Load switch - can be used in parallel with two channels	1.8-5.5	100	3
DIO7320B	Two Channels 5V, 3.0A Per Channel, 28 mΩ, Load Switch, Built-in Discharge Resistor - can be used in parallel with two channels.	1.8-5.5	100	3
DIO7610A	5.5V 6A 13 mΩ, Load Switch	0.8-5.5	28	6
DIO7610B		0.8-5.5	28	6

Reset IC

Part number	Description	Supply voltage (V)	Iq (Typ)(uA)	Reset Threshold VRES(V)	VCC to RST Delay (us)
DIO706	Low Power Reset IC with Watchdog	1.15-5.5	52	4.4 J:4.0 T:3.08 S:2.93 R/P:2.63	23
DIO6803	Low Power Reset IC with Open-Drain Output	1.0-5.5	8	R:2.63 S:2.93	23
DIO6805	Low Power Reset IC, Push-Pull Output	1.0-5.5	8	L:4.63 M:4.38 J:4.0 T:3.08 S:2.93 R:2.63 Z:2.32	23
DIO6811	Low Power Reset IC, Push-Pull Output, with Manual Reset	1.0-5.5	8		23
DIO6812	Low Power Reset IC, Push-Pull Output, with Manual Reset	1.0-5.5	8		23
DIO6813	Low Power Reset IC, Open-Drain Output, with Manual Reset	1.0-5.5	8		23
DIO6818	Low Power Reset IC with Open-Drain Output	1.0-5.5	8	T:3.08 S:2.93 R:2.63	23
DIO6821	Double Button Input Reset IC, Open Collector Output	1.6-6.5	0.01	-	150
DIO6821C		1.6-6.5	0.01	-	150
DIO6822		1.6-6.5	0.01	-	150
DIO6820		1.6-6.5	0.01	-	150

Enable	Rds (mΩ)	Features	Package	Cross Reference
H	48	QOD	WLCSP0.76*0.76-4	TPS22916
H	48	QOD	WLCSP0.76*0.76-4	NCP333,AW35124
H	46	N/A	WLCSP0.76*0.76-4	AW35127
H	45	QOD	WLCSP0.9*0.9-4	TPS22902,TPS22906
H	47	QOD	WLCSP0.9*0.9-4	TPS22906
H	40	QOD	WLCSP0.9*0.9-4	TPS22906, SGM2578
H	36	QOD	WLCSP0.9*0.9-4	TPS22913, NCP334, SGM2578
H	28	RCB	EP-SOIC4.9*6-8	
H	28	RCB/QOD	EP-SOIC4.9*6-8	
H	13	OTP/QOD	DFN2*2-8	TPS22965, APL3526, SGM2256A
L	13	OTP/QOD	DFN2*2-8	APL3526B

The reset IC chip can reset the main chip automatically and manually. The reset chip is used to restore the circuit to normal in case of software failure or operation.

RESET active	Hvres(V)	Output driver type/reset output	Reset Pulse Width TRES (ms)	Watchdog timeout period Twd (s)	WDI Pulse Width Twp (ns)	Package	Cross Reference
L/H (DIO706P)	0.01VRES	Active low push-pull	200	1.6	50	SOIC-8	MAX706
L	0.03VRES	OD	240	-	-	SOT23 SOT23-3	SGM803,TLV803
L	0.03VRES	Active low push-pull	25	-	-	SOT23	
L	-	Active low push-pull	240	-	-	SOT143-4 SOT23-5	MAX812, SGM812
H	-	Active high push-pull	240	-	-	SOT143-4 SOT23-5	MAX812, SGM812
L	-	OD	240	-	-	SOT143-4 SOT23-3 SOT23-3L	
L	0.05VRES	Active high OD	240	-	-	DFN1.45*1-6 DFN0.8*0.8-4 SOT23-6	RT9818
L	-	OD	400	-	-	DFN1.45*1-6, DFN1*1-6	TPS3421
L	-	OD	80	-	-	DFN1.45*1-6, DFN1*1-6	TPS3421
L	-	OD	400	-	-	DFN1.45*1-6, DFN0.8*0.8-4, DFN1*1-6	TPS3422
L	-	OD	-	-	-	DFN1.45*1-6, DFN1*1-6	TPS3420

Voltage Detection IC

Part number	Description	Supply voltage (V)	Iq (Typ) (uA)	RTH Threshold Voltage VRTH(V)
DIO302	Low Power Consumption Voltage Detection IC	1.9-6	8.8	1.211
DIO302A		1.9-6	8.8	1.211

MOSFET Driver

Part number	Description	Supply voltage(V)	Vin Max (V)	Output Current Max (A)
DIO5110	12V 3A MOSFET Driver	5.5-13.2	35	3
DIO5105	15V 3A MOSFET Driver	3-15	40	3
DIO5100	12V 3A MOSFET Driver	5.5-13.2	35	3

LED Flash Driver

Part number	Description	Supply voltage (V)	Iq (Typ) (mA)	Topology
DIO5180	1.5A Boost Dual Flash Driver, 2MHz, Supports Dimming Function	3.0-5.0	0.35	Boost
DIO5644	Dual Color Temperature 1.5A Booster Flash Driver, 2MHz/4MHz, Support I2C Dimming Function	2.7 -5.5	0.3	Boost
DIO5151	1A Buck/Boost Charge Pump LED Flash Driver	3.0 -5.5	0.3	Buck, Boost Charge Pump
DIO5151B	1A Buck/Boost Charge Pump LED Flash Driver	3.0 -5.5	0.3	Buck, Boost Charge Pump
DIO5183	1.5A Boost Dual Flash Driver, 2MHz, Supports Dimming Function	3.0-5.0	0.35	Boost

FTH Threshold Voltage VFTH(V)	Detection accuracy (%)	Output driver type/reset output	Package	Cross Reference
1.211	±2%	Active low and high/push-pull	SOT23-6	
1.211	±1%	Active low and high/push-pull	SOT23-6	

A MOSFET driver is applied to high power MOS as an auxiliary driver. The main parameters of a MOSFET driver such as support for operating voltage, output current capacity, whether to support the dead time adjustment, and package size are required for products such as electronic cigarettes, scanners, and wireless charging.

Number of Outputs	Topology	Rise Time Typ (ns)	Fall Time Typ (ns)	Dead Time Max (ns)	Package	Cross reference
2	Half-Bridge	20	20	40	SOIC-8 DNF3*3-8 DNF2*2.2-8	ADP3110
2	Half-Bridge	20	15	Set by resistor	MSOP-10	FD2105
2	Half-Bridge	20	20	Set by resistor	DNF3*3-10 MSOP-10	

As the technical requirements for cameras continue to grow, the requirements for flash control becoming increasingly subdivided and detailed. The main parameters are maximum flash current, maximum continuous current, subdivision function, package size, etc.

Vout (Max) (V)	Iout (Max) (A)	Frequency (kHz)	Peak efficiency (%)	Feature	Package	Cross reference
5.3	0.75*2	2000	90	600ms Flash Timing	DNF3*2-14L	SGM3780,SGM3781 SY7803,OCP8132
5.4	1.5*2	4000	87	Dual Color Temperature Independent Control	WLCSP-12	LM3644,LM3643 LM3643A,OCP8137 AW3644,AW36414 AL3644,SY7806
5.5	1	2000	90	240ms flash timing	DNF3*3-10 DFN2*2-8	AW3641 OCP8111
5.5	1	2000	90	240ms flash timing	DNF3*3-10 DFN2*2-8	AW3641 OCP8111
5.3	0.75*2	2000	90	600ms flash timing	DFN-3*2-14	SGM3780,SGM3781 SY7803, OCP8132

Motor Driver

Part number	Description	Supply voltage(V)	Number of full bridge	Peak output current (A)
DIO5833	15V, 1A, Dual H-Bridge Motor Driver with Current Regulation	2.7-15	2	1

