

## FEATURES

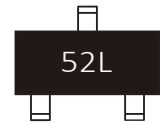
- | 100W Peak Pulse Power per Line (tp=8/20μs)
- | Low Leakage current
- | Operating Voltage: 5 V
- | Low Clamping Voltage
- | Protects Two Lines
- | Meet AEC-Q101 Requirements

## APPLICATIONS

- | Cellular Handsets & Accessories
- | Antennas
- | Two I/O Lines
- | Keypads, Side Keys, LCD Displays
- | Circuit Signal Lines
- | Notebooks & Desktop Computers
- | Portable Instrumentation



SOT-23



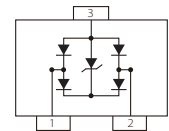
Marking

## IEC COMPATIBILITY

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

## APPROVALS

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



Schematic Symbol

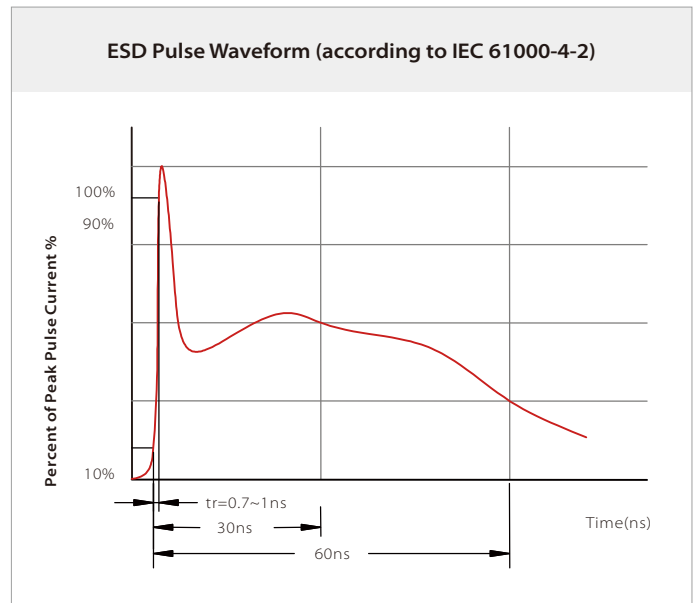
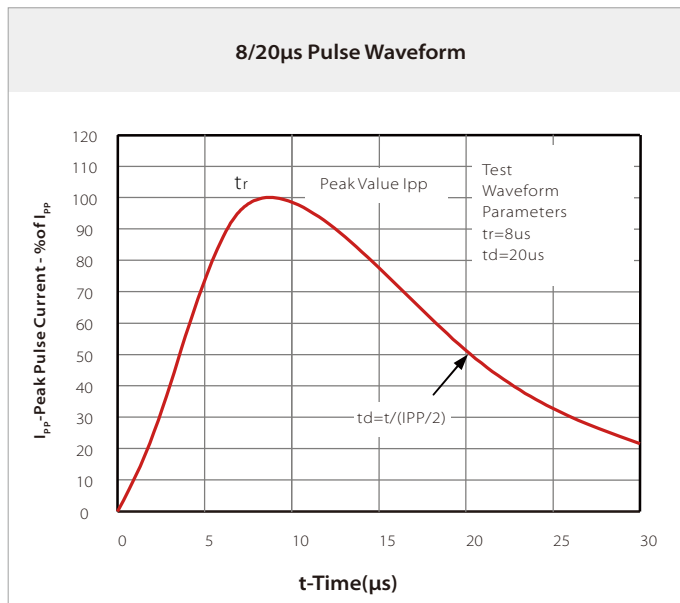
## THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
$P_{PP}$	Peak Pulse Power (tp=8/20μs waveform)	100	Watts
$T_J$	Operating Temperature Range	-55 to +150	°C
$T_{STG}$	Storage Temperature Range	-55 to +150	°C

