ESD Protection Diode Array

Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±25kV
  – IEC61000-4-4 (EFT) 40A (5/50ns)
  – IEC61000-4-5 (Lightning) 20A (8/20μs)
- RoHS Compliant

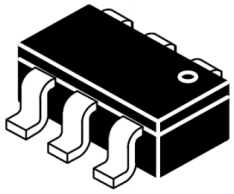
Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100 Base T

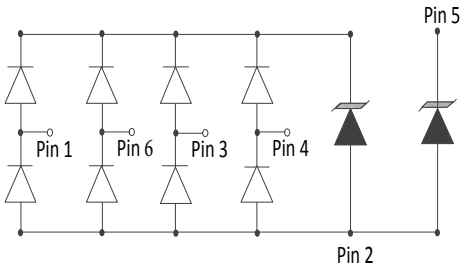
Mechanical Characteristics

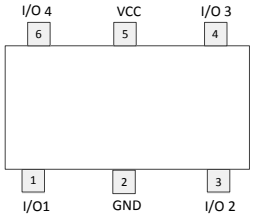
- Package: SOT-26
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7inch
- Device Marking: 5G

Dimensions SOT-26



Pin Configuration





Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

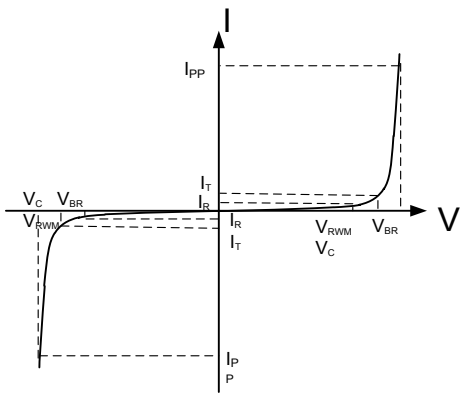
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	550	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±25	kV
ESD per IEC 61000−4−2 (Contact)		±25	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +125	℃

Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
I/O port TVS						
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6	8.0		V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃		0.2	0.5	uA
Clamping Voltage	V_C	I_{PP}=4.0A,t_p=8/20μs		10	15	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz I/O to I/O		0.3	0.35	pF
		V_R = 0V, f = 1MHz I/O to GND		0.6	0.7	pF
VCC TVS						
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃			1	uA
Clamping Voltage	V_C	I_{PP}=20A,t_p=8/20μs		12	15	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz VCC to GND		160	165	pF

Electrical Parameters(TA=25°C unless otherwise specified)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note:. 8/20μs pulse waveform.

Typical Performance Characteristics(TA=25°C unless otherwise specified)

