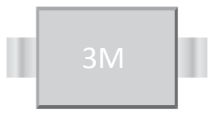
ESD3Z5.0CA

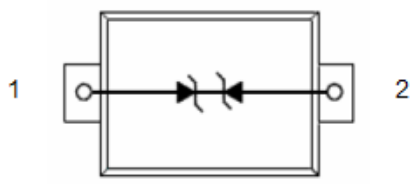
Transient Voltage Suppressors for ESD Protection

V_{RWM}:	5.0 Volts	Ipp:	3 Ampers	SOD-323	Marking and Polarity

FEATURES

- Ultra low leakage current.
- Low clamping voltage.
- ESD protection diode.
- Complies with IEC 61000-4-2 level 4 (ESD).
- We declare that the material of product compliance with RoHS
- requirements and Halogen Free.





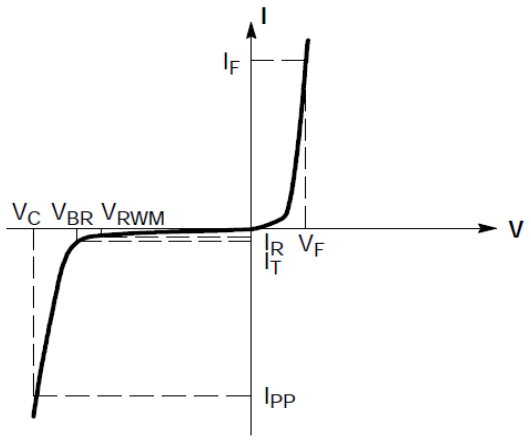
DEVICE MARKING

Device MODEL	Marking
ESD3Z5.0CA	3M

ABSOLUTE RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	±15 ±8	KV
Peak Pulse Power (tp = 8/20μs)	P_{PP}	100	W
Maximum Junction Temperature	T_J	150	℃
Lead Solder Temperature – Maximum(10 Second Duration)	T_L	260 (10 sec)	℃
Storage temperature	T_{STG}	−55～+150	℃

ELECTRICAL CHARACTERISTICS (Ta= 25°C)



Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ IF
P_{pk}	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1.0 MHz

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ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

DEVICE	V_{RWM}	I_R @±V_{RWM}	V_{BR}@I_T		I_T	V_C @I_{PP}=1A	V_C @Max.I_{PP}	I_{PP}	P_{PK}	C_J
	Max.	Max.	Min.	Max.	mA	Typ.	Max.	Max.	Max.	Typ.
	V	uA	V			V	V	A	W	pF
ESD3Z5.0CA	5.0	1.0	5.6	/	1.0	9.8	17	24	100	10

Note:VBR is measured with a pluse test current IT at an ambient temperature of 25℃.