## ELECTRICAL CHARACTERISTICS

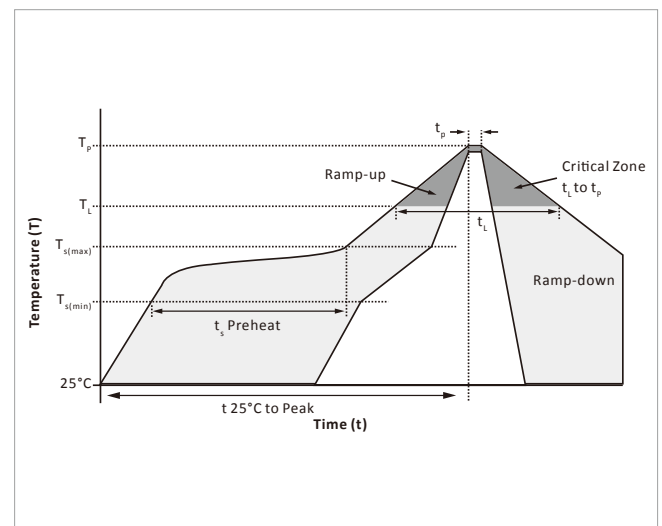
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
$V_{RWM}$	Reverse Stand-off Voltage				5	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T=1\text{mA}$	6			V
$I_R$	Reverse Leakage Current	$V_{RWM}=5\text{V}$			1	μA
$V_C$	Clamping Voltage (Tp=8/20us)	$I_{pp}=1\text{A}, tp=8/20\text{us}$			12	V
$V_C$	Clamping Voltage (Tp=8/20us)	$I_{pp}=4\text{A}, tp=8/20\text{us}$			25	V
$I_{PP}$	Peak Pulse Current (Tp=8/20us)	tp=8/20us			4	A
$C_J$	Off State Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$		0.4		pF

## CHARACTERISTIC CURVES

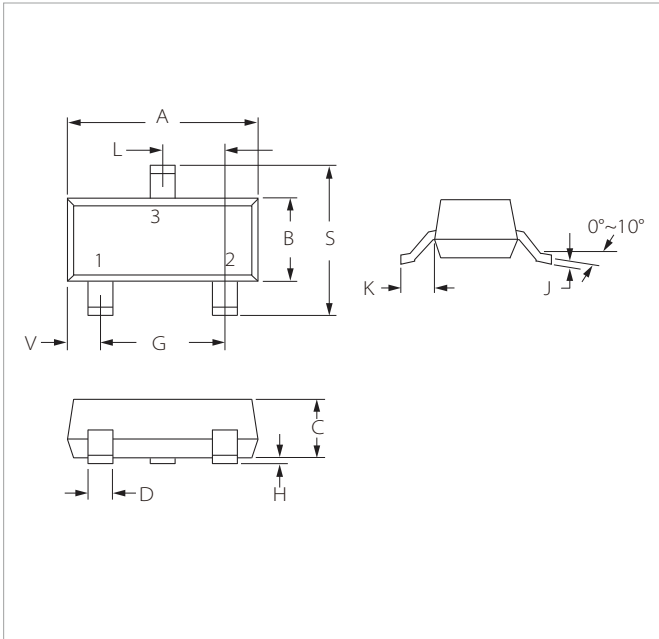


## SOLDERING PARAMETERS

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) ( $t_p$ )	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

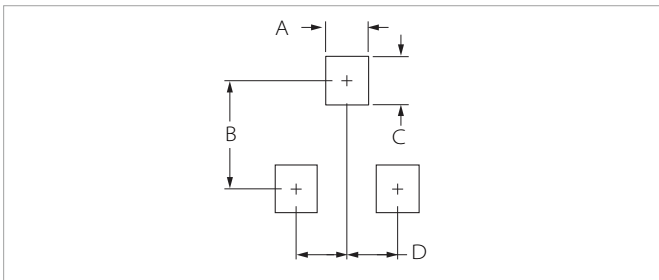


## SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSE23T10U5.0MA	SOT-23	3000PCS	7"

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