

Features

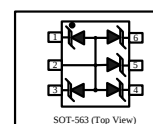
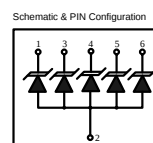
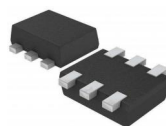
25Watts peak pulse power ($t_p = 8/20\mu s$)
Tiny SOT563 package
Solid-state silicon-avalanche technology
Low clamping voltage
Low leakage current
Protection five data/power line to:
IEC 61000-4-2 $\pm 8kV$ contact $\pm 15kV$ air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 2.5A (8/20 μs)

Applications

Cellular Handsets & Accessories
Personal Digital Assistants (PDAs)
Notebooks & Handhelds
Portable Instrumentation
Digital Cameras

Mechanical Data

SOT563 package
Molding compound flammability rating: UL 94V-0
Packaging: Tape and Reel
RoHS/WEEE Compliant



Absolute Maximum Rating

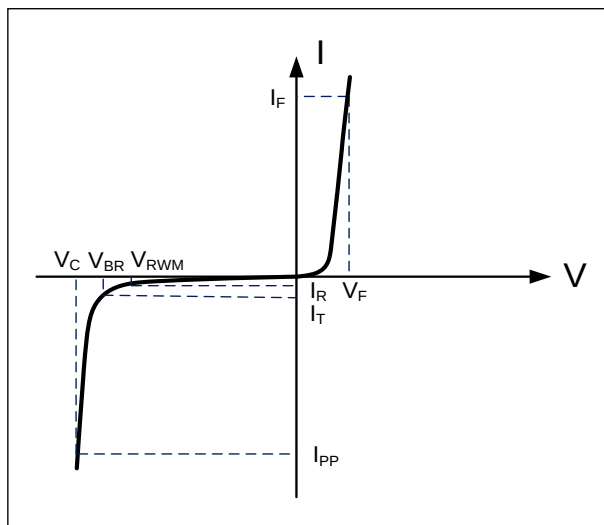
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	25	Watts
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{pp}	2.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 16	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}C$
Junction Temperature	T_J	-55 to + 125	$^{\circ}C$
Storage Temperature	T_{stg}	-55 to + 125	$^{\circ}C$

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V, T=25^{\circ}C$		50	100	nA
Clamping Voltage	V_C	$I_{PP}=2.5A, t_p=8/20\mu s$		11		V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ IO to IO		8.5		pF
		$V_R = 0V, f = 1MHz$ IO to GND		16		

Electrical Parameters (TA = 25°C unless otherwise noted)

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}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note: 8/20μs pulse waveform.

