

## Features

- Working voltage: 12V
- Low clamping voltage
- