

Features

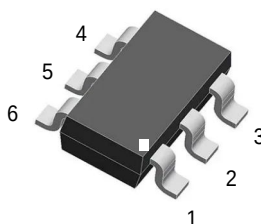
90Watts peak pulse power ($t_p = 8/20\mu s$)
SOT23-6 package
Solid-state silicon-avalanche technology
Low clamping voltage
Low leakage current
Low capacitance ($C_j = 0.3pF$ typ. IO to IO)
Protection one data/power line to:
IEC 61000-4-2 $\pm 12kV$ contact $\pm 15kV$ air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 5A (8/20 μs)

Applications

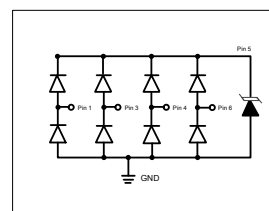
Ethernet
Digital Visual Interface (DVI)
USB2.0
Notebook and PC Computers



SOT 23-6L



Circuit Diagram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (@ $T_a = 25^\circ C$ unless otherwise specified)

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{pp}	90	Watts
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{pp}	5.0	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 12	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	$^\circ C$

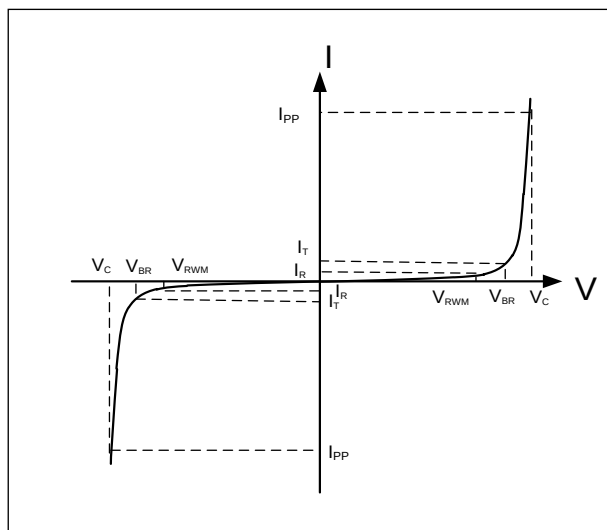
Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_{\text{T}}=1\text{mA}$	6			V
Reverse Leakage Current	I_{R}	$V_{\text{RWM}}=5\text{V}, T=25^{\circ}\text{C}$			1.0	μA
Peak Pulse Current	I_{PP}	$t_{\text{p}}=8/20\mu\text{s}$			5.0	A
Clamping Voltage	V_{C}	$I_{\text{PP}}=5.0\text{A}, t_{\text{p}}=8/20\mu\text{s}$			17	V
Junction Capacitance	C_{j}	$V_{\text{R}}=0\text{V}, f=1\text{MHz}$ IO to IO		0.3	0.45	pF
		$V_{\text{R}}=0\text{V}, f=1\text{MHz}$ IO to GND		0.6	0.9	

Electrical Parameters ($T_A = 25^{\circ}\text{C}$ 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: 8/20 μs pulse waveform.



RATING AND CHARACTERISTIC CURVES

Fig.1 Peak Pulse Power Rating Curve

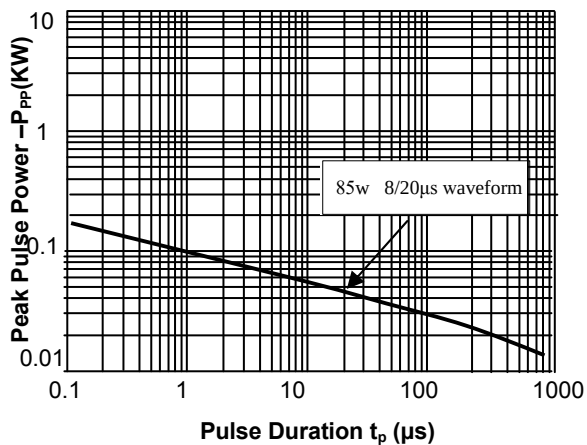


Fig.2 Pulse Derating Curve

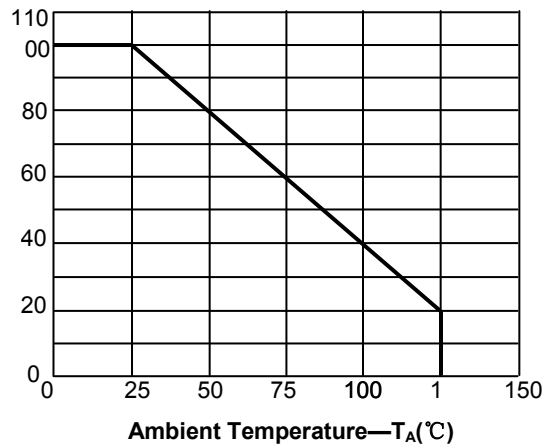


Fig.3 Pulse Waveform-8/20 μ s

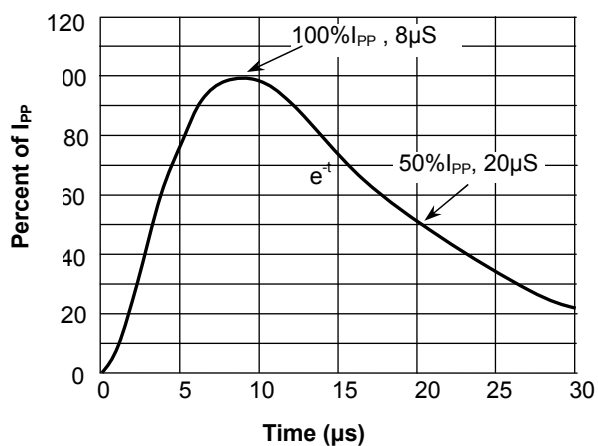
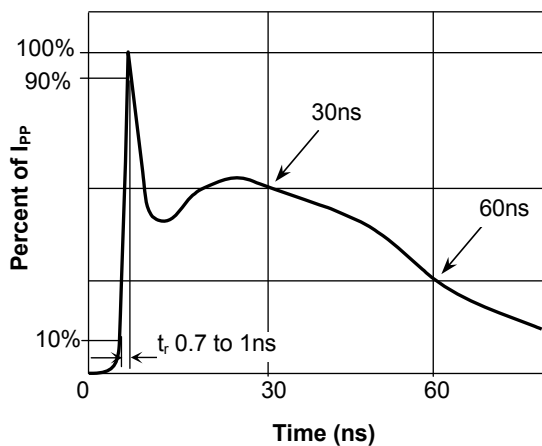
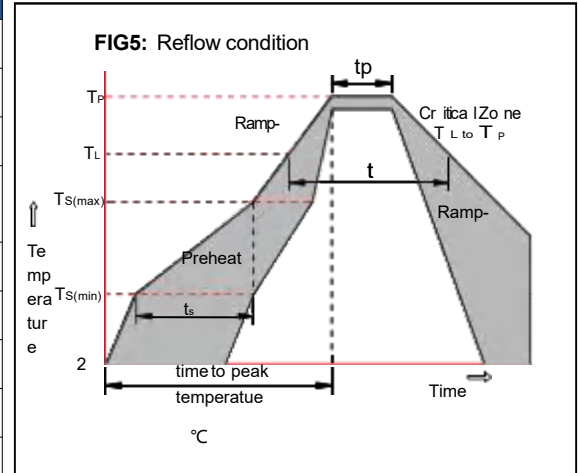


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)



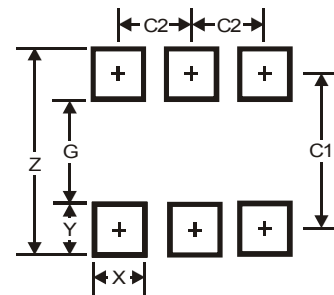
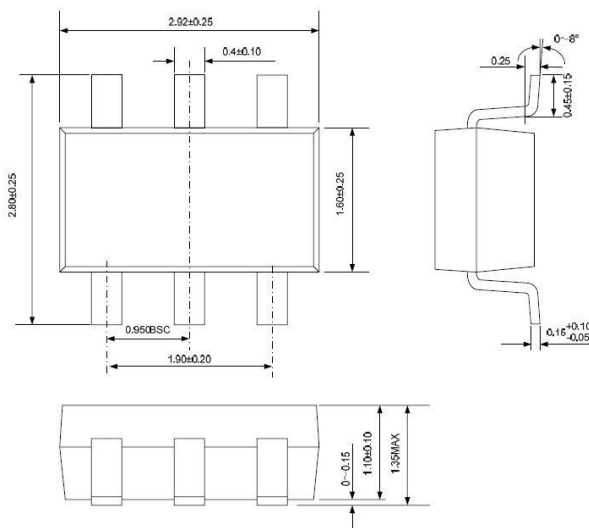
Soldering parameters

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) (ts)	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

SOT23-6L

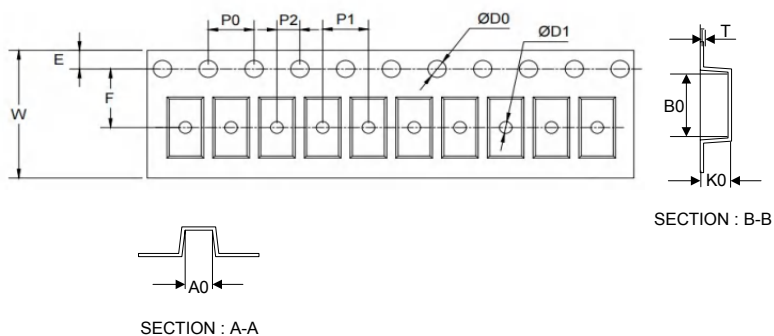


Dimensions	Value (in mm)
Z	3.50
G	1.30
X	0.65
Y	1.10
C1	2.40
C2	0.95

Dimensions in millimeters

Tape & reel specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	1.20±0.20
E	1.55±0.20
F	3.60±0.20
W	8.00±0.20
A0	3.80±0.20
B0	3.50±0.20
K0	1.55±0.20
T	0.25±0.15
D2	178.0±5.0
D3	55Min.
D4	R24.0±3.0
G	R82.0±3.0
I	13.0±2.0
W1	11.0±3.0

Quantity: 3000PCS

7" Reel

