

Features

- Small body outline dimensions: 0.063" x 0.032" (1.6x0.8 mm)
- Protects one uni-directional I/O line
- Low clamping voltage
- Working voltage: 36V
- Low leakage current
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Main applications

- Cell phone handsets and accessories
- Microprocessor based equipment
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Peripherals
- Digital cameras

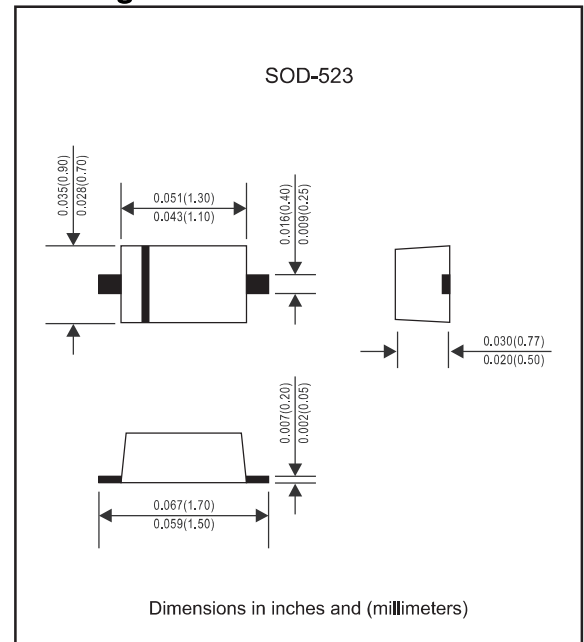
Protection solution to meet

- IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 4A (8/20 μs)

MECHANICAL CHARACTERISTICS

- SOD-523 package
- Molding compound flammability rating : UL 94V-0
- Lead finish : lead free

Package outline



Absolute maximum ratings ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	300	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 30 +/- 30	kV
Lead soldering temperature	T_L	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical characteristics ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				36	V
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	40			V
Reverse leakage current	I_R	$V_{RWM}=36\text{V}$		0.01	1	μA
Clamping voltage	V_C	$I_{PP}=1\text{A}$, $t_P=8/20\mu\text{s}$		45	60	V
		$I_{PP}=4\text{A}$, $t_P=8/20\mu\text{s}$		58	70	V
Junction capacitance	C_J	$V_{RWM}=0\text{V}$, $f=1\text{MHz}$		22		pF

Ratings and V-I haracteristics curves ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

FIG.1: V- I curve characteristics (Uni-directional)

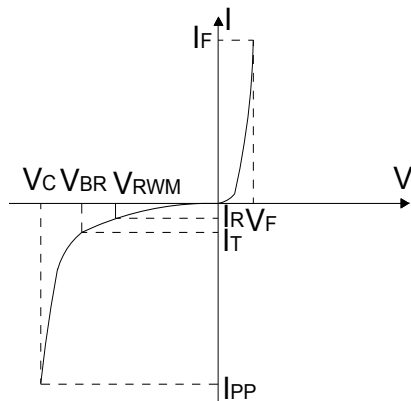


FIG.2: Pulse waveform (8/20 μs)

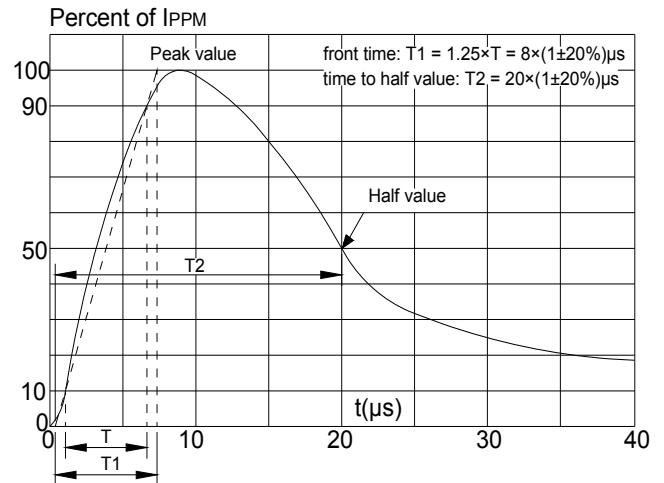


FIG.3: Pulse derating curve

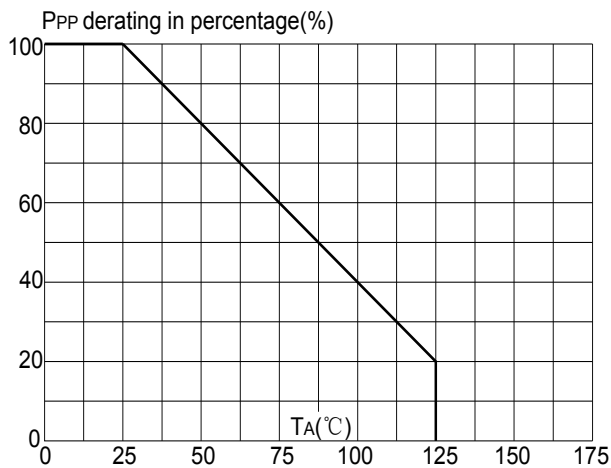
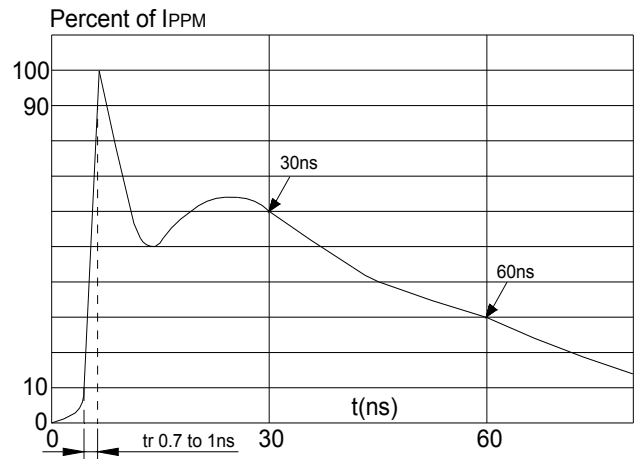
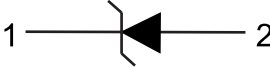


FIG.4: ESD clamping (30kV contact)



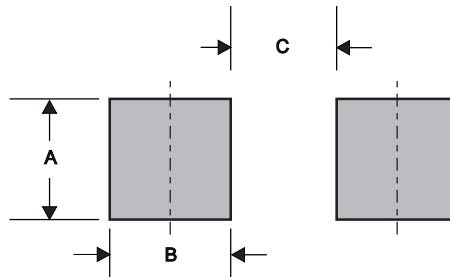
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
ESD5Z36-Q1	MP

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-523	0.024 (0.60)	0.024 (0.60)	0.044 (1.12)