ELECTRICAL CHARACTERISTICS CURVES

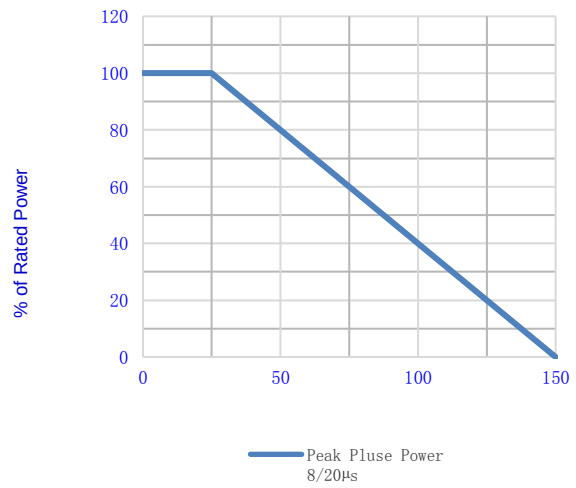

Fig.1- Power Derating

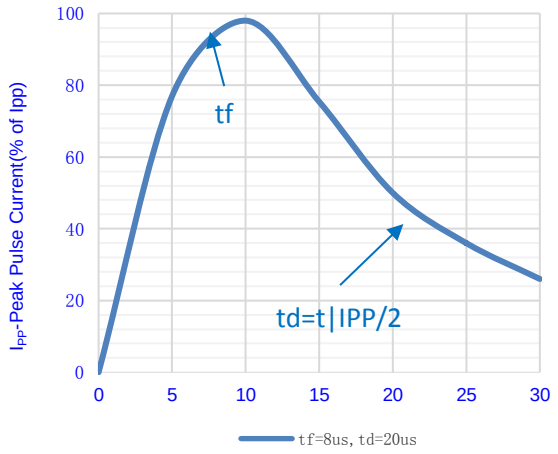

Fig.2-Pulse Waveform

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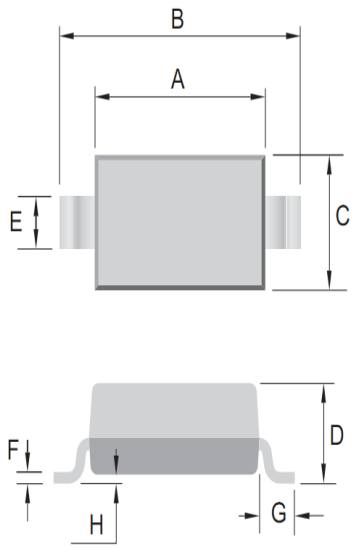
OUTLINE DRAWINGS

SOD-323

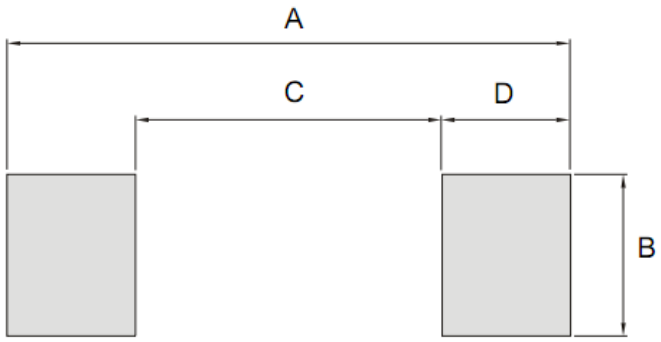


OUTLINE DIMENSIONS

Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.600	-	1.800	0.063	-	0.071
B	2.400	-	2.700	0.094	-	0.106
C	1.200	-	1.400	0.047	-	0.055
D	-	-	1.000	-	-	0.039
E	0.250	-	0.350	0.010	-	0.014
F	0.080	-	0.150	0.003	-	0.006
G	-	0.475	-	-	0.019	-
H	-	-	0.120	-	-	0.005

RECOMMEDNED LAYOUT DRAWINGS

SOD-323



RECOMMEDNED MOUNTING PAD DIMENSIONS

Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	--	2.900	--	--	0.114	--
B	--	0.500	--	--	0.020	--
C	--	1.440	--	--	0.057	--
D	--	0.730	--	--	0.029	--

PACKING INFORMATION

SOD-323

Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size L×W×H(mm)	Quantity (pcs/Inner Box)	Carton Size L×W×H(mm)	Quantity (pcs/carton)
Tape Reel	Φ180	3000	185×185×90	21000	400×400×300	252000

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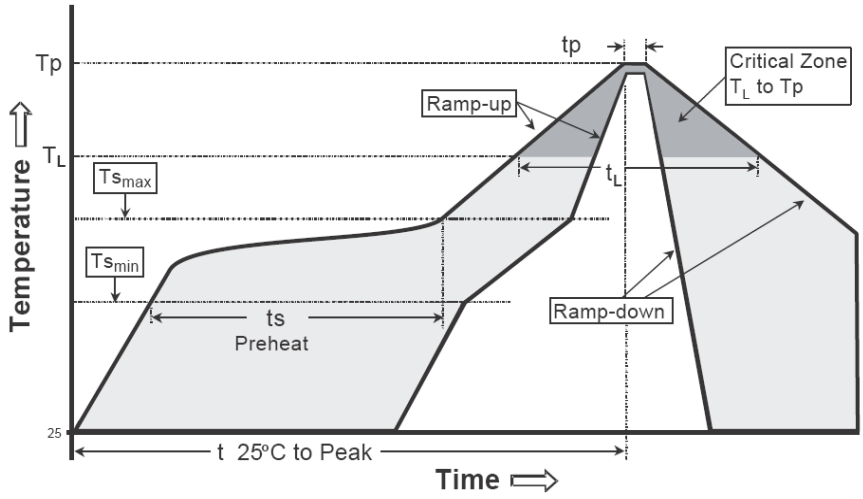
Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(TS min) −Temperature Max(TS max) −Time(ts min to ts max)	 100°C 150°C 60-120 seconds	 150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL) − Time (tL)	 183°C 60-150 seconds	 217°C 60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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