

Plastic-Encapsulate ESD Protection Diodes

Features

- 40 Watts Peak Pulse Power per (8/20 μ s)
- IEC61000-4-2 (ESD) \pm 30kV (air), \pm 30kV (contact)
- Protects one bidirectional line or two unidirectional lines
- Low clamping voltage
- Working voltages : 22V
- Qualified to AEC-Q101 Standards for High Reliability

Applications

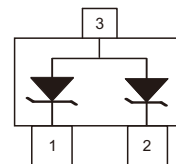
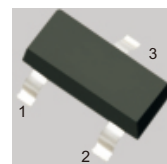
- Power supply protection
- Power management

Mechanical Characteristics

- Package: SOT-23
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel

PINNING

PIN	DESCRIPTION
1, 2	Cathode
3	Anode

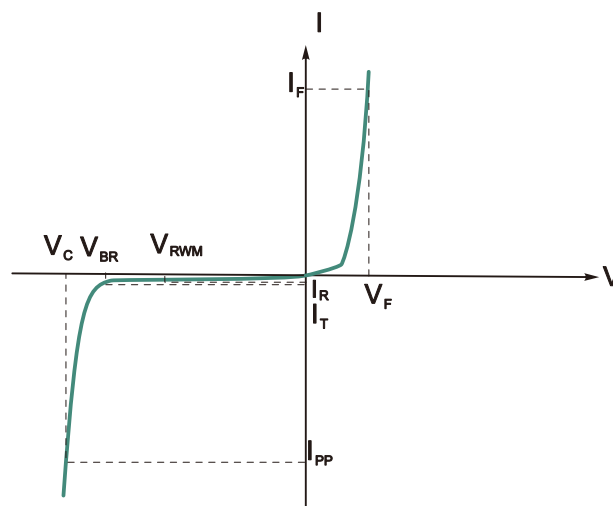


Top View
Simplified outline SOT-23 And symbol



Electronics Parameter

Parameter	Symbol
Maximum Reverse Peak Pulse Current	I_{PP}
Clamping Voltage @ I_{PP}	V_C
Peak Reverse Working Voltage	V_{RWM}
Reverse Leakage Current @ V_{RWM}	I_R
Breakdown Viltage @ I_T	V_{BR}
Test Current	I_T
Forward Current	I_F
Forward Voltage @ I_F	V_F





Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μS)	PpK	40	W
Peak Pulse Current	Ipp	1	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±30 ±30	KV
Thermal Resistance Junction to Ambient	RθJA	500	°C/W
Operating Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse stand-off Voltage	V _{RWM}				22	V
Breakdown Voltage	V _{BR}	I _T =1mA	25.65	27	28.35	V
Reverse Leakage Current	I _R	V _{RWM} =22V, Ta=25°C			50	nA
Forward voltage	V _F	I _F =10mA, Ta=25°C			0.9	V
Clamping Voltage	V _C	I _{pp} =1A, tp=8/20us			38	V
Junction Capacitance	C _j	V _R =0V, f=1HMz			60	pF