LED Backlighting Driver

Part number	Description	Supply voltage (V)	Topology	Vout (V)
DIO5361H	42V Boost Backlighting Driver, Supports One Line 32 Levels Dimming	2.8-5.5	Boost	42
DIO5322	40V Boost Backlighting Driver with PWM Dimming Support	2.7-5.5	Boost	40
DIO5661	37V Boost Backlighting Driver with PWM Dimming Support	2.7-5.5	Boost	37
DIO5662		2.7-5.5	Boost	37
DIO5632	Dual Output Positive and Negative Voltage LCD Driver, Supports I2C Control	2.5-5.5	Boost, Charge pump	-
DIO5638	Dual Output Positive and Negative Voltage LCD Driver, Supports I2C Control	2.7-5.5	Boost, Charge pump	-
DIO5613	Three-Way Output Positive and Negative Voltage AMOLED Driver, Supporting One-Line Control	2.9-4.5	Boost, Invert	-
DIO56132	Three-Way Output Positive and Negative Voltage AMOLED Driver, Supporting One-Line Control	2.9-4.5	Boost, Invert	-
DIO56133	Three-Way Output Positive and Negative Voltage AMOLED Driver, Supporting One-Line Control	2.9-4.5	Boost, Invert	-
DIO5718	28V 2A Synchronous Buck Backlighting Driver, Supports Analog/PWM Dimming	4.5-28	Buck	-
DIO57180	28V 1.5A Synchronous Buck Backlighting Driver, Supports Analog/PWM Dimming	4.75-28	Buck	-
DIO53701	28V 2A Synchronous Buck Backlighting Driver, Supports Analog Dimming	4.2-28	Buck	-

Analog Switches

Part number	Description	Supply voltage (V)	Icc Quiescent Current (Typ) (μA)	Configuration
DIO3476	1:4 (0.8Ω) Hi-Fi Audio Switch with Two Negative Swing and USB2.0 Signal Processing Capability	1.65-5.5	18	QPDT
DIO3202B	USB 2.0 High Speed and Audio Switch with Negative Signal Transfer Capability	2.7-5.5	95	DPDT

Sleep current (uA)	Control mode	RDS(ON) (HS + LS) (mOhms)	Package	Cross reference
1.6	PWM	850	EP-TSSOP16 QFN3*3-16	DRV8833C AT8833

As an auxiliary light source, the LED backlighting driver is a power driver for LED, portable product displays, and infrared lighting. The main parameters of LED backlighting driver are support power, maximum voltage, dimming level, package size, etc.

Reference Voltage (mV)	Peak efficiency (%)	Switching frequency (Max)(kHz)	Brightness Control	Package	Cross reference
200	-	850	One Wire	DFN2*2-6	TPS61161
300	90	1100	PWM	SOT23-6	SGM3720 SY7310 BIT3269
200	86	1100	PWM	SOT23-6 TSOT23-6 DFN2*2-6	11SGM3733B AW9962
300	86	1100	PWM	SOT23-6 TSOT23-6 DFN2*2-6	SGM3733B AW9962
-	85	1000(charge pump) 1800(BOOST)	I2C	WLCSP-15	TPS65132 RT4801 SM5109
-	85	1000(charge pump) 1500(BOOST)	I2C	WLCSP-15	TPS65132 RT4801 SM5109
-	92	1600	One Wire	TQFN-16	TPS65651
-	-	1600	One Wire	TQFN-16	TPS65632
-	90	1600	One Wire	TQFN-16	TPS65633
100	93	1000	Analog/PWM	TSOT23-6 DFN2*1.5-6	SY8718
100	93	800	Analog/PWM	TSOT23-6 DFN2*1.5-6	
100	93	1000	Analog	DFN1.5*2-6	

Analog switches are mainly used to connect or disconnect signals in electronic devices. Analog switches have the advantages of low power consumption, high speed, no mechanical contact, small size, and long service life. As a result, they are widely used in automatic control systems and computers. The main parameters of analog switches are switching speed, parasitic capacitance, drive capacity, package size, etc.

Number of Switches	Channels	Ron (Typ) (Ohms)	Con (Typ) (pF)	-3dB Bandwidth (MHz)	Package	Cross reference
4	USB UART Audio	0.8	20	600	QFN 2*3-18	
2	Audio USB	2 4	9 5	720	DQFN-10	

Analog Switches

Part number	Description	Supply voltage (V)	Icc Quiescent Current (Typ) (μA)	Configuration
DIO3203	1:3 USB 2.0/Audio/UART Double Pole Triple Throw Ultra-High Speed switch with Negative Signal Transfer Capability	2.7-5.5	72	DP3T
DIO3303	1:3 USB 2.0 High Speed Single pole Triple throw High Speed Switch	2.7-4.4	60	DP3T
DIO4480	Type-C Signal/Audio High-Speed Changeover Switch	2.7-5.5	4	SPDT DPDT
DIO4481	Type-C Signal/Audio High-Speed Changeover Switch	2.7-5.5	4	SPDT DPDT
DIO4483	Type-C Signal/Audio High-Speed Changeover Switch	2.7-5.5	4	SPDT DPDT
DIO3000	USB 2.0 High Speed and Mobile High Definition Link (MHL) (5.8GHz) Switch	2.3-5.5	1	DPDT
DIO3212	USB 2.0 Double Pole Double Throw Switch	2.3-5.0	30	DPDT
DIO32020	USB 2.0, Audio Switch with Negative Signal Transfer Capability	2.7-5.5	18	DPDT
DIO3480A	DP/DM Double Pole and Double Throw Switch + Adjustable Comparator Overvoltage Protection	2.3-5.5	30	DPDT
DIO3402	USB 2.0 High Voltage Double Pole and Double Throw High Speed Switch with 20V Withstand Voltage	2.3-5.5	25	DPDT
DIO5000		2.3-5.5	25	DPDT
DIO5008	DP/DM Dual SPDT Switch with 20V Overvoltage Protection	2.3-5.5	26	DPDT
DIO32220	USB 2.0 Double Pole Double Throw High Speed Switch	2.7-5.5	1	DPDT
DIO32320		2.7-5.5	1	DPDT
DIO32321		2.7-5.5	1	DPDT
DIO32210	USB2.0 Low Power, USB Double Pole Single Throw High Speed Switch	2.7V-5.5	1	DPST
DIO3350	USB 3.1 Super-Speed Data Switch, 10 Gbps	1.5-5.0	21	QPDT
DIO3340	USB 3.1 Super-Speed Data Switch, 10 Gbps	1.5-5.0	21	QPDT

Number of Switches	Channels	Ron (Typ) (Ohms)	Con (Typ) (pF)	-3dB Bandwidth (MHz)	Package	Cross reference
2	Audio USB	1.6 3.5	6.8	720	TQFN-16 DQFN-12	FSA806
2	USB	3.5	6.8	720	DQFN-12	
5	Audio USB	1.2 4.6	8	900 1000	WLCSP-25	FSA4480 ET7480
5	Audio USB	1.2 4.6	8	900 1000	WLCSP-25	FSA4480 ET7480
5	Audio USB UART	1.2 4.6 15.1	8	800 950 800	WLCSP-25	
2	USB	5.7	1.4	5800	QFN-10	TS3USB3000
2	USB	5	5	1000	QFN-10 DFN-10 MSOP10	TS3USB221 PI3USB221
2	Audio USB	0.8 3.8	7	1100	DQFN-10 QFN-10 MSOP-12	FSA221 FSA321 TS5USBA224
2	USB	5.5	4	1200	WLCSP-24	
2	USB	5.2	4.3	1500	WLCSP-12	MAX14743 KTU1001
2	USB	5.5	4.5	1500	QFN2*1.5-10 DQFN1.8*1.4-10	PI3USB4000
2	USB	5.5	4.5	1500	DFN2*1.5-10 DQFN1.8*1.4-10	
2	USB	6	3	RL=50Ω, CL=0pF:2000 RL=50Ω, CL=5pF:720	MSOP-10 DQFN-10 QFN-10	TS3USB30 NLAS7222A/B FSUSB30 SGM7228
2	USB	6	3	RL=50Ω, CL=0pF:2000 RL=50Ω, CL=5pF:720	MSOP-10 DQFN-10	FSUSB42 SGM7227
2	USB	6	3	RL=50Ω, CL=0pF:2000 RL=50Ω, CL=5pF:720	DFN1.6*1.2-8	
2	USB	6	3	RL=50Ω, CL=0pF:2000 RL=50Ω, CL=5pF:720	QFN1.5*1.5-8	
4	USB	6	0.45	11000	QFN2.6*1.8-16 QFN2*2-18 QFN2.5*4.5-20	HD3SS3202 HD3SS3212 PI3DBS12212 TC7PC13212
4	USB	6	0.45	11000	QFN2*2-18 QFN 2*3-18	FUSB340

Analog Switches

Part number	Description	Supply voltage (V)	Icc Quiescent Current (Typ) (μA)	Configuration
DIO3340B	USB 3.1 Super-Speed Data Switch, 10 Gbps	1.5-5.0	21	QPDT
DIO1005	75MHz, Single Pole Double Throw Analog Switch	1.8-4.3	5	SPDT
DIO1268		1.6-4.2	0.5	SPDT
DIO1523		1.8-4.2	0.5	SPDT
DIO3166	100MHz, Single Pole and Throw Analog Switch	1.65-5.5	0.01	SPST
DIO1159B	100MHz, Single Pole Double Throw Analog Switch	1.65-5.5	0.01	SPDT
DIO1159C		1.65-5.5	0.01	SPDT
DIO1159E		1.65-5.5	0.01	SPDT
DIO1510	140MHz, Single Pole Double Throw Analog Switch with Negative Signal Transmission Capability	1.8-5.5	0.146	SPDT
DIO1466	170MHz, Double Pole Double Throw Analog Switch with Negative Signal Transmission Capability	1.65-5.25	0.1	DPDT
DIO1269	180MHz, Single Pole Double Throw Audio Switch with Negative Signal Transmission Capability	2.7-5.25	32	SPDT
DIO1713	200MHz, Single Pole and Throw Analog Switch	1.8-5.5	0.001	SPST
DIO1567	Dual-SIM, eSIM, Single Pole Double Throw Analog Switch	1.6-4.5	0.005	SPDT
DIO1568	Dual-SIM, eSIM, Single Pole Double Throw Analog Switch	1.6-4.5	0.005	SPDT
DIO1500	300MHz, Four Pole Single Throw Depletion Type Audio Switch	0-3.0	50	QPST
DIO1717	300MHz, Single Pole Double Throw Analog Switch with Negative Signal Transmission Capability	2.5-5.5	0.1	SPDT
DIO3712	300MHz, Single Pole Double Throw Analog Switch with Overvoltage Protection	1.8-5.5	5	SPDT
DIO3713	300MHz, Single Pole Double Throw Analog Switch with Overvoltage Protection	1.8-5.5	5	SPDT
DIO1520	300MHz, Single Pole Double Throw Analog Switch	1.65-5.5	0.02	SPDT
DIO1520B	300MHz, Single Pole Double Throw Analog Switch	1.65-5.5	0.02	SPDT
DIO1553	340MHz, Single Pole Single Throw Depletion Type Audio Switch	0-4.3	50	SPST
DIO1553B	340MHz, Single Pole Single Throw Depletion Type Audio Switch	0-4.3	50	SPST
DIO3157E	>300MHz, Enhanced Low Voltage Single Pole Double Throw Analog Switch with Power-On and Power-Off Protection	1.65-5.5	0.1	SPDT
DIO17170	383MHz, Single Pole Double Throw Analog Switch with Negative Signal Transmission Capability	1.8-5.5	0.025	SPDT

Number of Switches	Channels	Ron (Typ) (Ohms)	Con (Typ) (pF)	-3dB Bandwidth (MHz)	Package	Cross reference
4	USB	6	0.45	11000	QFN 2*3-18	FUSB340
2	Data	0.75	106	75	DFN3*3-10 MSOP-10	SGM3005
2	Data	0.75	106	75	DQFN-10 QFN-10	FSA2268
2	Data	0.75	106	75	DQFN-10	
1	Data	1	49	100	SC70-5 SOT23-5	TS5A3166, PI5A121 7SB385, NC7SZ66M5X
1	Data	1	49	100	SOT23-6 SC70-6 DFN1.6*1.6-6 DFN1.8*2-6 DFN1.45*1-6 DFN1.5*1-6	
1	Data	1	49	100	DFN1*1-6	SN74LV1G66DSF
1	Data	1	49	100	DFN1.45*1-6	FSA5157L6X
1	Data Audio	0.4	-	140	SC70-6	
4	Data Audio	2.7	16	170	DQFN-16 TQFN3*3-16 QFN2.5*2.5-16	FSA2466, PI3A412 TS3A44159, SGM44599
2	Data Audio	1	120	180	DQFN-10	FSA2269
4	Data Audio	2.5	22	200	SOIC-16 TSSOP-16	ADG713
4	Data SIM	2.7 0.65	10 100	200 37	DQFN-16 TQFN-16	FSA2567
4	Data SIM	2.7 0.65	10 100	200 37	DQFN-16 TQFN-16	FSA2567
4	Data Audio	0.5	-	300	WLCSP-12	FSA550
2	Data	2.8	24	300	DQFN-10 MSOP-10	SGM3717
2	Data	4.5	10	300	DQFN-10 MSOP-10	PI3A223
2	Data	4.5	10	300	DQFN-10	PI3A223
2	Data	0.7	-	300	DQFN-10	
1	Data	0.7	-	300	DQFN-10	
2	Audio	0.6	21	340	WLCSP-9	FSA553
2	Audio	0.35	21	340	WLCSP-9	FSA553
1	Data	10	16	350	SC70-6 SOT23-6	
2	Audio	2	-	383	DQFN-10	

Analog Switches

Part number	Description	Supply voltage (V)	Icc Quiescent Current (Typ) (μA)	Configuration
DIO1166	350MHz, Single Pole Single Throw Analog Switch with Overvoltage Protection	1.65-5.5	0.1	SPST
DIO32276	550MHz, Double Pole and Throw Audio Switch	1.65-5.5	20	DPDT
DIO1646	2.5GHz, Ten Single Pole Double Throw MIPI Switches	1.65-5	45	SPDT
DIO1647	3.5GHz, Ten Single Pole Double Throw MIPI Switches	1.65-5	25	SPDT
DIO1649	3.5GHz, Ten Single Pole Double Throw MIPI Switches	1.65-5	17	SPDT
DIO1628	6GHz, Triple Pole Double Throw MIPI Switch	1.65-5.5	17	TPDT
DIO1634	6GHz, Triple Pole Double Throw MIPI Switch	1.65-5	25	SPDT
DIO1642	4GHz, Triple Pole Double Throw MIPI Switch	1.65-5.5	17	TPDT

Operational Amplifiers

Part number	Description	supply voltage(V)	Iq per channel (Typ)(uA)	Channels
DIO2051A	0.55MHz, 16uA, Rail-to-Rail CMOS Operational Amplifier	1.8-5.5	16	1
DIO32051	0.5MHz, 24uA, Rail-to-Rail CMOS Operational Amplifier	1.8-5.5	24	1
DIO32051A		1.8-5.5	24	1
DIO32052		1.8-5.5	24	2
DIO32054		1.8-5.5	24	4
DIO32358	1.4MHz, 60μA, Rail-to-Rail I/O CMOS Amplifier	2.0-5.5	60	2
DIO3581	1.4MHz, 60uA, Rail-to-Rail CMOS Operational Amplifier	2.0-5.5	60	1
DIO3582		2.0-5.5	60	2
DIO3584		2.0-5.5	60	4
DIO20721	10MHz, 620uA, Rail-to-Rail CMOS Operational Amplifier	2.5-5.5	620	1
DIO20721D		2.5-5.5	620	1
DIO20722		2.5-5.5	620	2
DIO20724		2.5-5.5	620	4
DIO2644	130MHz,Low Power,Super-Speed Rail-to-Rail CMOS Operational Amplifier	2.7-13.2	7000	4

Number of Switches	Channels	Ron (Typ) (Ohms)	Con (Typ) (pF)	-3dB Bandwidth (MHz)	Package	Cross reference
1	Data	10	16	350	SC70-5	TS5A3166 PI5A121 7SB385 NC7SZ66M5X
2	Audio	0.8	10	550	DQFN1.8*1.8-12	FSA2276
10	MIPI	5.5	1.6	2500	WLCSP-36	TS5MP646 FSA646
10	MIPI	7.5	1.5	3500	WLCSP-36	TS5MP646 FSA646
10	MIPI	6.5	1.5	3500	WLCSP-36	TS5MP646 FSA646
6	MIPI	10	4	6000	LGA1.7*2.4-24	PI3WVR628
10	MIPI	7.5	1.5	6000	WLCSP-36	FSA634
6	MIPI	10	4	4000	QFN3.4*2.5-24	FS642 WAS4642

Operational amplifiers, a very important device for SiFi, are used to continuously detect and amplify weak signals such as temperature, humidity, pressure, length, current, voltage, gas, and temperature and transmit them to the system. According to the application requirements, operational amplifiers can be divided into general operational amplifiers, high-speed operational amplifiers, low-power operational amplifiers, high-voltage operational amplifiers, and high-precision operational amplifiers.

GBW (Typ)(MHz)	Slew rate (Typ)(V/us)	Rail-to-rail	Vos @ 25 °C (Max)(mV)	Input bias current (+/-)(Typ) (pA)	Package	Cross reference
0.55	0.32	In, Out	3.5	0.5	SOT23-5	TLV9041, OPA347 TP6001U
0.5	0.29	In, Out	3	5	SOT23-5 SC70-5	TLV9041, OPA347 TLV9001
0.5	0.29	In, Out	3	5	DFN-4	TLV9041, OPA347 TLV9001
0.5	0.29	In, Out	3	5	SOIC-8 MSOP-8	TLV9042, OPA2347, TLV9002
0.5	0.29	In, Out	3	5	SOIC-14 TSSOP-14	TLV2764, TLV9044, TLV9004
1.4	0.6	In, Out	6	5	SOIC-8 MSOP-8	TLV6002, LMV612 LMV358, OPA2348
1.4	0.6	In, Out	3	5	SOT23-5 SC70-5	LMV321, TLV6001 LMV611, OPA348
1.4	0.6	In, Out	3	5	SOIC-8 MSOP-8 DFN2*2-8	TLV6002, LMV612 LMV358, OPA2348
1.4	0.6	In, Out	3	5	SOIC-14 TSSOP-14	LMV324, TLV6004 LMV612, OPA4348
10	6.5	In, Out	5	1	SC70-5 SOT23-5	TLV2361, OPA374, MCP6201
10	6.5	In, Out	5	1	SOT23-6	TLV2361, OPA374
10	6.5	In, Out	5	1	SOIC-8 MSOP-8 TSSOP-8 DFN2*2-8 TSOT23-8	SGM8922, TLV2362, OPA2374, LMV716, TLV9062
10	6.5	In, Out	5	1	SOIC-14 TSSOP-14	TLV2634, OPA4374
100	85	In, Out	11	-	SOIC-14 TSSOP-14	LHM6644

Operational Amplifiers

Part number	Description	supply voltage(V)	Iq per channel (Typ)(uA)	Channels
DIO2172	10MHz,583uA, Rail-to-Rail CMOS Operational Amplifier	3.0-5.5	-	2
DIO20221	3MHz, 190uA, Rail-to-Rail CMOS Operational Amplifier	2.5-5.5	190	1
DIO20222		2.5-5.5	190	2
DIO20224		2.5-5.5	190	4
DIO20321	6MHz, 350uA, Rail-to-Rail CMOS Operational Amplifier	2.5-5.5	350	1
DIO20322		2.5-5.5	350	2
DIO20324		2.5-5.5	350	4
DIO2036		2.5-5.5	350	6
DIO8358	1MHz, Rail-to-Rail I/O CMOS Amplifier	2.1-5.5	40	2
DIO2601	3.5MHz, Rail-to-Rail CMOS Operational Amplifier	4.5-36	950	1
DIO2602		4.5-36	950	2
DIO2604		4.5-36	950	4
DIO29001	400kHz, Rail-to-Rail I/O CMOS Amplifier	1.65-5.5	40	1
DIO2351	12uA Detuned Voltage, 1.2MHz Rail-to-Rail CMOS High Precision Operational Amplifier	2.5-5.5	730	1
DIO2352		2.5-5.5	730	2
DIO2354		2.5-5.5	730	4
DIO2361	300kHz Rail-to-Rail CMOS High Precision Operational Amplifier	2.5-5.5	17	1
DIO2362		2.5-5.5	17	2
DIO2364		2.5-5.5	17	4
DIO2372	300kHz Rail-to-Rail CMOS High Precision Operational Amplifier	2.5-5.5	17	2

GBW (Typ)(MHz)	Slew rate (Typ)(V/us)	Rail-to-rail	Vos @ 25 °C (Max)(mV)	Input bias current (+/-)(Typ) (pA)	Package	Cross reference
10	7	In, Out	0.8	1	SOT23-8	TLV9062IPWR
3	1.7	In, Out	5	1	SC70-5 SOT23-5	SGM8621
3	1.7	In, Out	5	1	MSOP-8 SOIC-8	SGM8622
3	1.7	In, Out	5	1	SOIC-14 TSSOP-14	SGM8624
6	3.6	In, Out	3.5	1	SOT23-5 SOIC-8	SGM8631, LMV821 TLV2361
6	3.6	In, Out	3.5	1	SOIC-8 MSOP-8 TSSOP-8	SGM8632, LMV822 TLV2362
6	3.6	In, Out	3.5	1	SOIC-14 TSSOP-14	SGM8634, LMV824
6	3.6	In, Out	3.5	1	QFN4*4-20	
1	0.6	In, Out	A:3.5 B:8	5	SOIC-8 MSOP-8	OPA2348, OPA2342
3.5	2.5	Out	3.5	10	SOT23-5 SOIC-8	OPA141, SGM8291 TLC071
3.5	2.5	Out	3.5	10	MSOP-8 SOIC-8	OPA2141, SGM8292 TLC072
3.5	2.5	Out	3.5	10	SOIC-14 TSSOP-14	OPA4141, TL3474A SGM8294, TLC074
0.4	0.17	In, Out	1.5	10	DFN0.8*0.8-4	
1.2	1	In, Out	0.03	20	SOT23-5 SOIC-8	AD8551, OPA378
1.2	1	In, Out	0.03	20	SOIC-8 MSOP-8 TSSOP-8	AD8552
1.2	1	In, Out	0.03	20	TSSOP-14	AD8554
0.3	0.16	In, Out	0.04 A:0.01 B:0.02 M:0.065	1	SC70-5 SOT23-5 SOIC-8 MSOP-8	OPA333, TLV333, OPA317 OPA330, OPA378
0.3	0.16	In, Out		1	DFN2*2-8 DFN3*3-8 SOIC-8 MSOP-8	TLV2333, OPA2333, OPA2317, OPA2330, OPA2378
0.3	0.16	In, Out	0.65	1	SOP-14 TSSOP-14	TLV4333, OPA4317 OPA4330
0.3	0.16	In, Out	0.028	1	MSOP-8	TLV2333, OPA2333, OPA2317 OPA2330, OPA2378

Operational Amplifiers

Part number	Description	supply voltage(V)	Iq per channel (Typ)(uA)	Channels
DIO20381	380nA Rail-to-Rail Input/Output CMOS Operational Amplifier	1.4-5.5	0.38	1
DIO20381D		1.4-5.5	0.38	1
DIO20382		1.4-5.5	0.38	2
DIO20384		1.4-5.5	0.38	4
DIO20881	600nA Rail-to-Rail Input/Output CMOS Operational Amplifier	1.4-5.5	0.6	1
DIO20881D		1.4-5.5	0.6	1
DIO20882		1.4-5.5	0.6	2
DIO20884		1.4-5.5	0.6	4
DIO20991	60uV Ultra-low Distortion Voltage, Low Power Amplifier	1.8-5.5	7	1
DIO20491	4uA Rail-to-Rail Input/Output CMOS Operational Amplifier	1.8-5.5	4	1
DIO20921	4uA Rail-to-Rail Input/Output CMOS Operational Amplifier	1.8-5.5	4	1
DIO20921D		1.8-5.5	4	1
DIO20922		1.8-5.5	4	2
DIO20924		1.8-5.5	4	4
DIO2361L	110kHz, 7uA, Operational Amplifier	1.8-5.5	7	1
DIO2362L		1.8-5.5	7	2
DIO2364L		1.8-5.5	7	4
DIO2362H		1.8-5.5	17	2

GBW (Typ)(MHz)	Slew rate (Typ)(V/us)	Rail-to-rail	Vos @ 25 °C (Max)(mV)	Input bias current (+/-)(Typ) (pA)	Package	Cross reference
0.005	0.0015	In, Out	3	1	SOT23-5 SOIC-8 MSOP-8	SGM8141, TLV8801 LPV801, TLV379
0.005	0.0015	In, Out	3	1	SOT23-6 SOIC-8 MSOP-8	SGM8141, TLV379
0.005	0.0015	In, Out	3	1	SOIC-8 MSOP-8	SGM8142, TLV8802, LPV802 TLV2369, TLV2379, TLV522
0.005	0.0015	In, Out	3	1	SOP-14 TSSOP-14	TLV4379
0.014	0.0035	In, Out	3.5	1	SOT23-5 SOIC-8 MSOP-8	MCP6041, TP2111 TP2121
0.014	0.0035	In, Out	3.5	1	SOT23-6 SOIC-8 MSOP-8	MCP6043, TP2111N TP2121N
0.014	0.0035	In, Out	3.5	1	SOIC-8 MSOP-8	MCP6042, TLV2369, TLV522 TP2112, TP2122
0.014	0.0035	In, Out	3.5	1	SOP-14 TSSOP-14	MCP6044, TP2114 TP2124
0.11	0.08	In, Out	0.06	50	DFN1.2*1.2- 6	
0.15	0.07	In, Out	0.85	1	SOT23-5 DFN2*2-6	SGM8049-1, TLV379, LMP2231, OPA379, OPA336
0.15	0.07	In, Out	5	1	SOT23-5 SOIC-8 MSOP-8	SGM8521, TP1511, LMP2231, TLV379, TLV379, LPV321-N
0.15	0.07	In, Out	5	1	SOT23-6 SOIC-8 MSOP-8 DFN2*2-6	
0.15	0.07	In, Out	5	1	SOIC-8 MSOP-8	SGM8522, TP1512, LMP2232 TLV2379, LPV358-N
0.15	0.07	In, Out	5	1	SOP-14 TSSOP-14	SGM8524, TP1514, LMP2234 TLV4379, LPV324-N
0.11	0.08	In, Out	0.04 A:0.01 B:0.02 M:0.065	1	SC70-5 SOT23-5 SOIC-8 MSOP-8	MCP6V11, OPA333, TLV333 OPA317, OPA330, OPA378
0.11	0.08	In, Out		1	DFN2*2-8 DFN3*3-8 SOIC-8 MSOP-8	MCP6V12, TLV2333, OPA2333 OPA2317, OPA2330, OPA2378
0.11	0.08	In, Out		1	DFN3*2-14 SOP-14 TSSOP-14	MCP6V14, TLV4333, OPA4317, OPA4330
0.3	0.16	In, Out	0.035	1	DFN2*2-8	

Operational Amplifiers

Part number	Description	supply voltage(V)	Iq per channel (Typ)(uA)	Channels
DIO2331	30kHz Rail-to-Rail CMOS High Precision Operational Amplifier	1.8-5.5	1	1
DIO2331D		1.8-5.5	1	1
DIO2333		1.8-5.5	1	1
DIO2332		1.8-5.5	1	2
DIO2334		1.8-5.5	1	4
DIO2331B		1.8-5.5V	1	1
DIO2332B		1.8-5.5V	1	2
DIO2333B		1.8-5.5V	1	1
DIO2334B		1.8-5.5V	1	4
DIO2701	6MHz,High Voltage Rail-to-Rail Output Operational Amplifier	4.5-36	1400	1
DIO2702		4.5-36	1400	2
DIO2704		4.5-36	1400	4

High Precision Operational Amplifier

Part number	Description	supply voltage(V)	Iq per channel (Typ)(uA)	Channels
DIO2352XE	Ultra-low Offset Voltage, 2.5kHz, Rail-to-Rail-CMOS High Precision Amplifier, Fixed Gain	2.5-5.5	730	1
DIO2352A	High precision, 2.5kHz, Rail-to-Rail, CMOS Operational Amplifier	2.5-5.5	730	1
DIO2352B		2.5-5.5	730	1
DIO2388A	High-side/Low-side Detection, Voltage Based Output, Zero Temperature Drift, High Precision Current-Sensing Operational Amplifier	2.7-26	65	1
DIO2388B		2.7-26	65	1
DIO2399A	Voltage Output, High or Low Voltage Side Measurement, Bi-Directional Zero Drift Series and Parallel Current Monitor	2.7-26	65	1
DIO2399B		2.7-26	65	1

GBW (Typ)(MHz)	Slew rate (Typ)(V/us)	Rail-to-rail	Vos @ 25 °C (Max)(mV)	Input bias current (+/-)(Typ) (pA)	Package	Cross reference
0.03	0.01	In, Out	0.015	1	DFN1.5*1.5-6 SOT23-5 SOIC-8 MSOP-8	MCP6031, OPA349
0.03	0.01	In, Out		1	SOT23-6	
0.03	0.01	In, Out		1	SOIC-8 MSOP-8	MCP6033
0.03	0.01	In, Out		1	SOIC-8 MSOP-8	MCP6032, TLV2369 OPA2349
0.03	0.01	In, Out		1	SOIC-8 MSOP-8 SOIC-14 TSSOP-14	MCP6034
0.03	0.01	In, Out	0.035	1	SOT23-5 SOIC-8 MSOP-8	
0.03	0.01	In, Out		1	MSOP-8 SOIC-8	
0.03	0.01	In, Out		1	MSOP-8 SOIC-8	
0.03	0.01	In, Out		1	TSSOP-14 SOIC-14	
6	20	Out	3.5	10	SOT23-5 SOIC-8	
6	20	Out	3.5	10	SOIC-8 MSOP-8 TSSOP-8	
6	20	Out	3.5	10	TSSOP-14 SOIC-14	

GBW (Typ)(MHz)	Gain Selection(Typ) (V/us)	Rail-to-rail	Vos @ 25 °C (Max)(mV)	Input bias current (+/-) (Typ) (μA)	Package	Cross reference
0.0025	A:50V/V B:100V/V	In, Out	0.07	5	SOIC-8 TSSOP-8 DFN-8	
0.0025	50V/V	In, Out	0.08	5	SOIC-8 TSSOP-8 DFN2*2.2-8	
0.0025	100V/V	In, Out	0.08	5		
0.005	50V/V	In, Out	0.13	28	SC70-6 DQFN-10	
0.005	100V/V	In, Out	0.13	28		
0.005	50V/V	In, Out	0.15	28	SC70-6 thin DQFN-10	INA213
0.005	100V/V	In, Out	0.15	28	SC70-6 thin DQFN-10	INA214

Comparator

Part number	Description	supply voltage(V)	Channels	Output type
DIO20871	CMOS Input, Push-Pull Output Comparator	1.4-5.5	1	Push-pull
DIO20871A		1.4-5.5	1	Push-pull
DIO20872		1.4-5.5	2	Push-pull
DIO20874		1.4-5.5	4	Push-pull
DIO20875		1.4-5.5	1	Push-pull
DIO20891	Micropower CMOS Input RRIO Push-Pull Output ComparatorO	1.4-5.5	1	Push-pull
DIO20892		1.4-5.5	2	Push-pull
DIO20871B	CMOS Input, Open Drain Output Comparator	1.4-5.5	1	Open-drain
DIO20874B		1.4-5.5	4	Open-drain
DIO331	CMOS Input, Open Drain Output Comparator	1.8-5.5	1	Open-drain
DIO393		1.8-5.5	2	Open-drain

Audio Line Driver

Part number	Description	Supply voltage(V)	I _q (Typ) (mA)	Gain (V/V)
DIO2002	2VRMS Gain Adjustable Audio Line Driver	3.0-3.6	12	Adjustable
DIO2112S/H/HA	2VRMS Gain Adjustable Audio Line Driver	3.0-3.6	12/16/16	Adjustable
DIO2112HC	2VRMS or 3VRMS Gain Adjustable Audio Line Driver	3.0-5.5	17	Adjustable
DIO2114B	2VRMS Gain Adjustable Audio Line Driver	3.0-3.6	14	Adjustable
DIO2115	2VRMS Gain Adjustable Audio Line Driver	3.0-3.6	16	Adjustable
DIO2115E	2VRMS Gain Adjustable Audio Line Driver	3.0-5.5	11	Adjustable
DIO2125XM10	2VRMS or 3VRMS Gain Adjustable Audio Line Driver	4.75-5.25	14	Adjustable
DIO2128	2VRMS or 3VRMS Gain Adjustable Audio Line Driver	3.0-5.5	12	Adjustable
DIO2133	3VRMS Gain Adjustable Audio Line Driver	3.0-5.5	12	Adjustable
DIO2134	3VRMS Gain Adjustable Audio Line Driver	4.75-5.25	14	Adjustable
DIO2144	2VRMS Gain Adjustable Audio Line Driver + 2.5W Class D Audio Operational Amplifier	3.0-3.6	14	Adjustable

Comparators are an extension of operational amplifiers that compares two or more data sets to either determine if they are equal or ascertain their magnitude and order. The main parameters of the comparator are speed, static power consumption, and accuracy.

Propagation delay time(μ s)	Vos @ 25 °C (Max)(mV)	Rail-to-rail	Package	Cross reference
1.3	5	In, Out	SOT23-5 SC70-5	SGM8701, TLV3491, LMV7291, TLV1701
1.3	5	In, Out	SOT23-5 SC70-5	LMV331, LMV7271
1.3	5	In, Out	SOIC-8 MSOP-8	TLV3492, TLV7256
1.3	5	In, Out	SOP-14 TSSOP-14	TLV3494
1.3	5	In, Out	SOIC-8 MSOP-8	SGM8704
8	5	In	SC70-5 DFN1*1-6 DFN0.8*0.8-4	TLV3691
8	5	In	DFN1.6*1.2-8	
1.3	5	In, Out	SOT23-5	
1.3	5	In, Out	QFN3*3-16	
0.084	5	In, Out	SOT23-6 SC70-5	LMV331
0.084	5	In, Out	SOIC-8 MSOP-8	LMV393

The audio line driver is an integrated solution for set-top boxes and HD players that reduces BOM costs while optimizing audio driver circuit performance by eliminating discrete peripheral components for noise reduction.

Channels	THD + N @ 1 kHz (Typ)(%)	Small-Signal bandwidth (Typ) (MHz)	Package	Cross reference
2	0.0005	7.2	TSSOP-14	DRV632, SGM89000
2	0.0005	7.2	TSSOP-14 DQFN-16	DRV632, SGM89000
2	0.0005	7.2	TSSOP-14	DRV632,SGM89000
2	0.0005	6.5	TSSOP-14 MSOP-10	SGM8902
2	0.001	8.8	TSSOP-14 DQFN-16	DRV632, SGM89000
2	0.001	7	DQFN-16	
2	0.001	8	EP-MSOP-10	SGM8904, SGM8905 TPF605
2	0.001	7	EP-MSOP-10	SGM8904, SGM8905 TPF605
2	0.001	7	TSSOP-14	DRV603, SGM8903
2	0.001	8	MSOP-10	TPF607
2	0.0005	6.5	TSSOP-20	

Class D Audio Amplifier

Part number	Description	Supply voltage (V)	Iq (Typ) (mA)	Audio input type	Architecture
DIO2140	2.8W Analog Input Class D Audio Amplifier with Variable Gain and Short-Circuit Protection	2.5-5.5	4.6	Analog Input	Class-D

Level Shift

Part number	Description	VCCA (V)	VCCB (V)
DIO74557	SIM Card Interface Level Shifter with EMI Filter and ESD Protection	1.08-1.95	1.65-3.6
DIO74134	1-Bit Unidirectional Voltage Level Shifter	1.0-3.6	1.0-3.6

Video Filter Driver

Part number	Description	Supply voltage(V)	Resolution
DIO2401	Single Channel SD Video Filter	3.135-5.5	SD
DIO2514	Single Channel SD Video Filter	3.135-5.5	SD
DIO2531	Single Channel SD Video Filter	3.135-5.5	SD
DIO2543	Three Channel SD Video Filter	3.135-5.5	SD
DIO2551	Single Channel SD Video Filter	3.135-5.5	SD
DIO2554A	Four Channel SD Video Filter	3.135-5.5	SD
DIO2554G/H	Four Channel SD Video Filter	3.135-5.5	SD
DIO2561	Single Channel SD Video Filter	3.135-5.5	SD
DIO2563	Three Channel HD Video Filter	3.135-5.25	HD
DIO2564	Single Channel SD, Three Channel HD Optional Video Filter	3.135-5.25	SD HD
DIO2564A	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD

Speaker Channel	Load (Min) (ohms)	Output power (W)	SNR (dB)	THD + N @ 1 kHz (%)	Closed/open loop	Package	Cross reference
Mono	4	2.8	97	0.07	Open	DFN-8 MSOP-8	PAM8303D

Applications	Number of bits	Package	Cross reference
SIM Card	3	WLCSP-9 QFN1.8*1.4-10	NVT4557
General	1	SC70-5 DFN1.45*1.0-6 DFN1.0*1.0-6	N74AUP1T34

A video filter is a software component used to decode audio and video. Compared to passive LC filters and separate drivers, video filters provide better image quality and are particularly suitable for standard video signals, such as TV and set-top box.

Channels	Disable	-3dB Bandwidth(MHz)	Package	Cross reference
1	No	11.8	SC70-5 SOIC-8	
1	Yes	11.8	SOT23-6	SGM9114
1	No	9.5	SC70-5 SOIC-8	SGM9113
3	No	9.5	MSOP-8 SOIC-8	FMS6143
1	No	9.5	SC70-5 SOT23-5 SOIC-8	FMS6141 SGM9111
4	No	9.5	MSOP-10	SGM9124
4	No	11	MSOP-10 TSSOP-14	FMS6144A SGM9124
1	No	11.8	SC70-5 SOIC-8	SGM9113
3	No	33	SOIC-8	FMS6363 NCS2563
4	Yes	8.5 34	TSSOP-14	
4	No	8.5 33.6	TSSOP-14	

Video Filter

Part number	Description	Supply voltage(V)	Resolution
DIO2565	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD
DIO2571	Single Channel SD Video Filter	3.135-5.5	SD
DIO2581	Single Channel SD Video Filter	3.135-5.5	SD
DIO2583	Single Channel SD, Single-Channel Enhanced Definition and Single Channel HD Video Filter	4.75-5.25	SD ED HD
DIO2590	Single Channel SD Video Filter	3.135-5.5	SD
DIO2591	Single Channel SD Video Filter	3.135-5.5	SD
DIO2663	Three Channel HD Video Filter	3.135-5.25	HD
DIO2664	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD
DIO2673	Three Channel HD Video Filter	3.135-5.25	HD
DIO2673B	Three Channel HD Video Filter	3.135-5.25	HD
DIO2674	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD
DIO2684	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD
DIO2694	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD
DIO2763	Three Channel HD Video Filter	3.135-5.25	HD
DIO2764	Four Channel SD Video Filter	3.135-5.25	SD Bypass
DIO2774	Single Channel SD, Three Channel HD Video Filter	3.135-5.25	SD HD Bypass

Channels	Disable	-3dB Bandwidth(MHz)	Package	Cross reference
4	No	10.2 35	TSSOP-14	
1	No	11.8	SC70-5 SOIC-8	FMS6141 SGM9111
1	No	11.8	SOT23-6	
3	Yes	10 17 40/60	TSSOP-14	FMS6303
1	Yes	11.8	SC70-6	
1	Yes	11.8	SOT23-6 SC70-6	SGM9121
3	No	35	TSSOP-14	FMS6363, NCS2563
4	No	9 37	TSSOP-14	FMS6364A
3	No	80	EP-SOIC8	
3	Yes	80	EP-MSOP10	
4	No	10 80	TSSOP-14	
4	No	9 37	EP-MSOP-10	SGM9128
4	No	10 80	EP-MSOP-10	SGM9135
3	No	170	SOIC-8	SGM9117
4	Yes	9 200	TSSOP-14	THS7374
4	Yes	10 40 110	TSSOP-14	THS7376

Video Filter + Audio Line Driver Combo Chip

Part number	Description	Supply voltage(V)	Audio Line Driver	
			VRMS (V)	Channels
DZ001	3VRMS Audio Line Driver + Single Channel SD Video Filter + 0.4W Mono Audio Amplifier	3.135-5.5	3	2
DIO2501	2VRMS Audio Line Driver + Single Channel SD Video Filter	3.0-3.6	2	2
DIO2511	2VRMS Audio Line Driver + Single Channel SD Video Filter	3.0-3.6	2	2
DIO2511H	2VRMS Audio Line Driver + Single Channel SD Video Filter	3.135-5.5	3	2
DIO2521	3VRMS Audio Line Driver + Single Channel SD Video Filter	3.0-3.6	2	2
DIO2524	2VRMS Audio Line Driver + Four Channel SD Video Filter	3.135-5.5	2	2
DIO2611H	3VRMS Audio Line Driver + Single Channel SD Video Filter	3.135-5.5	3	2
DIO2614	2VRMS Audio Line Driver + 1 Channel SD 3 Channel HD Video Filter	3.0-3.6	2	2
DIO2621H	3VRMS Audio Line Driver + Single Channel SD Video Filter	3.135-5.5	3	2
DIO2624	2VRMS Audio Line Driver + 1 Channel SD 3 Channel HD Video Filter	3.0-3.6	2	2
DIO2724	2VRMS Audio Line Driver + 1 Channel SD 3 Channel HD Video Filter	3.0-3.6	2	2

APFC Constant Current LED Driver - Flyback Topology

Part Number	Description	Supply voltage(V)	IQ(μA)	VGATE_ CLAMP (V)	THD	Power Factor (>)	Quick Start(ms)
DIO8604S	Single Stage, PFC Flyback, Constant Current LED Controller and Driver with Built-in MOSFET	9.5-27	260	-	<5%	0.95	<500
DIO8650D	Single Stage, PFC Flyback, Constant Current LED Controller and Driver	9.5-27	260	12	<10%	0.95	<500
DIO8650E		9.5-27	260	12	<5%	0.95	<500
DIO8652		9.5-27	260	12	<10%	0.95	<500

APFC Constant Current LED Driver - Buck Topology

Part Number	Description	Supply voltage(V)	IQ(μA)	VGATE_ CLAMP (V)	Power Factor (>)	Start Current (μA)	IVIN_ OVP(mA)
DIO8804	Single Stage, PFC Buck, Constant-Current LED Controller with Built-in MOSFET	9.5-15.4	260	-	0.9	15	2
DIO8850	Single Stage, PFC Buck, Constant Current LED Controller	9.5-27	260	12	0.9	15	2
DIO8850B		9.5-15.4	260	12	0.9	15	2
DIO8852		9.5-27	260	12	0.9	15	2

Video Filter Driver			Package	Cross reference
Channels	Resolution	-3dB Bandwidth(MHz)		
1	SD	11.8	EP-TSSOP20	
1	SD	11.8	SOIC-14	
1	SD	11.8	SOP-16 TSSOP-16	
1	SD	11.8	SOP-16 TSSOP-16	
1	SD	11.8	SOP-16	
4	SD	11	TSSOP-24	
1	SD	11.8	TSSOP-16	
4	SD HD	9 37	TSSOP-24 EP-TSSOP-28	
1	SD	11.8	TSSOP20	
4	SD HD	9 37	TSSOP-24 EP-TSSOP-28	
4	SD HD	10 80	TSSOP-24 EP-TSSOP-28	

The power supply topology for a large portion of the LED lighting market is flyback because it allows electrical isolation between the LED and the AC line, which is a safety requirement for most LED lamps. Key parameters are output power, efficiency, PFC, THD, line regulator, package size, etc.

IVIN_OVP(mA)	FMAX(KHz)	Internal MOSFET	NTC Terminal	Work Mode	Features	Package	Cross reference
2	115	Y	N	QR/Flyback/CC	OVP/OTP SCP/OLP	SOIC-8	
1.75	115	N	N	QR/Flyback/CC	OVP/OTP SCP/OLP	SOT23-6 SOIC-8	SY5830
2	115	N	N	QR/Flyback/CC	OVP/OTP SCP/OLP	SOT23-6 SOIC-8	SY5830
2	115	N	Y	QR/Flyback/CC	OVP/OTP SCP/OLP	SOIC-8	

In a non-isolated LED driver, there is no power transformer nor optocoupler. Non-isolated means that the output terminals are directly electrically connected to the input terminals. This is a low cost LED driver solution. The main parameters are output power, efficiency, PFC, THD, line regulator, package size, etc.

VREF(V)	FMAX(KHz)	Internal MOSFET	NTC Terminal	Work Mode	Features	Package	Cross reference
0.303	115	Y	N	QR/BUCK/CC	OVP/OTP SCP/OLP	SOIC-8	
0.3	115	N	N	QR/BUCK/CC	OVP/OTP SCP/OLP	SOT23-6 SOIC-8	
0.3	115	N	N	QR/BUCK/CC	OVP/OTP SCP/OLP	SOT23-6 SOIC-8	
0.3	125	N	Y	QR/BUCK/CC	OVP/OTP SCP/OLP	SOIC-8	

APFC Constant Voltage LED Driver - Flyback Topology

Part Number	Description	Supply voltage(V)	Operating Current(mA)	VGATE_ CLAMP (V)	THD	Power Factor (>)	Start Current (uA)
DIO8105	Single Stage, PFC Flyback, Constant Voltage LED Controllers and Drivers	9.5-27	1	10	<10%	0.9	10
DIO81052	Single Stage, PFC Flyback, Constant Voltage LED Controllers and Drivers, Built-in MOSFET	9.5-27	1	-	<10%	0.9	10
DIO81054		9.5-27	1	-	<10%	0.9	10

APFC Constant Current LED Driver - Boost Topology

Part Number	Description	Supply voltage(V)	IQ(uA)	IVIN_OVP(mA)	VGATE_ CLAMP (V)	Power Factor (>)	THD
DIO8904B	APFC Constant Current LED Driver, Built-in MOSFET	10-13.6	130	5	-	0.95	<10%
DIO8950	APFC Constant Current LED Driver	10-13.6	130	5	10	0.95	<10%

Constant Current LED Driver - Linear Topology

Part Number	Description	Supply voltage(V)	IQ(uA)	Power Factor (>)	Current Ripple
DIO8450	TRIAC Dimmable, High Efficiency, High Compatibility, Constant Current Linear Driver, with Built-in MOSFET	30-500	240	0.8	-
DIO84512		30-500	240	0.8	<±1%

