

Features

- Low leakage current
- Low clamping voltage
- Complies with following standards:
 - IEC61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (surge) 6A (8/20 μs)
- Stand-off voltage: 27V
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Applications

- Switches/Buttons
- Test Equipment/Instrumentation
- Point-of-Sale Terminals
- Medical Equipment
- Peripheral Notebooks/Desktops/Servers
- Computer Peripherals
- CAN Bus protection
- Automotive applications

Mechanical data

- Package: SOD-323
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0

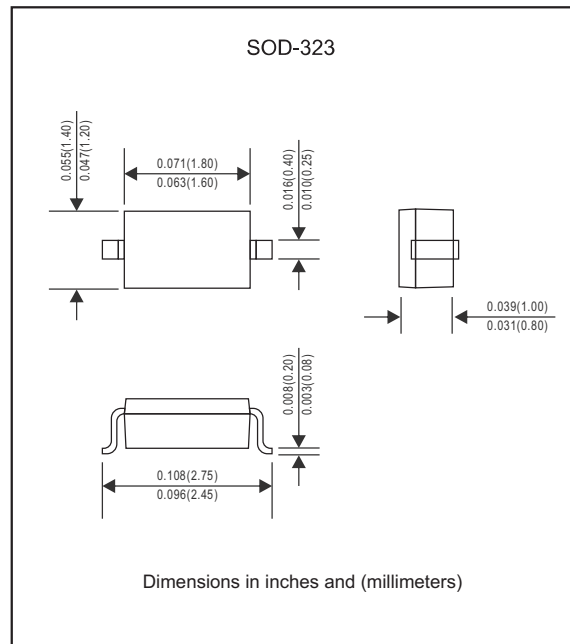
Maximum ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu\text{s}$)	P_{pk}	300	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	
Junction temperature	T_J	-55~150	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55~150	$^{\circ}\text{C}$

Notes:

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

Package outline



Electrical characteristics (at $T_J = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	V_{RWM}	V				27
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1\text{mA}$	28		38
Reverse leakage current	I_R	μA	$V_{RWM} = 27\text{V}$			0.5
Clamping voltage ²⁾	V_{CL}	V	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$		34	43
			$I_{PP} = 3\text{A}, t_p = 8/20\mu\text{s}$		38	45
			$I_{PP} = 6\text{A}, t_p = 8/20\mu\text{s}$		43	50
Peak Pulse Current	I_{PP}	A	$t_p = 8/20\mu\text{s}$			6
Junction capacitance	C_J	pF	$V_R = 0\text{V}, f = 1\text{MHz}$		16	30

Notes: 1) TLP parameter: $Z_0 = 50\Omega$, $t_p = 100\text{ns}$, $t_r = 2\text{ns}$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

2) Non-repetitive current pulse, according to IEC61000-4-5.

Characteristic Curves

Fig.1: Non-Repetitive Peak Pulse Power vs. Pulse Time

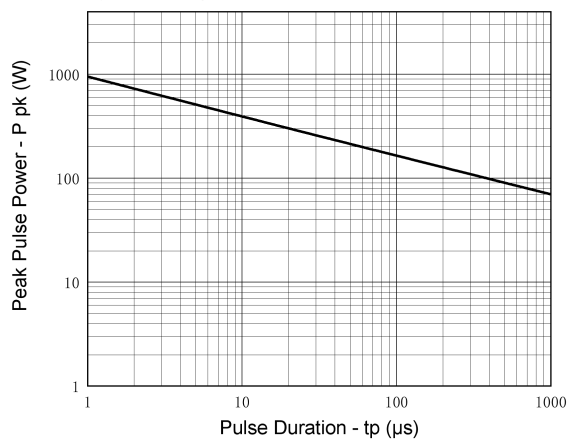


Fig.2 Capacitance vs. Reverse voltage

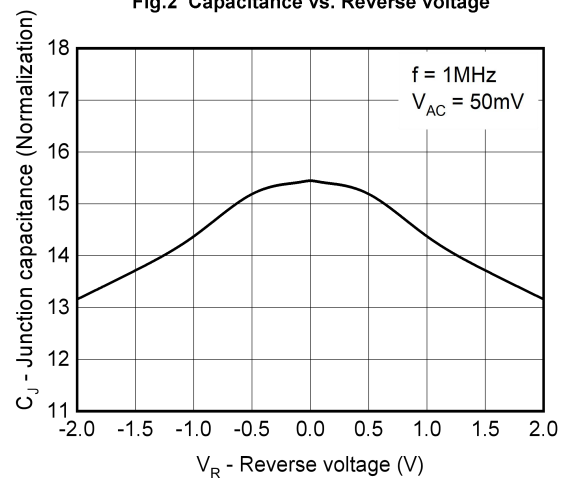


Fig.3: Power Derating Curve

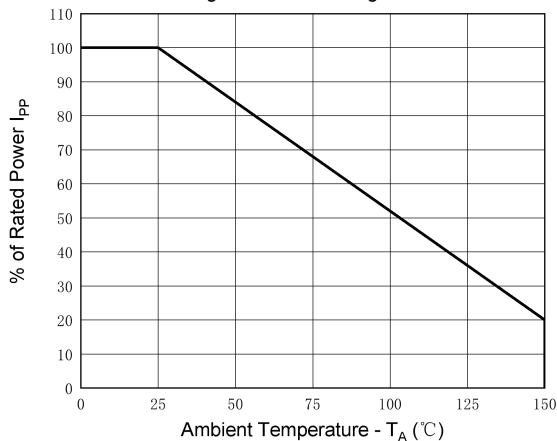
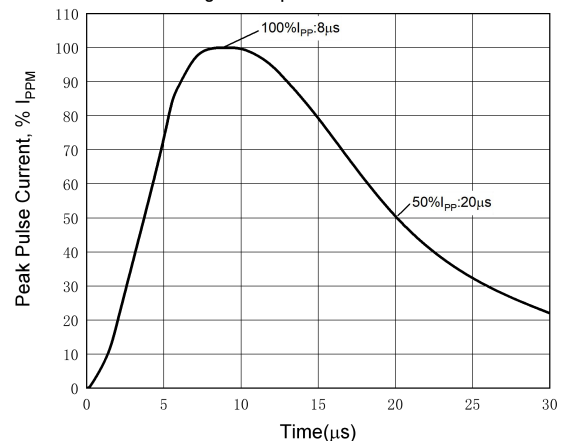
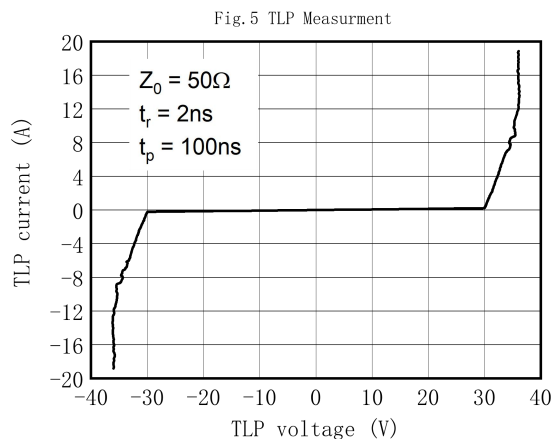


Fig.4: 8/20μs Pulse Waveform



Characteristic Curves



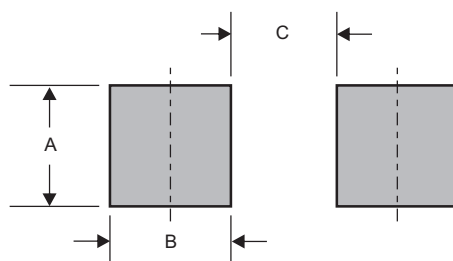
Pinning information

Pin	Simplified outline	Symbol
Bi-Directional		

Marking

Type number	Marking code
ESD3Z27C-Q1	27B.

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-323	0.033 (0.83)	0.025 (0.63)	0.063 (1.60)