

NHESD5Z5.0CA

Transient Voltage Suppressors for ESD Protection



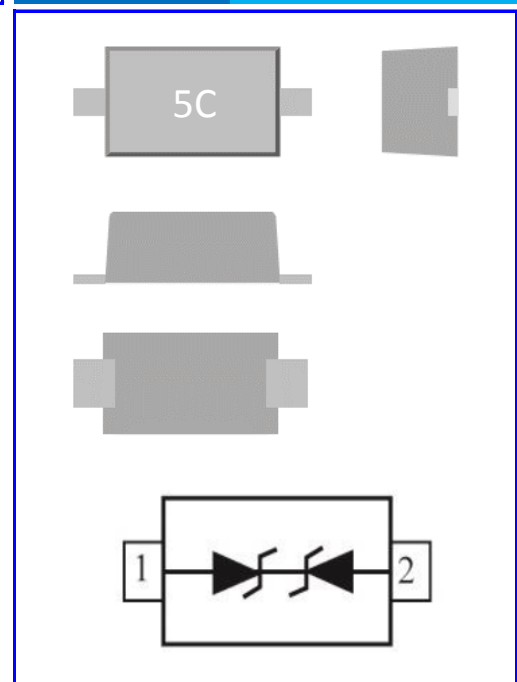
V_{RWM} :	5.0	Volts	P_{PP} :	85	Watts	SOD-523	Marking and Polarity
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FEATURES

- Bi-Direction Transient Voltage Suppressor
- Low capacitance and low leakage
- ESD Rating of Class 3 per Human Body Model
- IEC61000-4-2 level 4 ESD protection
- IEC61000-4-4 Level 4 EFT protection
- We declare that the material of product compliance with RoHS requirements.

DEVICE MARKING

Device MODEL	Marking
NHESD5Z5.0CA	5C



ABSOLUTE RATINGS (Ta = 25°C)

Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD)	Contact Discharge	±30	KV
	Air Discharge	±30	
Peak Pulse Power (tp = 8/20µs)	P_{PP}	85	W
Maximum Junction Temperature	T_J	150	°C
Operating Temperature Range	T_{OP}	-45 ~ +150	°C
Lead Solder Temperature - Maximum (10 Second Duration)	T_L	255±5	°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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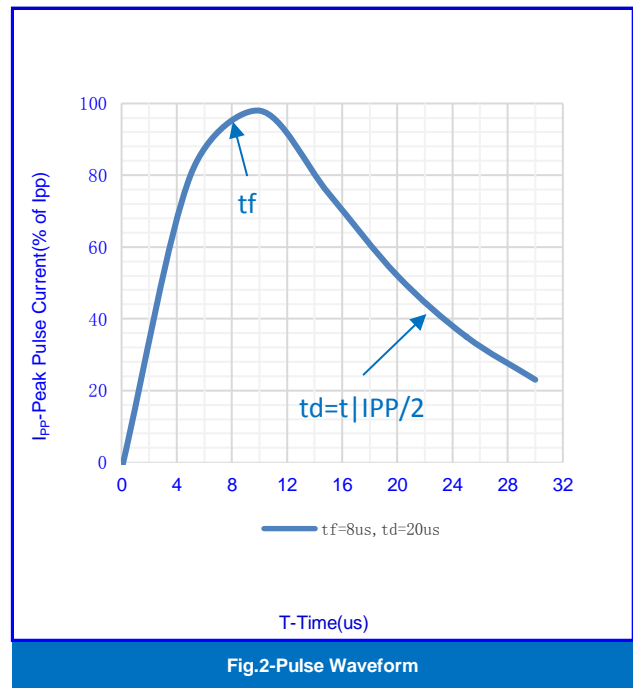
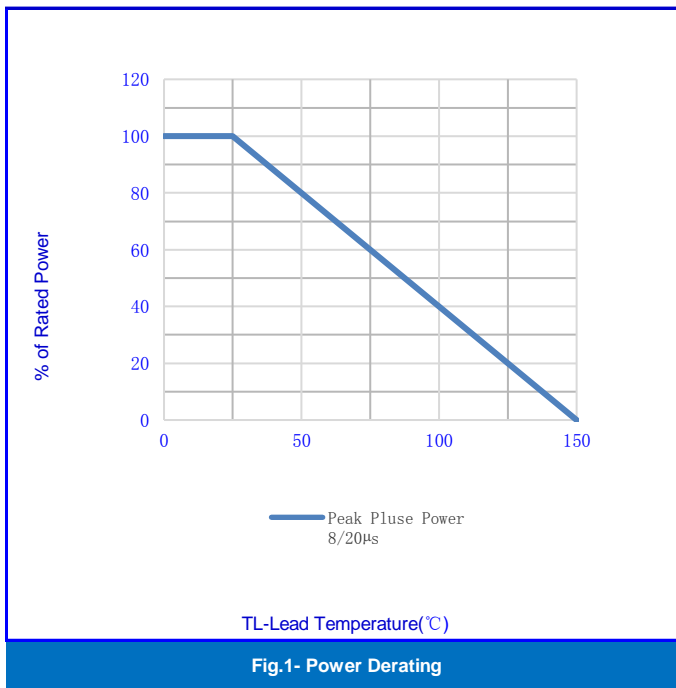


ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

DEVICE	V _{RWM}	I _R @±V _{RWM}	V _{BR} @I _T		I _T	V _C @I _{PP} =5A	V _C @Max.I _{PP}	I _{PP}	P _{PK}	C _D
	Max.	Max.	Min.	Max.	mA	Typ.	Max.	Max.	Max.	Typ.
	V	uA	V			V	V	A	W	pF
NHESD5Z5.0CA	5.0	1.0	5.6	8.2	1.0	8.5	11	9	85	13

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

ELECTRICAL CHARACTERISTICS CURVES



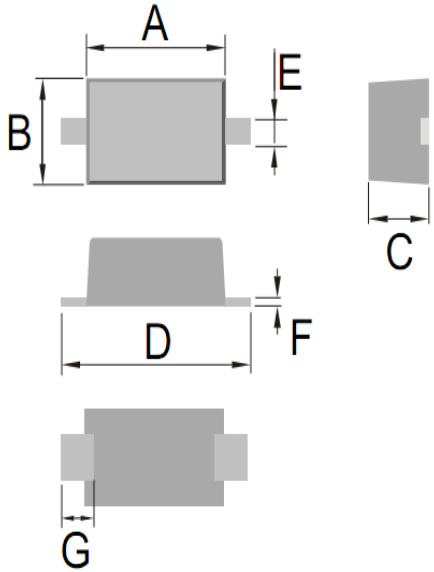
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OUTLINE DRAWINGS

SOD-523

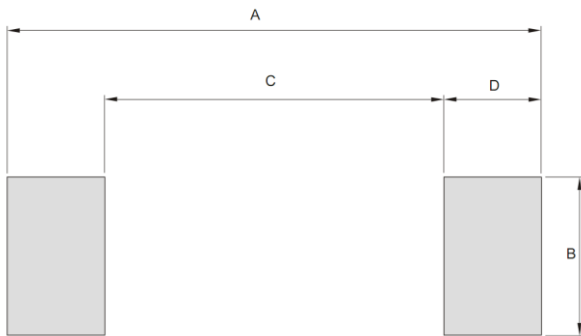


OUTLINE DIMENSIONS

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	-	-	0.0098	-

RECOMMENDED LAYOUT DRAWINGS

SOD-523



RECOMMENDED MOUNTING PAD 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 LxWxH(mm)	Quantity (pcs/Inner Box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)
Tape Reel	Φ180	3000	210x210x203	45000	455x455x240	180000

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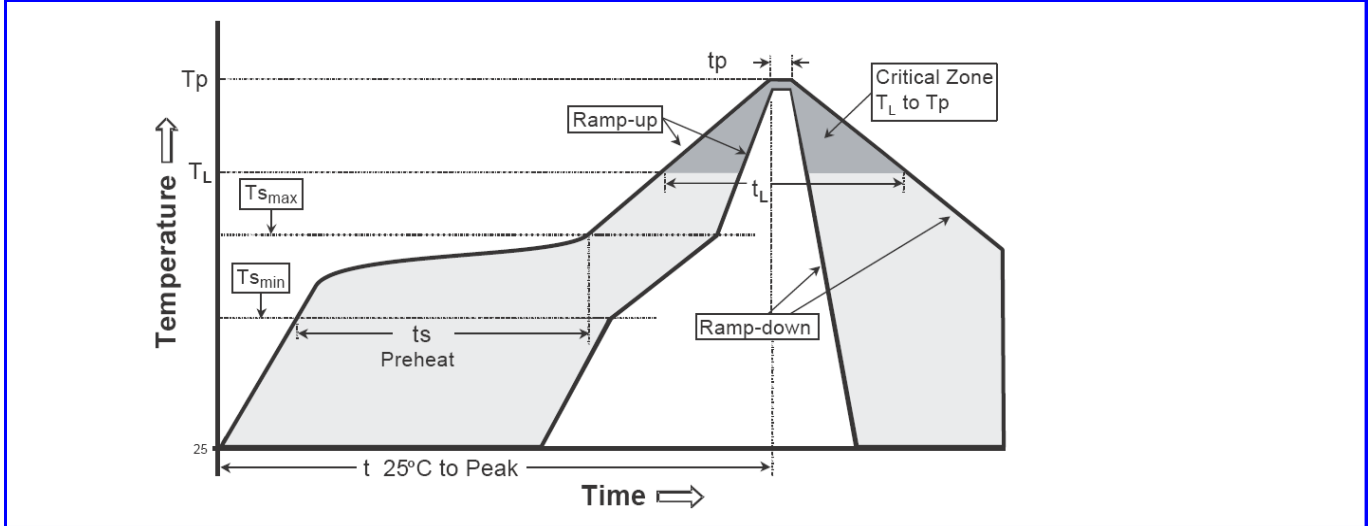
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Recommended wave soldering condition

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 (Tsmmax 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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