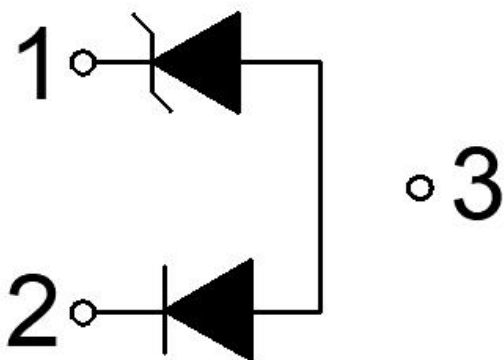
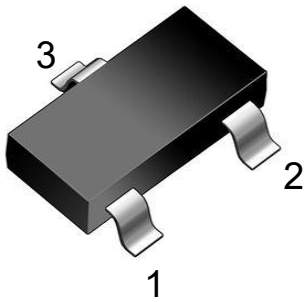


### Features

- Up to 1 lines protects
- Junction capacitance (Max value:5pF)
- Peak Pulse Power (8/20μs) :300W
- IEC61000-4-2 (ESD) 20kV (air), 15kV (contact)
- Low leakage current
- RoHS Compliant

### Appearance&Symbol



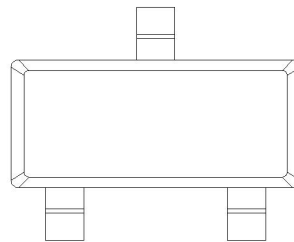
### Mechanical Characteristics

- Package: SOT-23
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :3000pcs

### Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Hadhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

### Marking Information



Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P <sub>PP</sub>	300	W
Peak Pulse Current (8/20μs)	I <sub>pp</sub>	12	A
ESD per IEC 61000-4-2 (Air) 1)	V <sub>ESD</sub>	20	kV
ESD per IEC 61000-4-2 (Contact) 1)		15	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

1) V<sub>ESD</sub> test pin1 or pin2 to pin3

Electrical Characteristics (T<sub>A</sub>=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			12	V	
Breakdown Voltage	V <sub>BR</sub>	13.3		16.5	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>			0.5	uA	V <sub>RWM</sub> = 12V
Clamping Voltage	V <sub>C</sub>		19		V	I <sub>PP</sub> = 1A (8 x 20uS pulse)
Clamping Voltage	V <sub>C</sub>			26	V	I <sub>PP</sub> = 12A (8 x 20uS pulse)
Junction Capacitance	C <sub>J</sub>		1.5	5	pF	V <sub>R</sub> = 0V, f = 1MHz, Pin 1 to Pin 2

Typical Characteristics

FIG1: Power rating derating curve

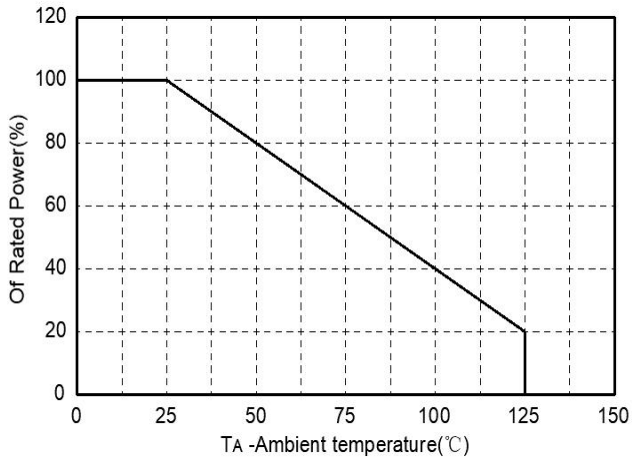


FIG2: pulse Waveform

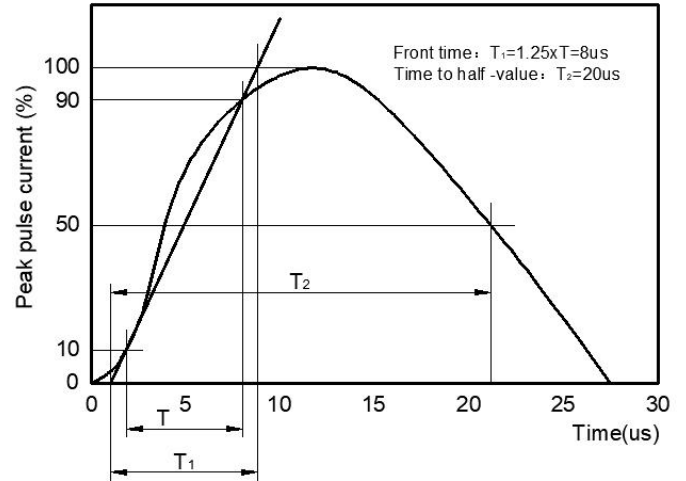


FIG3: Capacitance between terminals characteristics

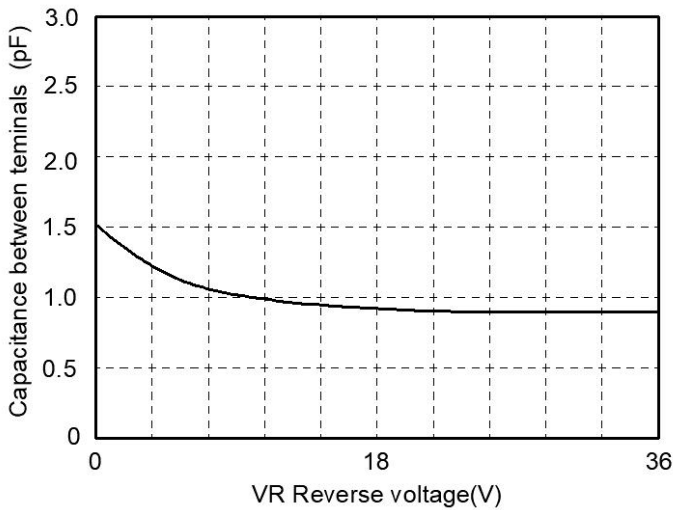
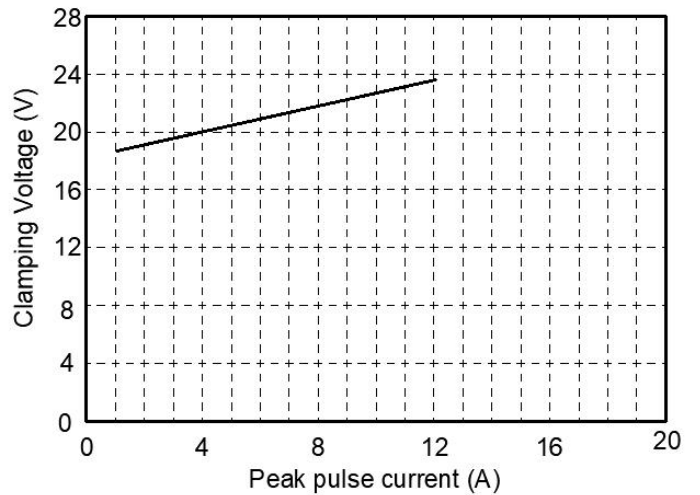
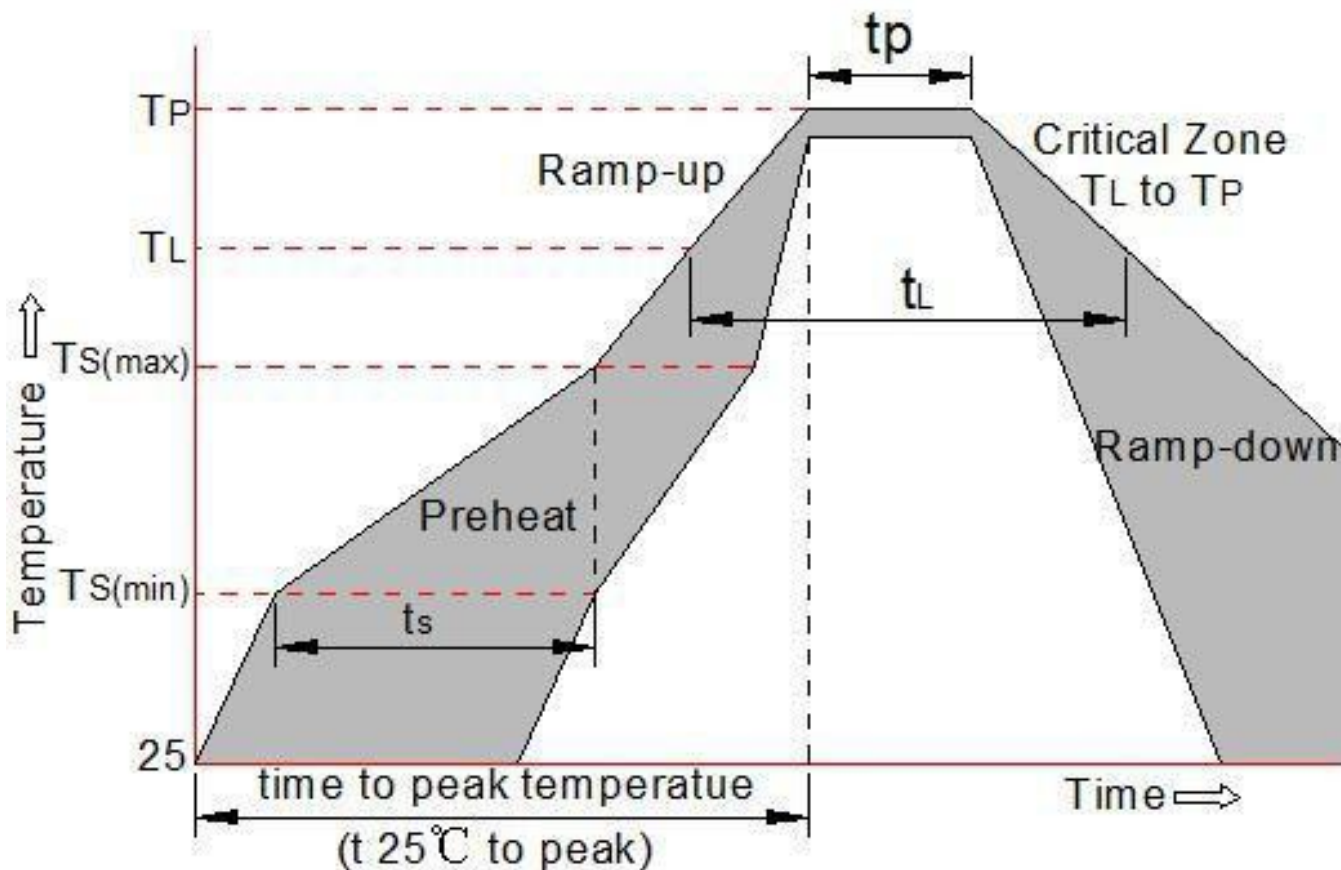


FIG4: Clamping Voltage vs. Peak Pulse Current

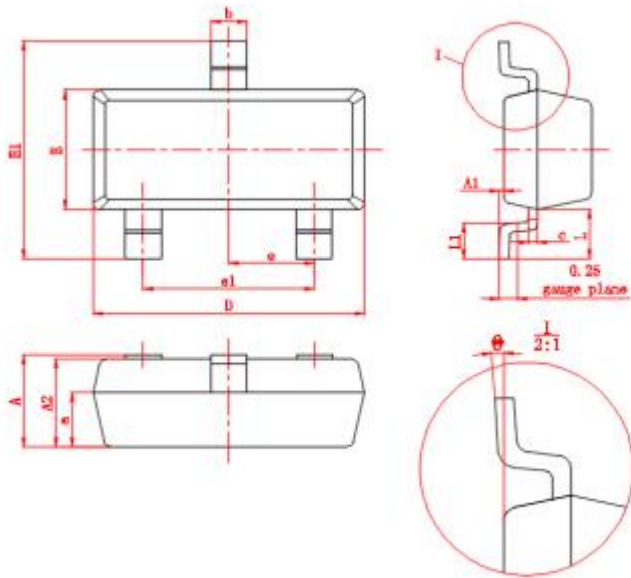


### Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) ( $t_s$ )	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ ) (Liquid us)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C

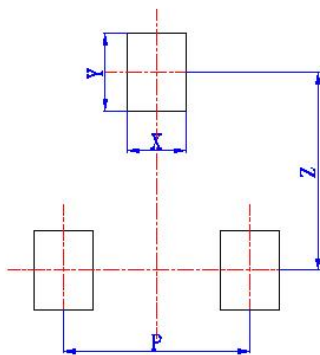


Package mechanical data



Symbol	Dimensional	
	Millimeters	
	min	max
A	0.9	1.15
A1	0	0.1
A2	0.9	1.05
a	(0.6)	
D	2.8	3.0
E	1.2	1.4
E1	2.25	2.55
e	(0.95)	
e1	1.8	2.0
b	0.3	0.5
c	0.08	0.15
L	(0.55)	
L1	0.3	0.5
$\theta$	0°	8°

Suggested Land Pattern



Symbol	Dimensional	
	Millimeters	
X	(0.6)	
Y	(0.8)	
Z	(2.02)	
P	(1.9)	

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