

### Features

- Protects one I/O or power line.
- Low clamping voltage.
- Max peak pulse power 160W(tp=8/20us)
- Low leakage current.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free.
- Suffix "-Q1" for AEC-Q101

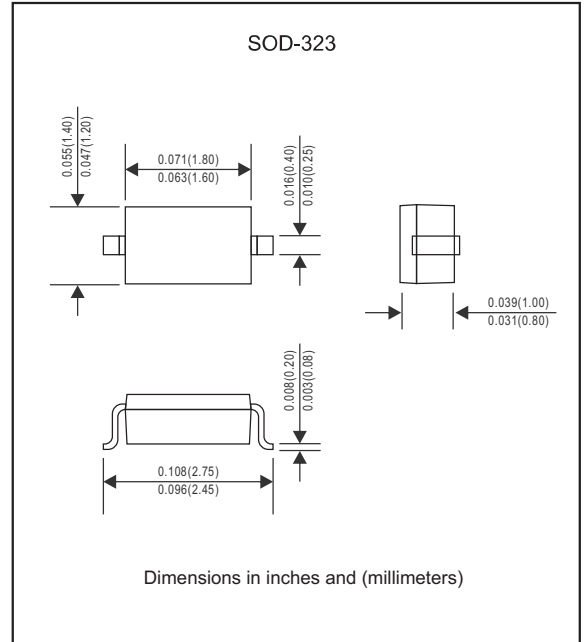
### Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

### Package outline



### Maximum ratings (at T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	VALUE	UNIT
Total power dissipation	Peak pulse power (tp = 8/20us)	P <sub>PP</sub>	160	W
Peak pulse current per line(tp=8/20us)	Pin1 to Pin2(Note1)	I <sub>PP</sub>	5	A
Peak pulse current per line(tp=8/20us)	Pin2 to Pin1(Note1)		3	A
Human body model(HBM)		V <sub>ESD</sub>	10	KV
IEC61000-4-2(contact discharge)			20	KV
Operating junction temperature range		T <sub>J</sub>	-55 to +150	°C
Storage temperature range		T <sub>STG</sub>	-55 to +150	°C

Note1: Non-repetitive current pulse 8/20us exponential decay wave according to IEC61000-4-5

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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Reverse Working Voltage	$V_{RWM}$	V	Pin1 to Pin2 (15V)			15
			Pin2 to Pin1 (24V)			24
Reverse Breakdown Voltage	$V_{BR}$	V	$I_T=1\text{mA}$ , Pin1 to Pin2 (15V)	17.1		
			$I_T=1\text{mA}$ , Pin2 to Pin1 (24V)	25.4		
Reverse Leakage Current	$I_R$	nA	$V_{RWM}=15\text{V}$ , Pin1 to Pin2 (15V)			50
			$V_{RWM}=24\text{V}$ , Pin2 to Pin1 (24V)			50
Clamping Voltage (8/20us Pulse)	$V_C$	V	$I_{PP}=1\text{A}$ , Pin1 to Pin2 (15V)			25
			$I_{PP}=5\text{A}$ , Pin1 to Pin2 (15V)			35
	$V_C$	V	$I_{PP}=1\text{A}$ , Pin2 to Pin1 (24V)			40
			$I_{PP}=3\text{A}$ , Pin2 to Pin1 (24V)			50
Junction Capacitance	$C_j$	pF	$V_{BR}=0\text{V}$ , $f=1\text{MHZ}$ , Pin1 to Pin2 (15V)			30
			$V_{BR}=0\text{V}$ , $f=1\text{MHZ}$ , Pin2 to Pin1 (24V)			30

