

ESD5Z5.0CA

Transient Voltage Suppressors for ESD Protection



V_{RWM}: 5.0 Volts

P_{PP}: 85 Watts

SOD-523

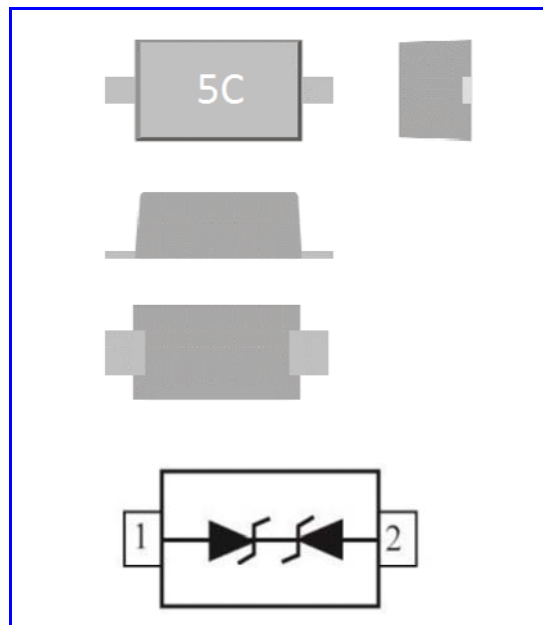
Marking and Polarity

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

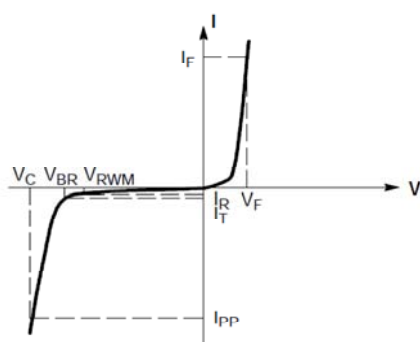
Device MODEL	Marking
ESD5Z5.0CA	5C



ABSOLUTE RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
ESD per IEC 61000-4-2 (Air)	V_{ESD}	±30	KV
ESD per IEC 61000-4-2 (Contact)		±30	
Peak Pulse Power (tp = 8/20μs)	P_{PP}	85	W
Lead Solder Temperature – Maximum(10 Second Duration)	T_L	260 (5 sec.)	°C
Maximum Junction Temperature	T_J	-55 ~ +150	°C
Storage temperature	T_{STG}	-55 ~ +150	°C

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 @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance @ $V_R = 0$ 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} =2A	V _C @Max.I _{PP}	I _{PP}	P _{PK}	C _J
	Max.	Max.	Min.	Max.	mA	Max.	Max.	Max.	Max.	Typ.
	V	uA	V			V	V	A	W	pF
ESD5Z5.0CA	5.0	1.0	5.6	8.2	1.0	8.5	11.0	5	85	13

Note: VBR is measured with a pulse test current I_T at an ambient temperature of 25°C.

