

FEATURES

- | 125Watts peak pulse power ($t_p = 8/20\mu s$)
- | Protects Two Lines
- | Operating Voltage: 5.0V
- | Low clamping voltage
- | Low leakage current
- | Meet AEC-Q101 Requirements

APPLICATIONS

- | Notebooks,Desktops,Servers and
- | Video Graphics Cards
- | USB Power & Data Line Protection
- | Monitors and Flat Panel Displays
- | I²C BUS Protection
- | Portable Instrumentation
- | Set-Top Box



SOT-523



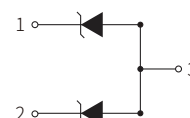
Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

- | | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |



Schematic Symbol

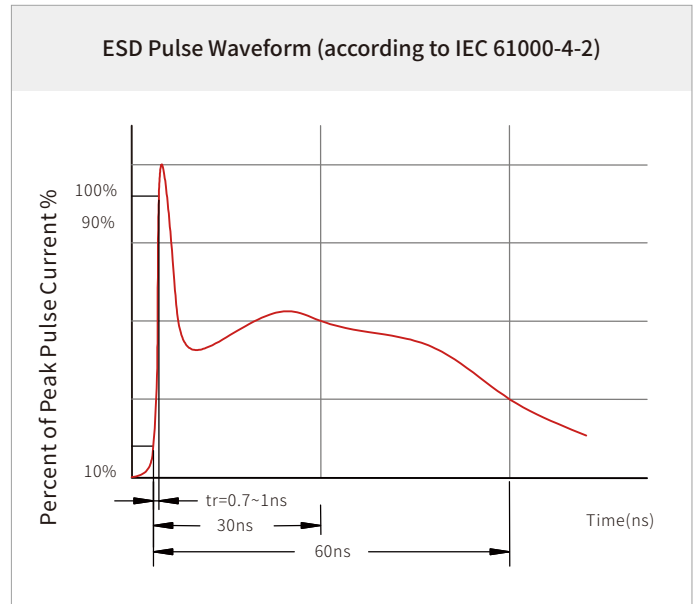
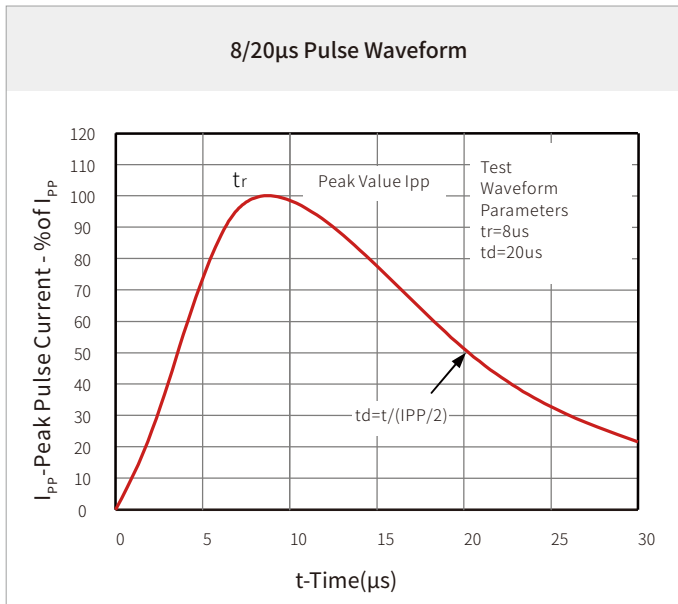
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	125	Watts
T_J	Operating Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

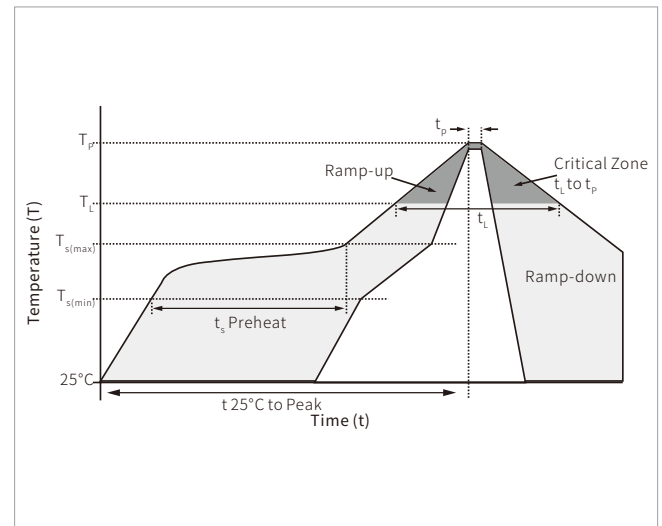
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	6			V
I_R	Reverse Leakage Current	$V_{RWM}=5V$			1	μA
V_C	Clamping Voltage	$I_{pp}=1A, t_p=8/20\mu s$			15	V
V_C	Clamping Voltage	$I_{pp}=4A, t_p=8/20\mu s$			25	V
I_{pp}	Peak Pulse Current	$t_p=8/20\mu s$			4	A
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$			1	pF

CHARACTERISTIC CURVES

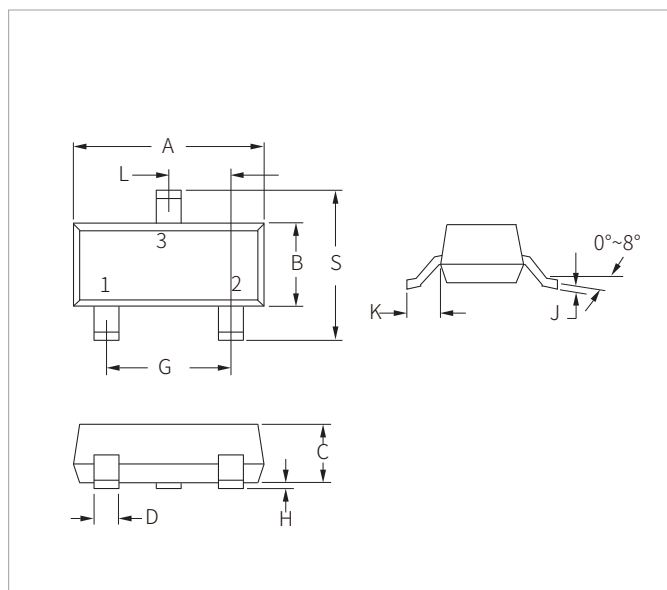


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

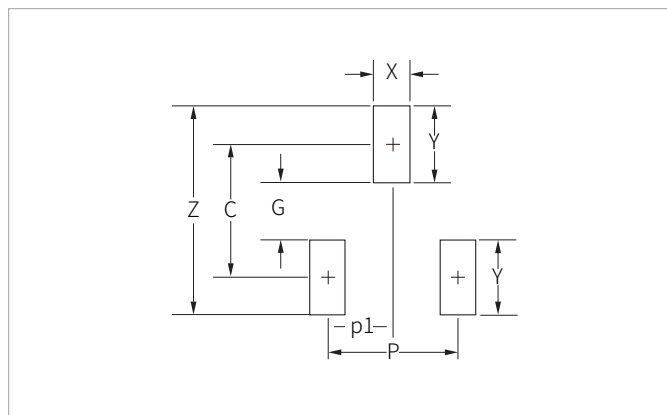


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.70	0.90	0.028	0.035
C	0.60	0.90	0.023	0.035
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSE35T12U5.0MB	SOT-523	3000PCS	7"

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