RATING AND CHARACTERISTIC CURVES

Figure 1: Peak Pulse Power vs. Pulse Time

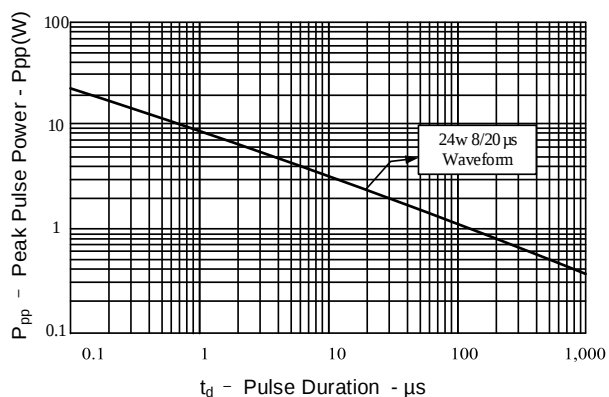


Figure 2: Power Derating Curve

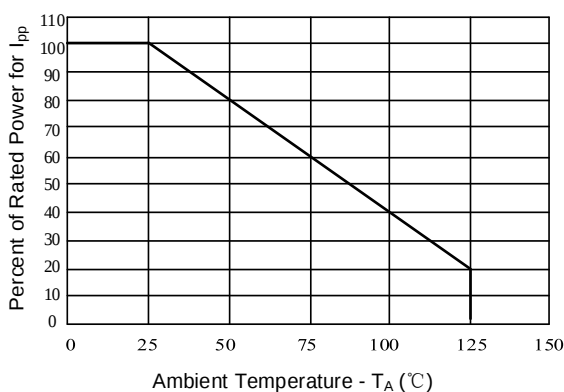


Figure 3: Clamping Voltage vs. Peak Pulse Current

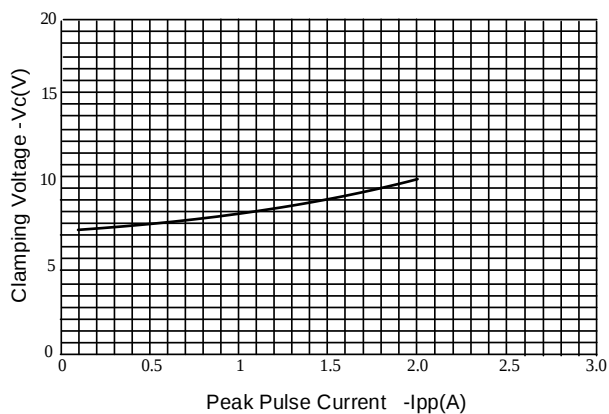


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

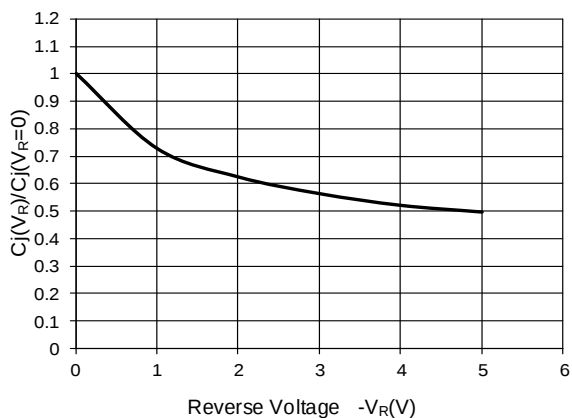


Figure 5: 8/20μs Pulse Waveform

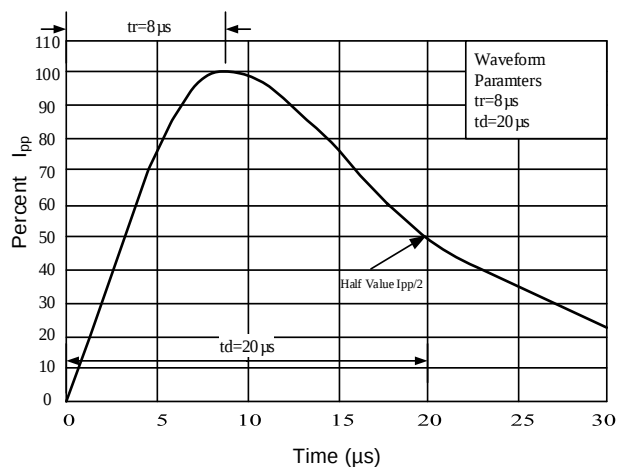
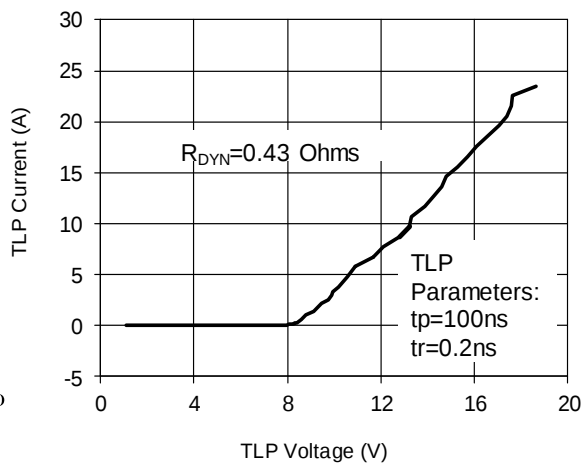
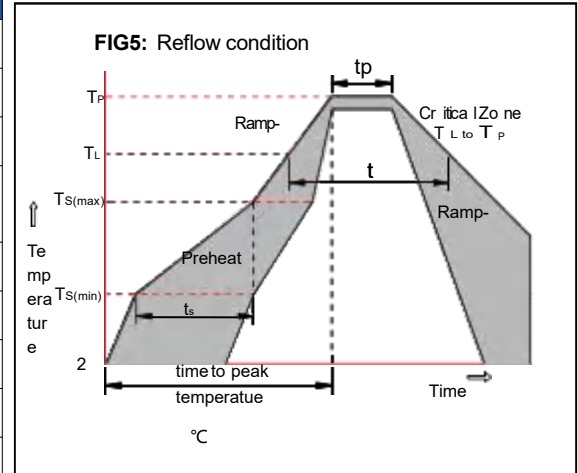


Figure 6: TLP I-V Curve



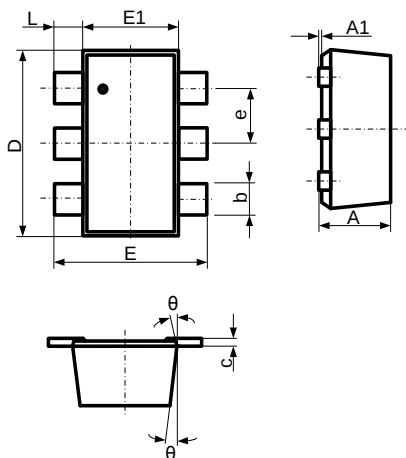
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
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 Dimensions & Suggested Pad Layout

SOT-563



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.021	0.024	0.525	0.600
A1	0.000	0.002	0.000	0.050
e	0.018	0.022	0.450	0.550
c	0.004	0.006	0.090	0.160
D	0.059	0.067	1.500	1.700
b	0.007	0.011	0.170	0.270
E1	0.043	0.051	1.100	1.300
E	0.059	0.067	1.500	1.700
L	0.004	0.012	0.100	0.300
θ	7°REF		7°REF	

Dimensions in inches and (millimeters)