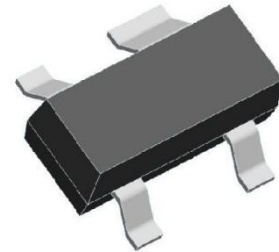


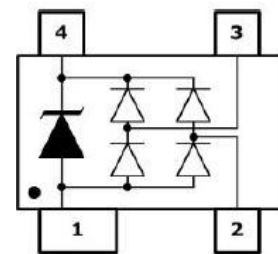
APPLICATIONS

Serial ATA.
Desktops, Servers and Notebooks.
Cellular Phones.
MDDI Ports.
USB2.0 Power and Data Line Protection.
Display Ports
Digital Visual Interfaces (DVI).



FEATURES

Protects one data or power line.
Ultra low leakage: nA level.
Low clamping voltage.
Complies with following standards:
IEC 61000-4-2 (ESD): $\pm 15\text{kV}$ (Air)
IEC 61000-4-2 (ESD): $\pm 8\text{kV}$ (Contact)



SOT-143

MACHANICAL DATA

Package: SOT-143.
Lead Finish: Matte Tin.
Case Material: “Green” Molding Compound.
Terminal Connections: See Diagram Below.
Marking Information: See Below.
Tape & Reel
Reel Size : 7 inch.
Quantity per reel: 3000 pcs
Marking code: According to the physical

DEVICE CHARACTERISTICS

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)			
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppp	300	W
Peak Pulse Power (8/20 μs)	Ipp	3	A
ESD per IEC 61000-4-2 (Air)	VESD	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
VRWM	Reverse Working Voltage	Any I/O pin to GND			5.0	V
VBR	Reverse Breakdown Voltage	$I_T = 1\text{mA}$ Any I/O pin to GND	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5\text{V}$ Any I/O pin to GND			1	μA
VC	Clamping Voltage	$I_{PP} = 3\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			23	V
Ipp	Peak Pulse Current	$t_p = 8/20\mu\text{s}$ Any I/O pin to GND			3	A
CJ2	Junction Capacitance 2	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Any I/O pin to GND		0.5		pF

① Surge waveform: 8/20 μ s

VR : Stand-off Voltage — Maximum voltage that can be applied

VBR: Breakdown Voltage

VC: Clamping Voltage — Peak voltage measured across the suppressor at a specified Ipp

IR: Reverse Leakage Current

TYPICAL CHARACTERISTICS (TA=25° C unless otherwise Specified)

FIG.1: V-I curve characteristics (Uni-directional)

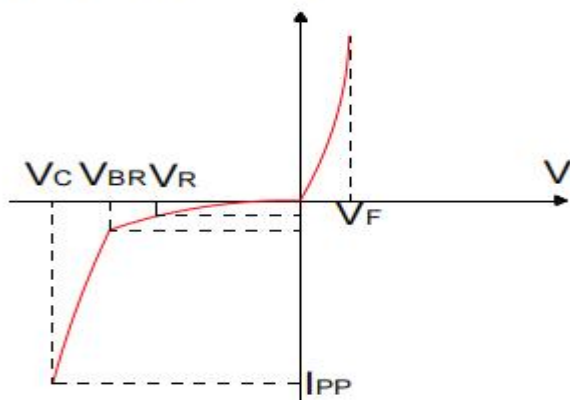
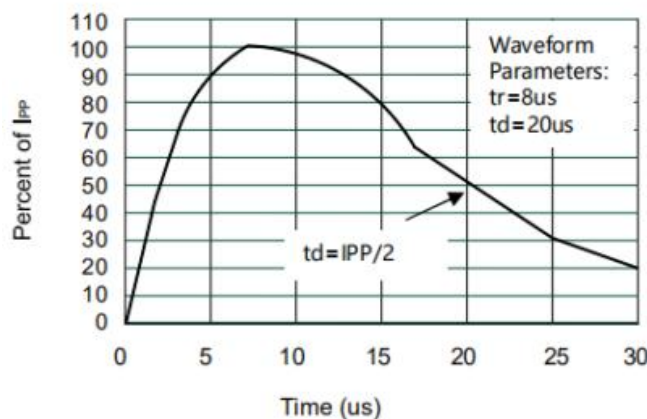
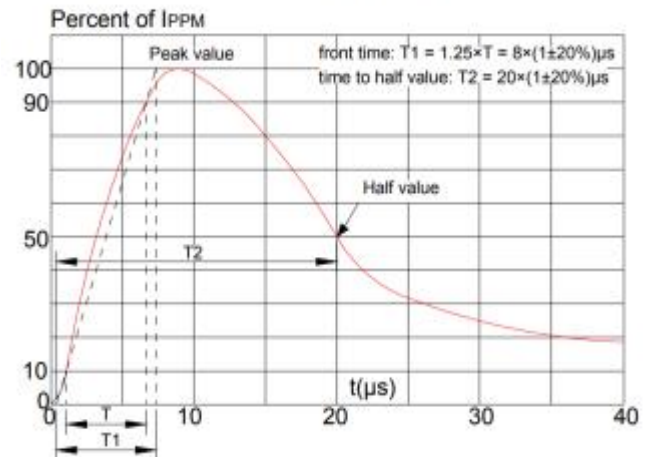
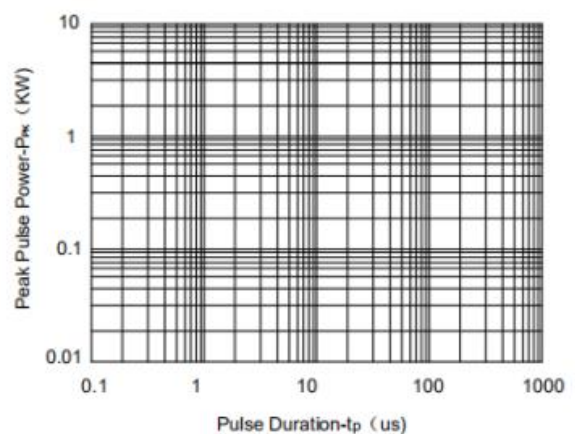