Fig.1 Peak Pulse Power Rating Curve

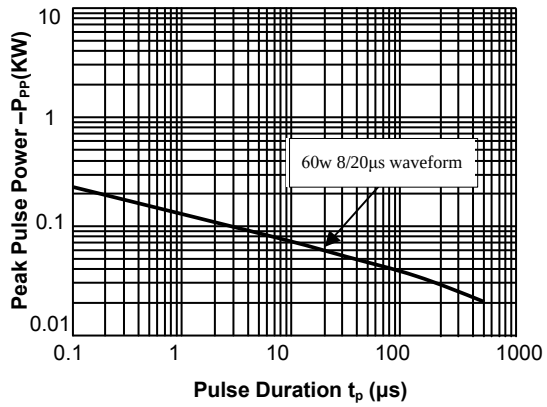


Fig.2 Pulse Derating Curve

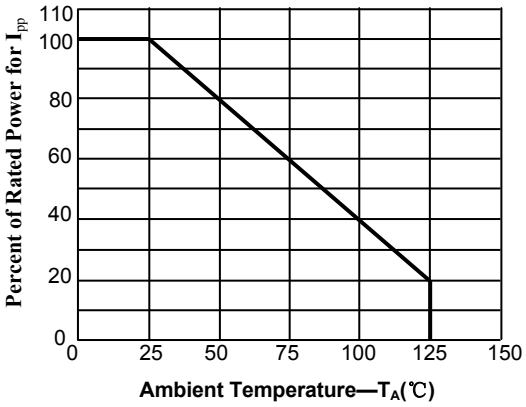


Figure3: Pulse Waveform

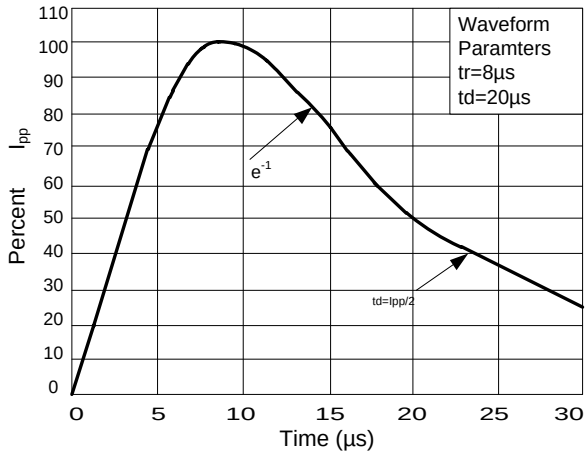
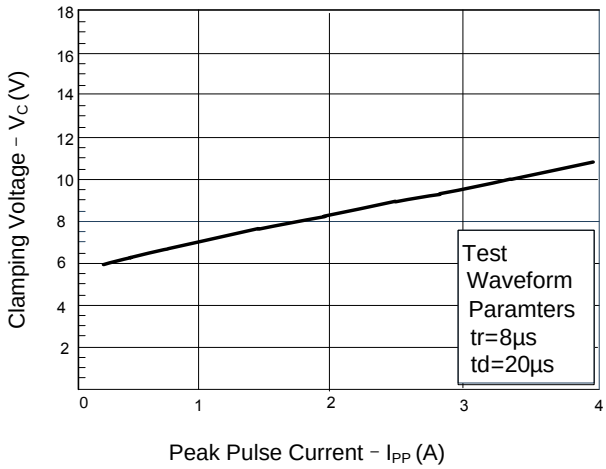
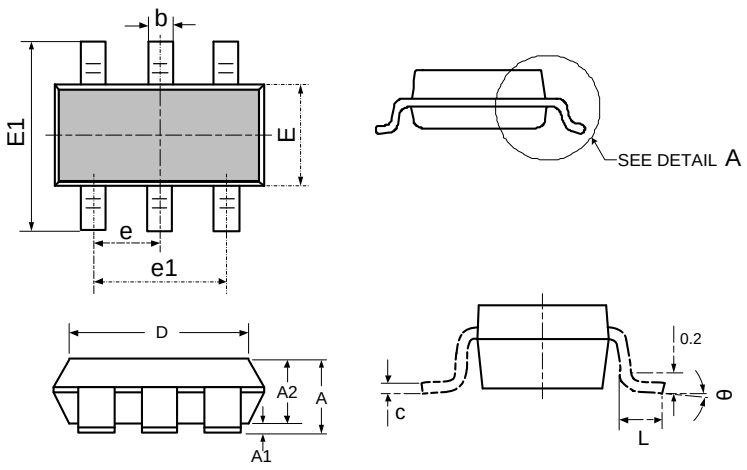


Figure 4: Clamping Voltage vs.Ipp(I/Oto GND)



SOT-26 Package Outline Drawing



DIMENSIONS				
SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.041	0.049	1.050	1.250
A1	0.000	0.004	0.000	0.100
A2	0.041	0.045	1.050	1.150
D	0.111	0.119	2.820	3.020
E	0.059	0.067	1.500	1.700
E1	0.104	0.116	2.650	2.950
b	0.012	0.020	0.300	0.500
e	0.037(BSC)		0.950(BSC)	
e1	0.071	0.079	1.800	2.000
L	0.012	0.024	0.300	0.600
θ	0°	8°	0°	8°

Suggested Land Pattern