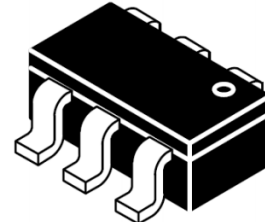


Features

- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 11A (8/20 μs)
- RoHS Compliant

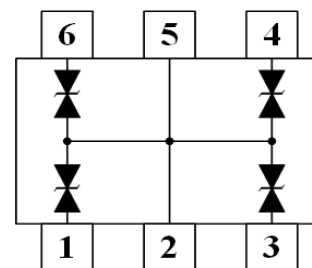
Dimensions SOT-26



Applications

- Automotive Applications
- Industrial Equipment
- Cordless phones
- Peripherals
- Notebooks & handhelds
- Portable instrumentation
- Digital cameras

Pin Configuration



Mechanical Characteristics

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

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	130	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	Kv
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

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

Part Number	Device Marking	V _{RWM} (V)	V _{BR} (V)	I _T (mA)	V _C @1A	V _C		I _R μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
ESDA05C-4	LAC	5	5.5	1	8.2	11.8	11	0.1	20

TYPIC CHARACTERISTICS

Figure 1. 8 x 20 μ s Waveform

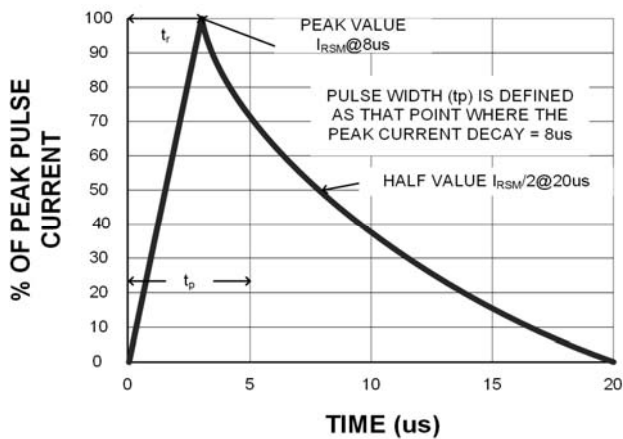


Figure 2. Power Derating Curve

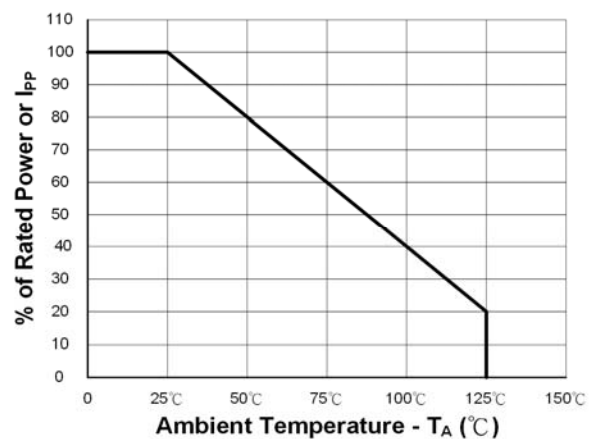
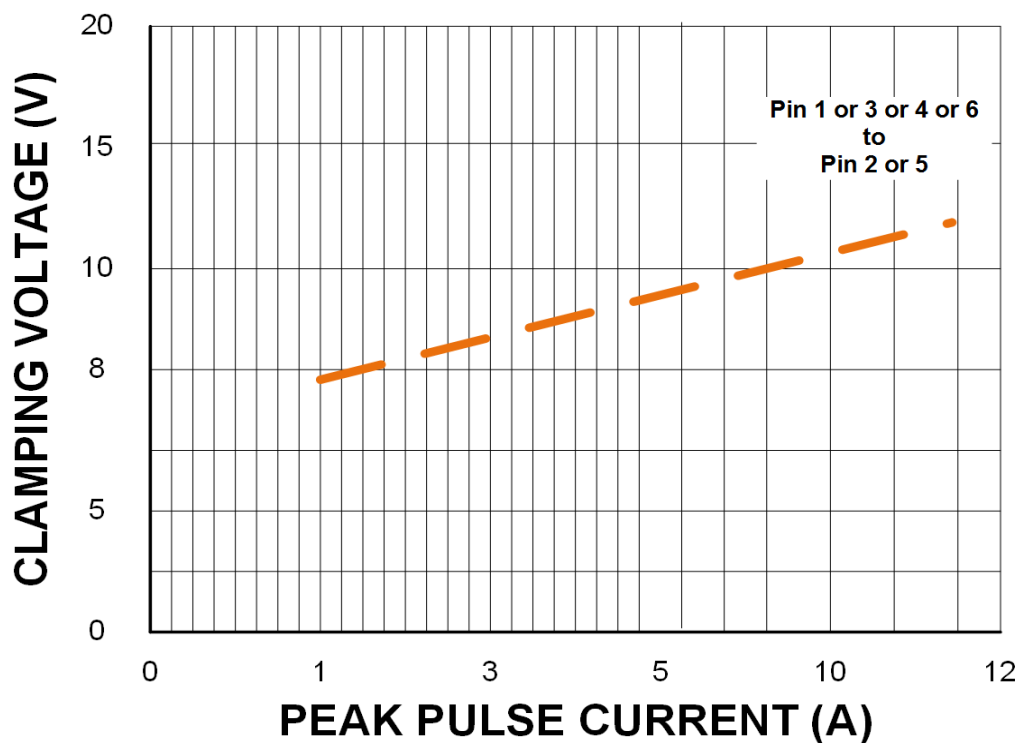


Figure 3. Clamping Voltage vs. Peak Pulse Current ($t_p=8/20 \mu$ s)