ELECTRICAL CHARACTERISTICS CURVES

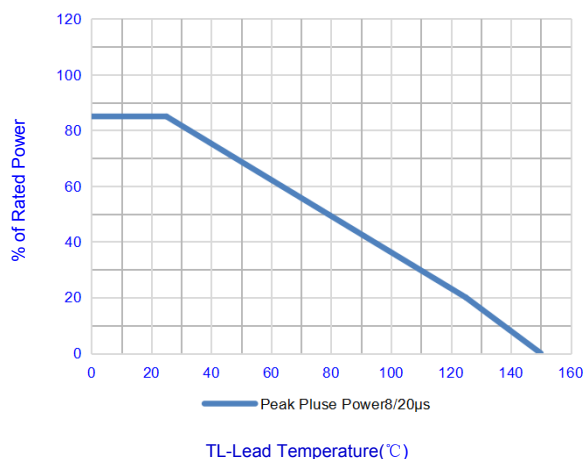


Fig.1- Power Derating

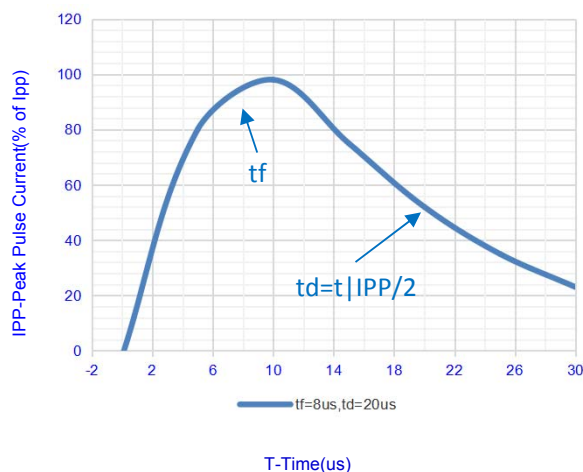


Fig.2-Pulse Waveform

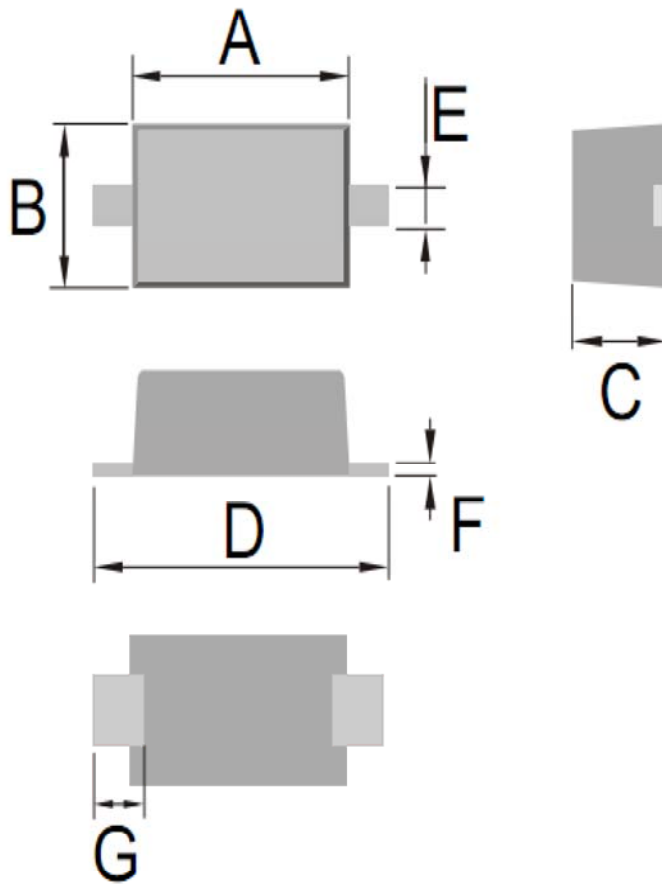
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OUTLINE DRAWINGS

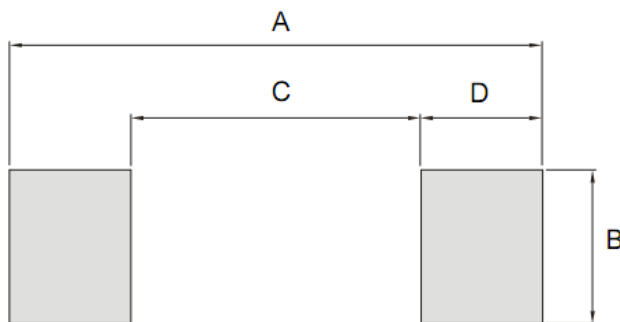
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OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.100	-	1.300	0.043	-	0.051
B	0.750	-	0.850	0.030	-	0.033
C	0.510	-	0.770	0.020	-	0.030
D	1.500	-	1.700	0.059	-	0.067
E	0.250	-	0.350	0.010	-	0.014
F	0.030	-	0.150	0.001	-	0.006
G	-	0.250	-	-	0.00984	-

RECOMMENDED LAYOUT DRAWINGS

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RECOMMENDED LAYOUT DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	--	2.020	--	--	0.080	--
B	--	0.700	--	--	0.028	--
C	--	0.820	--	--	0.032	--
D	--	0.600	--	--	0.024	--

PACKING INFORMATION

SOD-523

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	210×210×203	45000	455×455×240	180000

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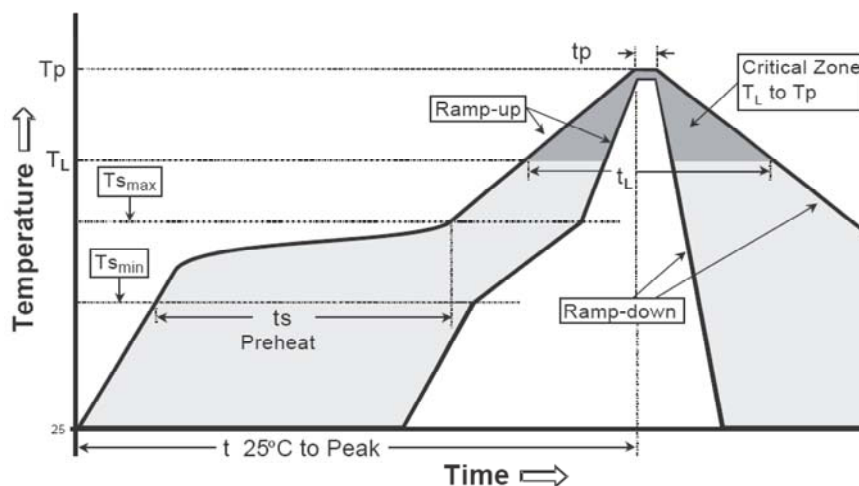
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Recommended wave soldering condition

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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