DCDC Constant Current LED Driver - Buck Topology

Part Number	Description	Supply voltage(V)	IDN(uA)	IOUT(A)	Ron(mΩ)	Dimming Mode
DIO8280	High Efficiency, Up to 80V Input, 400KHz Constant Current LED Driver, Built-in MOSFET	16-80	10	2	200	PWM/ Analog
DIO8280A		16-80	10	2	200	PWM/ Analog
DIO8280L		10-80	10	1	200	PWM/ Analog

Quick Start(ms)	IVIN_OVP(mA)	FMAX(KHz)	Internal MOSFET	NTC Terminal	Work Mode	Features	Package	Cross reference
<500	2.5	105	N	N	Flyback/QR/CV	OCP/OVP OTP/SCP	SOT23-6 SOIC-8	
<500	2.5	105	Y	N	Flyback/QR/CV	OCP/OVP/OTP/ SCP	SOIC-8	
<500	2.5	105	Y	N	Flyback/QR/CV	OCP/OVP/OTP/ SCP	SOIC-8	

VREF(V)	FMAX(KHz)	Internal MOSFET	NTC Terminal	Work Mode	Features	Package	Cross reference
0.153	110	Y	N	DCM/BOOST	OLP/OTP	SOIC-8	
0.153	130	N	N	DCM/BOOST	OLP/OTP	SOIC-8	

VREF(V)	Internal MOSFET	NTC Terminal	Work Mode	Features	Package	Cross reference
0.27	Y	N	CC	OTP	EP-SOIC8	
0.27	Y	N	CC	OTP	EP-SOIC8	

Buck LED drivers are suitable for applications where the input voltage is higher than the LED voltage, such as many automotive or industrial applications. These LED drivers offer the highest efficiency, lowest noise, and simplified peripheral devices. Key parameters are output power, efficiency, minimum dimming, THD, line regulator, package size, etc.

Dimming Step	FMAX(KHz)	Internal MOSFET	NTC Terminal	Work Mode	Features	Package	Cross reference
0.50%	400	Y	N	Buck	OCP/OLP	EP-SOIC8	
0.50%	400	Y	N	Buck	OCP/OLP	EP-SOIC8	
0.50%	400	Y	N	Buck	OCP/OLP	EP-SOIC8	

High Frequency Synchronous Rectifier - SR

Part number	Description	Topology	Supply voltage(V)
DIO82611	High Frequency Synchronous Rectifier Controller	Active Clamp Flyback, QR, DCM, CCM Flyback, LLC	4.0-28
DIO82612		Active Clamp Flyback, QR, DCM, CCM Flyback, LLC	4.0-28
DIO82615		Active Clamp Flyback, QR, DCM, CCM Flyback, LLC	4.0-28
DIO82616		Active Clamp Flyback, QR, DCM, CCM Flyback, LLC	4.0-28

SSR-PWM Flyback Topology - PD Fast Charging

Part Number	Description	Power MOS (V)	Work mode
DIO83466	SSR PWM Flyback CV Series	650V	CCM/DCM
DIO83468		650V	CCM/DCM
DIO8340		External	CCM/DCM

Current Ripple Remover-Universal

Part Number	Description	Supply voltage (V)	Operation Current (mA)	Input Current (max)(mA)	LED Voltage Limit Threshold (V)
DIO8210C	Ripple Remover for 100/200Hz, Universal Type, Built-in MOSFET	10-75	0.25	350	6
DIO8210E		10-30	0.25	350	6
DIO8210H		10-30	0.25	350	6
DIO8232		10-55	0.25	1000	6
DIO8215B		Clamp: 37	0.24	500	4
DIO8221	Ripple Remover for 100/200Hz, Universal Type	Clamp: 37	0.24	-	-
DIO8221B		Clamp: 37	0.24	-	-

The MHz high-frequency synchronous rectifier is suitable for the GaN high-power quick charging applications. It is not only highly compatible with QR and ACF systems, but it also enables highly reliable and differentiated designs with low thermal resistance packages, which helps customers quickly implement smaller size and varied power levels of high-performance USB PD quick charging solutions.

Frequency (Max) (kHz)	UVLO thresholds on/off (V)	Package	Cross reference
1000	4.5/4	TSOT23-6	
800	4.5/4	TSOT23-6	
800	4.5/4	SOIC8 EP-SOIC8	
800	4.5/4	SOIC8 EP-SOIC8	

Frequency (kHz)	Standby power	Power	Supply voltage (V)	Package
65kHz	<50mW	20W	30	SOIC-8
65kHz	<50mW	30W	30	SOIC-8
65kHz	<50mW	>30W	30	SOT23-6

Off Voltage Threshold (V)	VGATE (V)	FRIPPLE (Hz)	Internal MOSFET	Features	Package	Cross reference
9	-	100/120	Y(85V)	SLP/OTP	EP-SOIC8	
9	-	100/120	Y(85V)	SLP/OTP	EP-SOIC8	
9	-	100/120	Y(85V)	SLP/OTP	EP-SOIC8	
6	-	100/120	Y(60V)	SLP/OTP	SO252-5	
11	-	100/120	Y(150V)	SLP/OTP	EP-SOIC8	
-	8	100/120	N	SCP/OTP	SOT23-6	
-	8	100/120	N	SLP/OTP	SOT23-6	

Ripple Remover- Filament

Part Number	Description	Supply voltage (V)	Start Up Current (uA)	Input Current (max)(mA)	LEDN Compare Voltage VREF(V)	Breakdown Voltage (V)
DIO8241	Ripple Remover For 100/200Hz, Filament Lamp Use	<100	1	60	6	100
DIO8241F		<100	1	60	6	100
DIO8241H		<100	1	60	12	100
DIO8241J		<100	1	60	12	100
DIO8241JT		<100	1	60	12	100
DIO8242C		<100	1	60	12	100
DIO8242D		<100	1	60	21	100
DIO8242E		<100	1	60	9	100
DIO8242F2		<100	1	120	6	100
DIO8242F3		<100	1	180	6	100
DIO8242F4		<100	1	240	6	100
DIO8242FZ		<100	1	120	6	100
DIO8242H		<100	1	60	24	100
DIO8242Z		<100	1	60	6	100
DIO8243		<120	20	300	6	60
DIO8244		<400	1	60	6	500
DIO8244F		<500	1	60	6	500
DIO8244H		<400	1	60	12	500
DIO8244J		<500	1	60	12	500

Rdson(Ω)	Current Ripple	FRIPPLE (Hz)	Internal MOSFET	Dimming Mode	Features	Package	Cross reference
16	-	100/120	100V	TRIAC	-	SOT23-3 SOT23-5 SOT89-3	
16	-	100/120	100V	TRIAC	-	SOT23-3 SOT23-5 SOT89-3	
16	-	100/120	100V	TRIAC	-	SOT23-3 SOT23-5	
16	-	100/120	100V	TRIAC	-	SOT23-3 SOT23-5	
16	-	100/120	100V	TRIAC	-	SOT23-3 SOT23-5	
16	<±1%	100/120	100V	TRIAC	-	SOT23-3 SOT89-3	
16	<±1%	100/120	100V	TRIAC	-	SOT23-3 SOT89-3	
16	<±1%	100/120	100V	TRIAC	-	SOT23-3 SOT89-3	
8	<±1%	100/120	100V	TRIAC	-	SOT23-3 SOT89-3	
5	<±1%	100/120	100V	TRIAC	-	EP-SOIC8	
5	<±1%	100/120	100V	TRIAC	-	EP-SOIC8	
8	<±1%	100/120	100V	TRIAC	-	SOT89-3	
16	<±1%	100/120	100V	TRIAC	-	SOT23-3 SOT89-3	
16	<±1%	100/120	100V	TRIAC	-	SOT23-3 SOT89-3	
-	-	100/120	60V	TRIAC	OTP	EP-SOIC8	
40	-	100/120	500V	TRIAC	-	SOT23-3 SOT23-5 SOT89-3	
40	-	100/120	500V	TRIAC	-	SOT23-3 SOT23-5 SOT89-3	
40	-	100/120	500V	TRIAC	-	SOT23-3 SOT23-5	
40	-	100/120	500V	TRIAC	-	SOT23-3 SOT23-5	

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