TYPIC CHARACTERISTICS

Figure 4. Typical Breakdown Voltage vs. Temperature

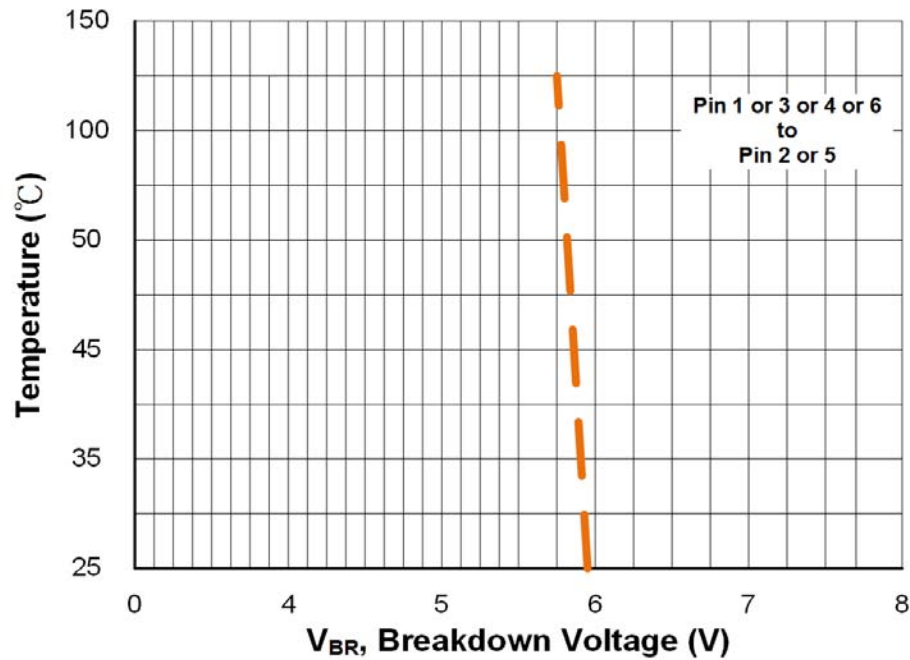