### Rating and characteristic curves

Fig.1 8/20  $\mu$ s pulse waveform according to IEC 61000-4-5

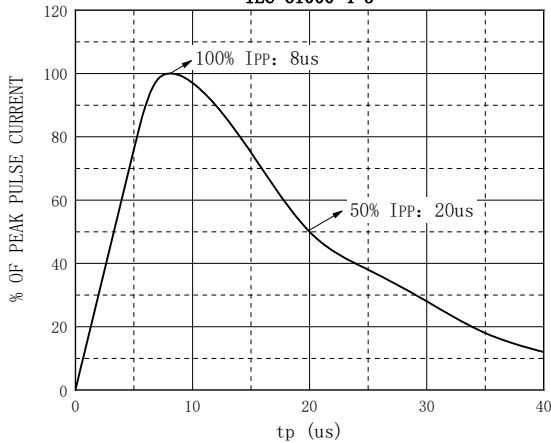


Fig.2 Clamping Voltage vs Peak Pulse Current

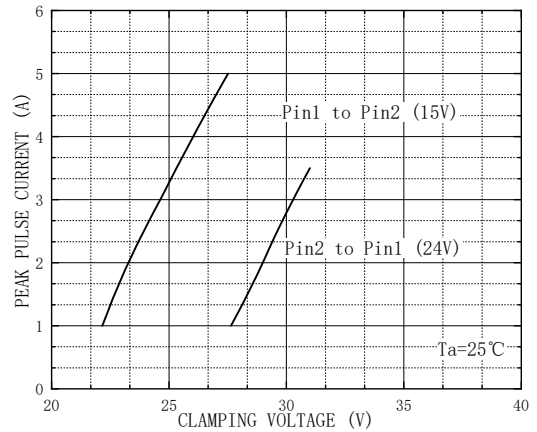


Fig.3 Temperature Power Dissipation Derating

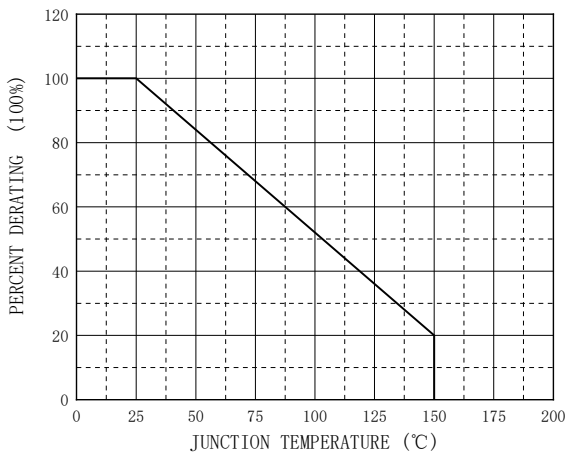


Fig.4 Peak pulse power as a function of exponential pulse duration

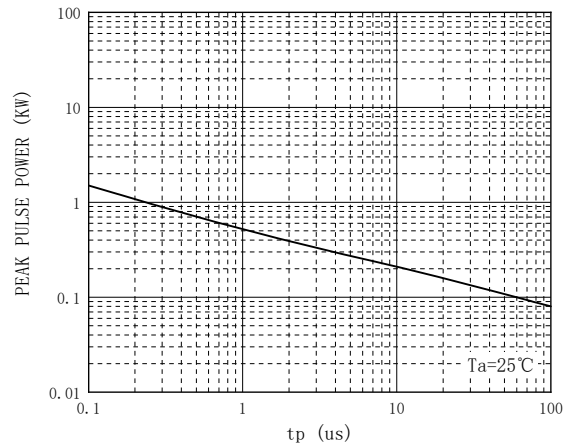
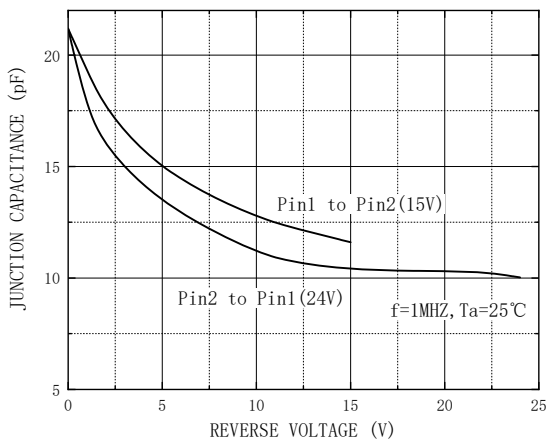




Fig.5 Typical Junction Capacitance vs Reverse Voltage



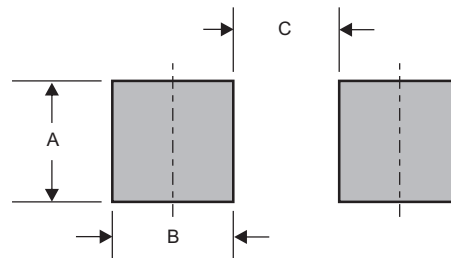
### Pinning information

Pin	Simplified outline	Symbol
Bi-Directional		

### Marking

Type number	Marking code
ESD3Z1524C-Q1	AM

### 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)