Leiditech

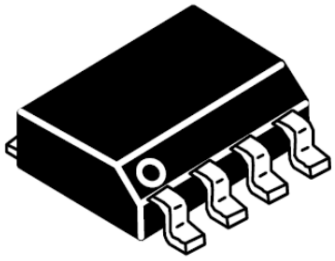
SMDA05C

Bidirectional TVS Diode Array

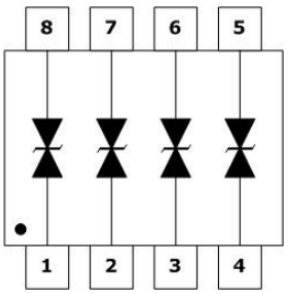
Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  – IEC61000-4-4 (EFT) 40A (5/50ns)
  – IEC61000-4-5 (Lightning) 40A (8/20μs)
- RoHS Compliant

Dimensions SOP-08



Pin Configuration



Applications

- Cell Phone Handsets andAccessories
- Microprocessor based equipment
- Personal DigitalAssistants(PDA 's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

Mechanical Characteristics

- Package: SOP-08
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:13 inch
- Device Marking: SMDA05C

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	1000	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	-40 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V			1	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20 μs pulse)			10	V
Clamping Voltage	V_C	I_{PP} = 25A (8 x 20 μs pulse)			18	V
Clamping Voltage	V_C	I_{PP} = 40A (8 x 20 μs pulse)			25	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		230		pF

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

Figure 1. 8 x 20 μs Waveform

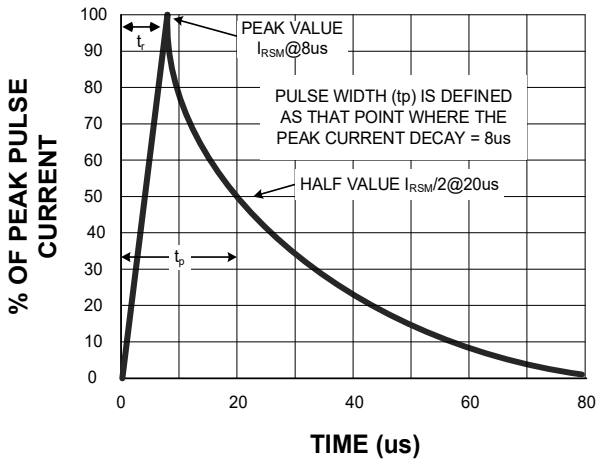


Figure 2. Power Derating Curve

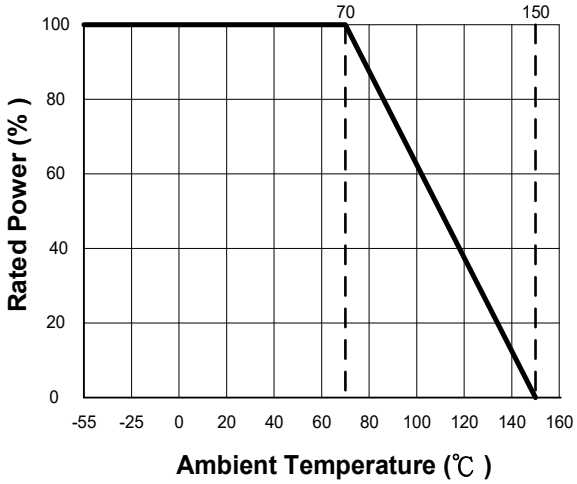


Figure 3. Clamping Voltage vs. Peak Pulse Current (tp=8/20μs)