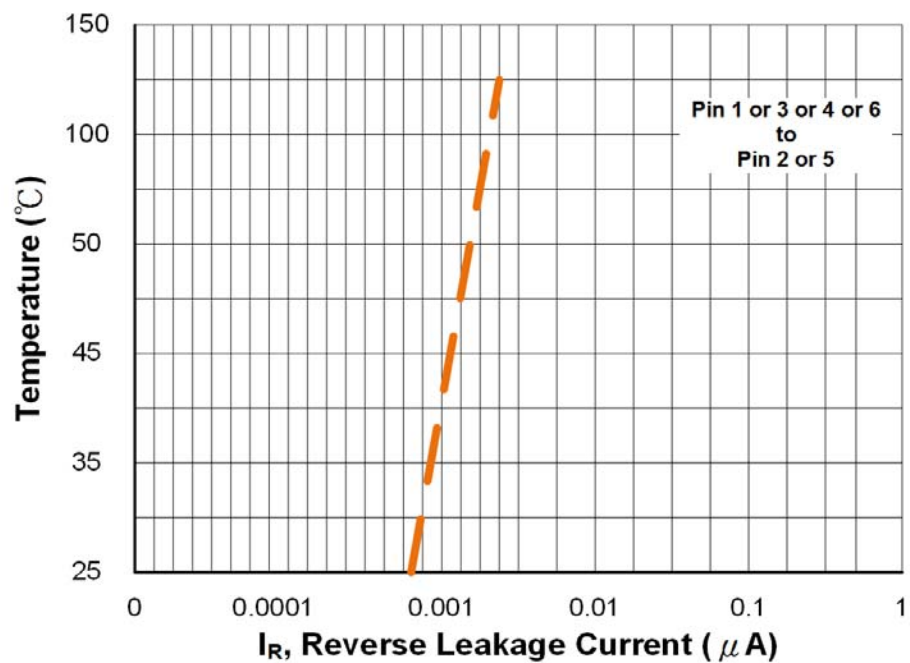
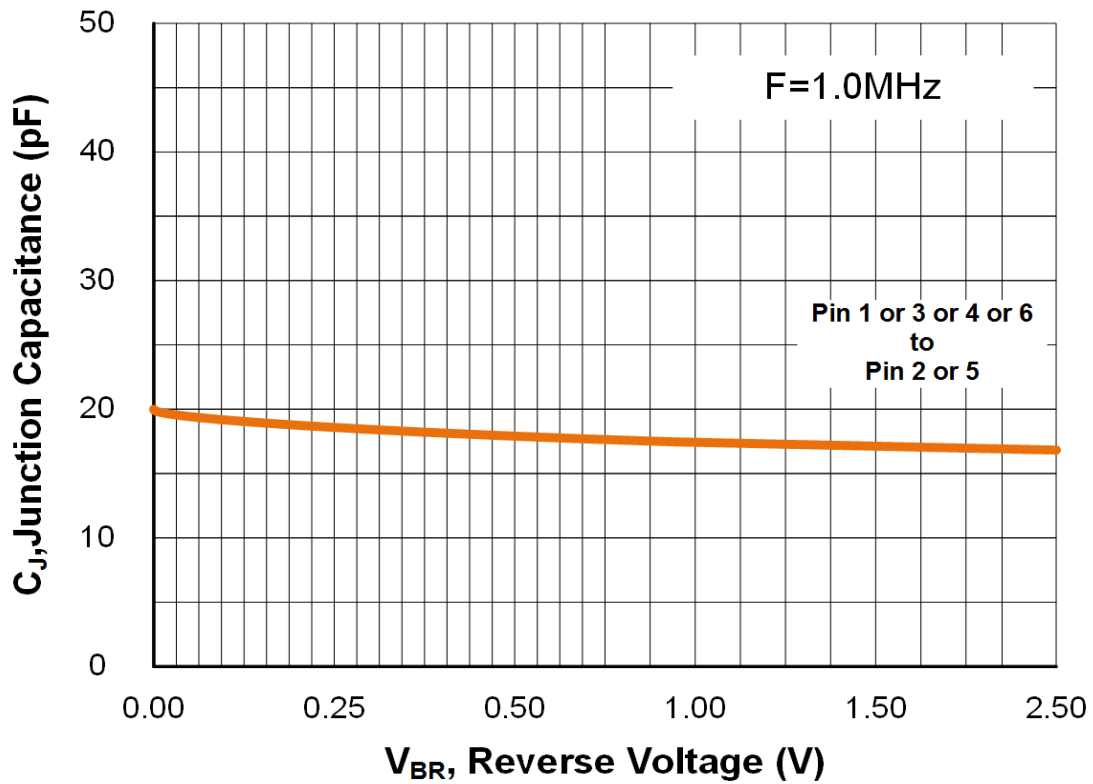