Typical Characteristics

Fig.1 Contact discharge current waveform per IEC61000-4-2

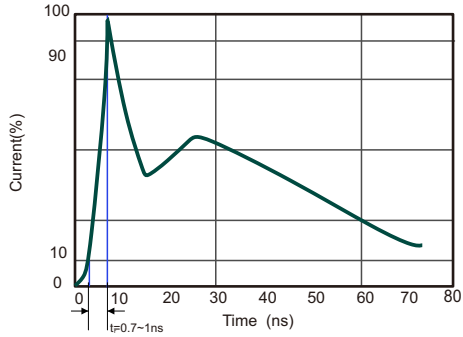


Fig.2 Pulse Waveform

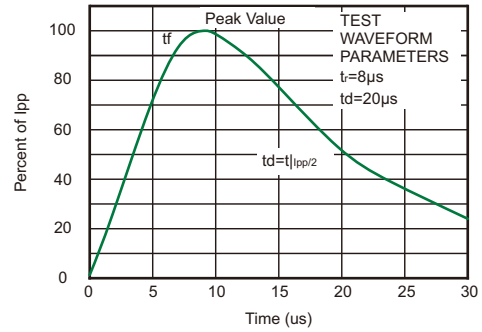


Fig.3 Power Derating Curve

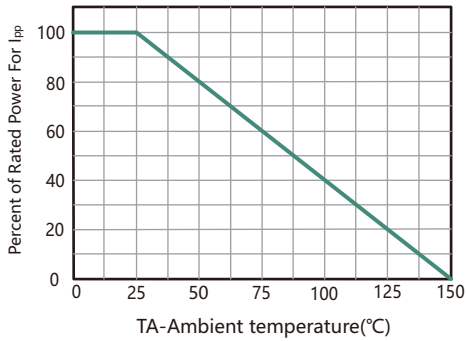


Fig.4 VR VS Ta

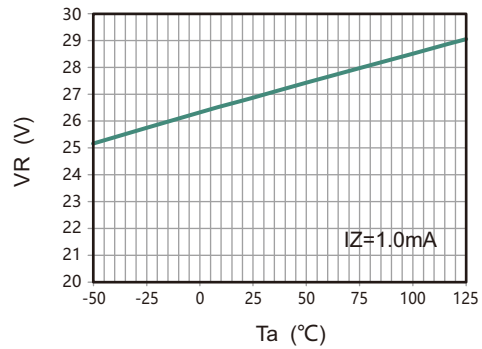
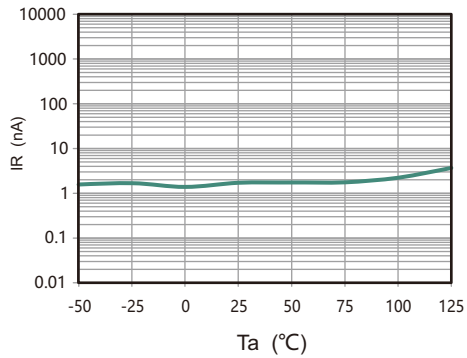
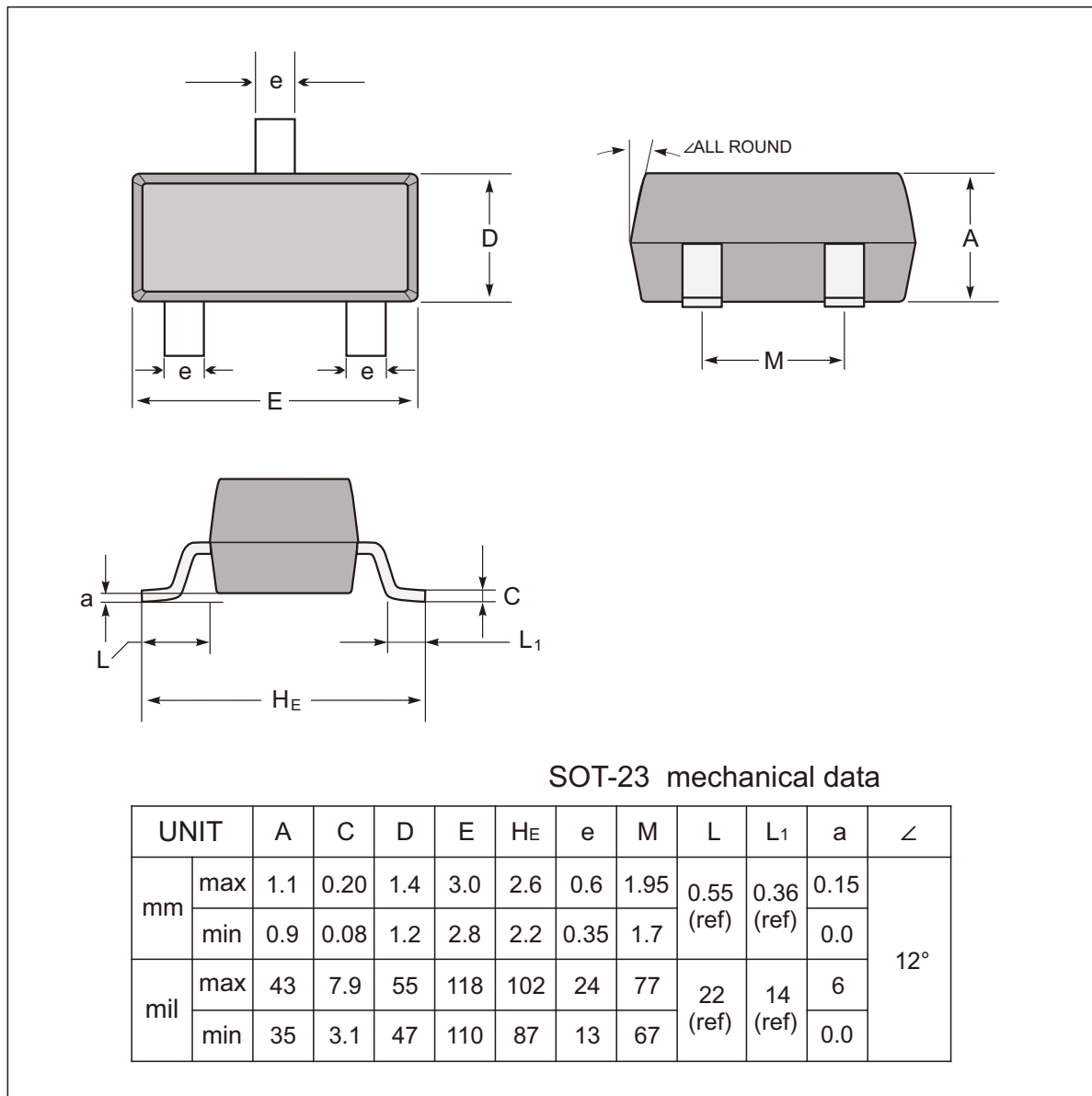


Fig.5 IR VS Ta

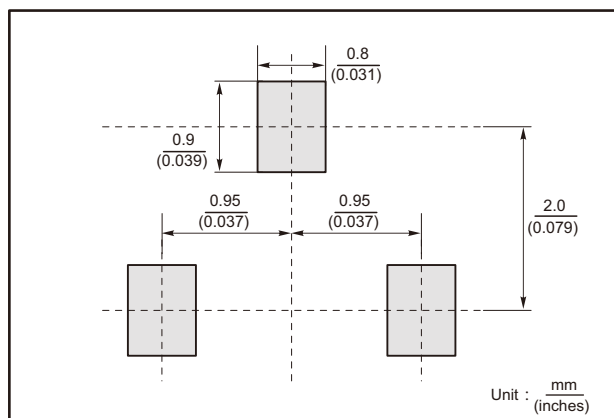




SOT-23 Package Outline Dimensions



The recommended mounting pad size



Marking

Type number	Marking code
ESD22V0T2	22T



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