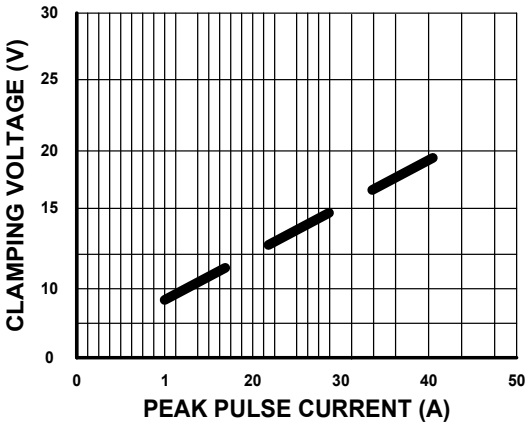


Figure 4. Typic Breakdown Voltage vs. Temperature

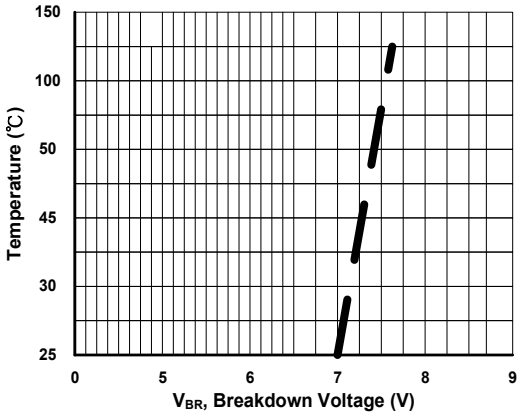


Figure 5. Typic Reverse Current vs. Temperature

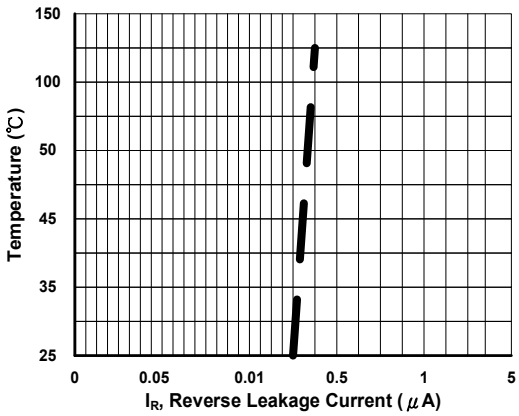
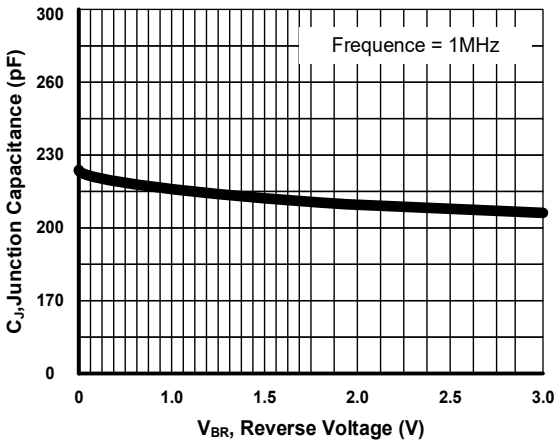
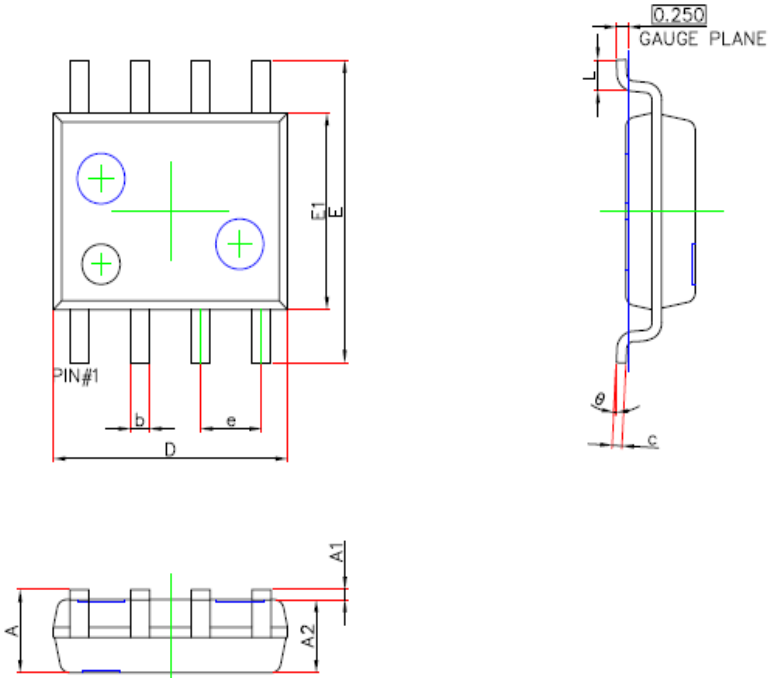


Figure 6. Typic Capacitance vs. Reverse Voltage



SOP-08 Package Outline Drawing



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.450	1.750	0.057	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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