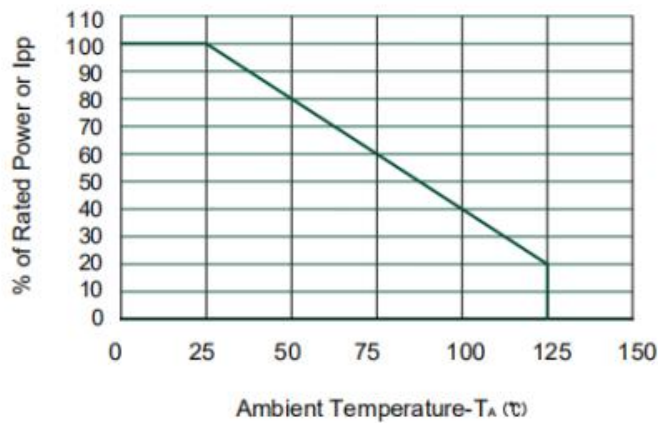
FIG.2: Pulse waveform (8/20 μ s)



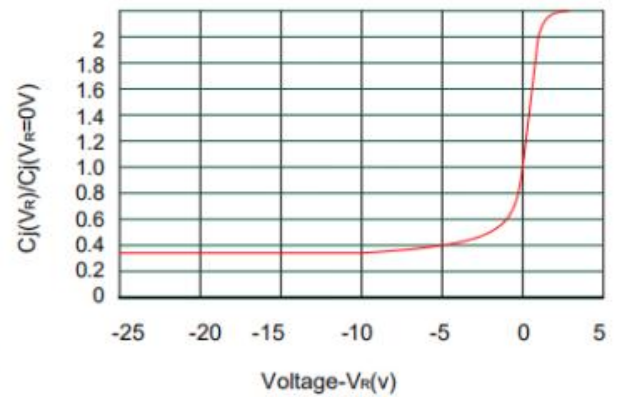
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

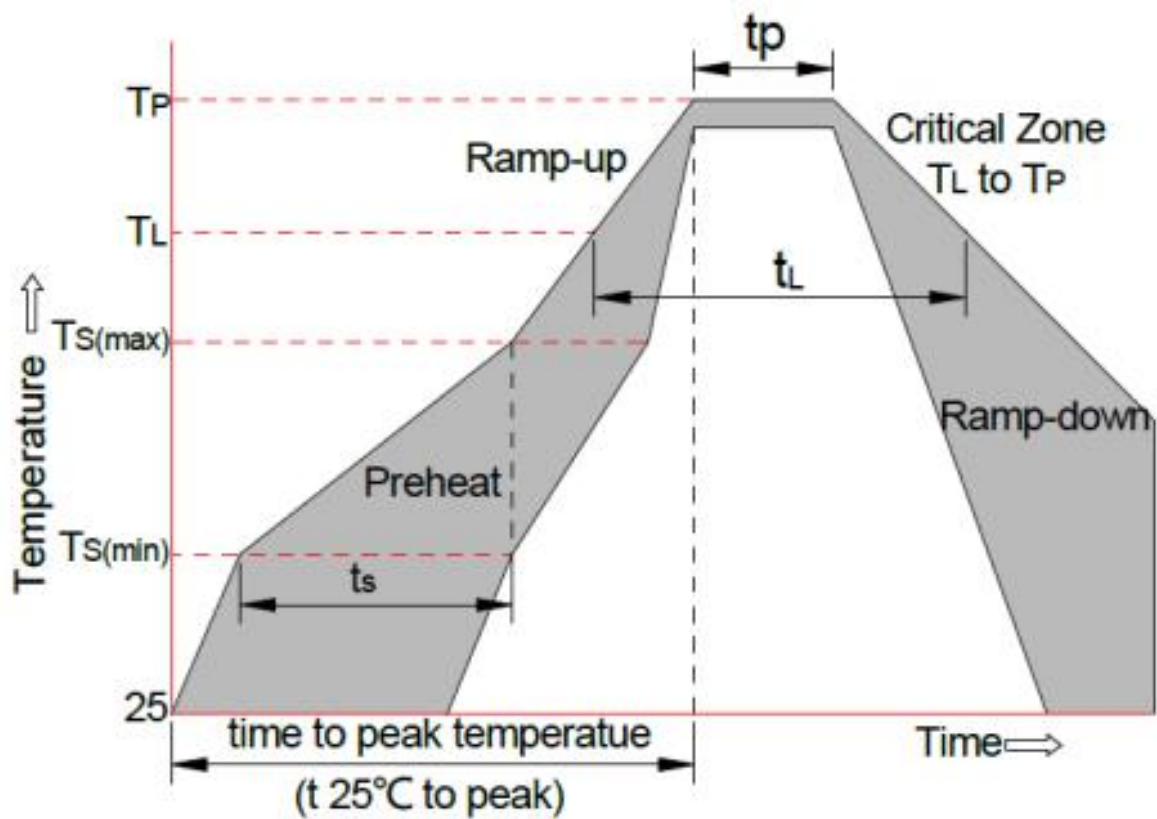


Power Derating Curve

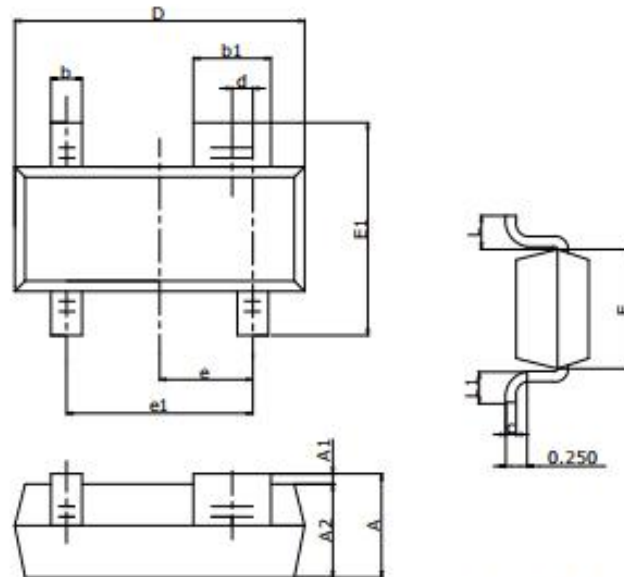


Junction Capacitance vs. Reverse Voltage

SOLDERING PARAMETERS



Reflow Condition		Pb-Free assembly (see FIG. 5)
Pre Heat	-Temperature Min (Ts(min))	+150°C
	-Temperature Max (Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts(max) to TL - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (TL) (Liquid us)	+217°C
	-Temperature (tL)	60-150 secs.
Peak Temp (Tp)		+260 (+0/-5) °C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

SOT-143 PACKAGE OUTLINE DRAWING


SOT-143

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
b1	0.75	0.90	0.030	0.035
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
d	0.20TYP		0.008TYP	
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.10
e	0.95TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.55REF		0.022REF	
L1	0.30	0.50	0.012	0.020