Figure 5. Typical Reverse Current vs. Temperature



TYPIC CHARACTERISTICS

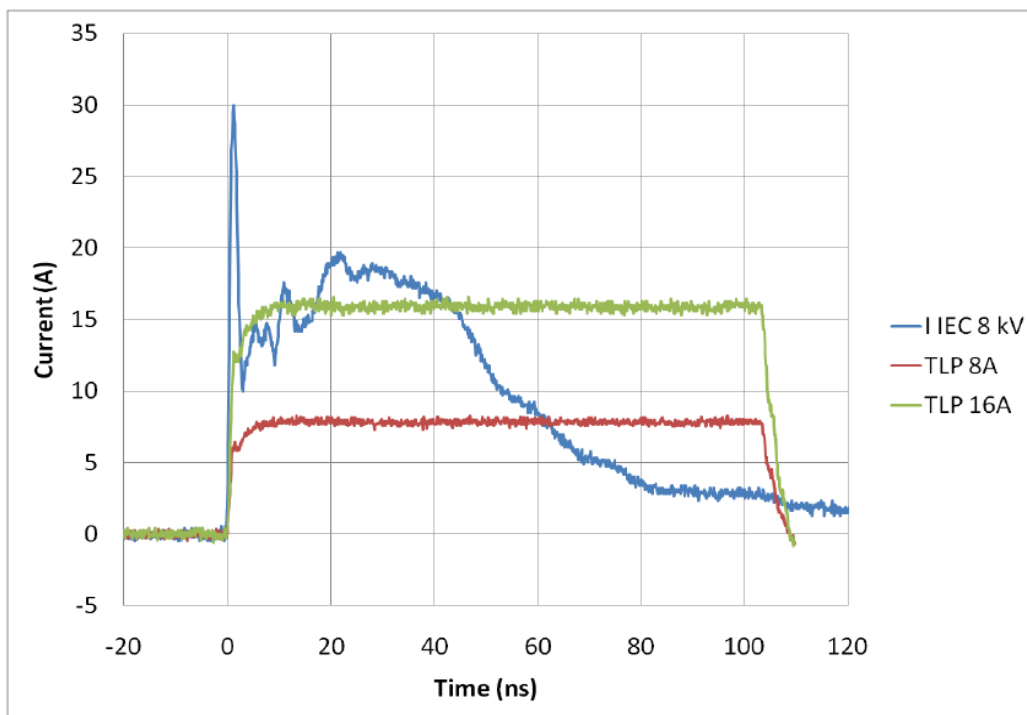
Figure 6. Typic Capacitance vs. Reverse Voltage



TYPIC CHARACTERISTICS

Figure 7. Transmission Line Pulse (TLP)

Transmission Line Pulse (TLP) is a measurement technique used in the Electrostatic Discharge (ESD) arena to characterize performance attributes of devices under ESD stresses. TLP is able to obtain current versus voltage (I-V) curves in which each data point is obtained with a 100 ns long pulse, with currents up to 40 A. TLP was first used in the ESD field to study human body model (HBM) in integrated circuits, but it is an equally valid tool in the field of system level ESD. The applicability of TLP to system level ESD is illustrated in Figure 1, which compares an 8 kV IEC 61000-4-2 current waveform with TLP current pulses of 8 and 16 A. The current levels and time duration for the pulses are similar and the initial rise time for the TLP pulse is comparable to the rise time of the IEC 61000-4-2's initial current spike. This application note will give a basic introduction to TLP measurements and explain the datasheet parameters extracted from TLP for SDI Technology's protection products.



Comparison
Between 8 kV IEC
61000-4-2 and 8
A and 16 A TLP
Waveforms

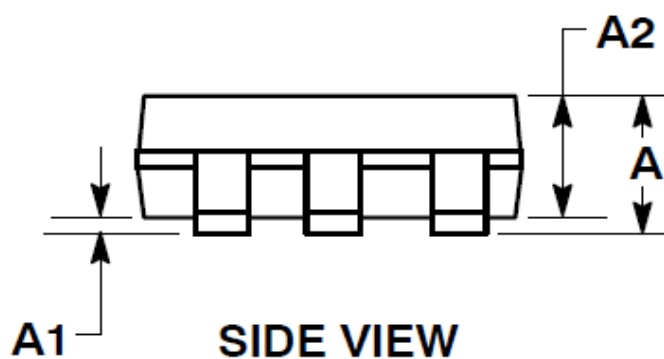
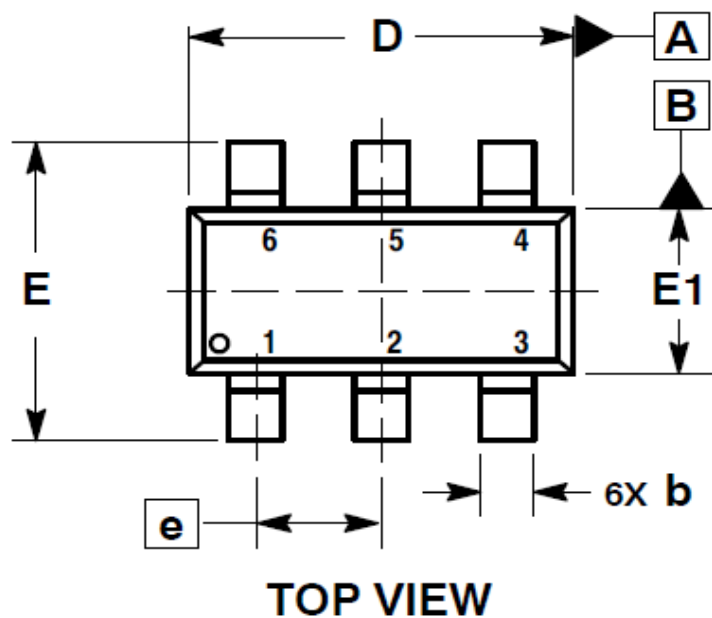
Comparison of a CurrentWaveform of IEC 61000-4-2with TLP Pulses at 8 and 16 A.

The IEC 61000-4-2 ESD waveforms is true to the Standard and is shown here as captured on an oscilloscope.

The points A, B, and C show the points on the aveforms specified in IEC 61000-4-2.

Transmission Line Pulse (TLP) Version.

SOT-26 Package Outline & Dimensions



DIM	MILLIMETERS	
	MIN	MAX
A	---	1.45
A1	0.00	0.15
A2	0.90	1.30
b	0.20	0.50
c	0.08	0.26
D	2.70	3.00
E	2.50	3.10
E1	1.30	1.80
e	0.95 BSC	
L	0.20	0.60
L2	0.25 BSC	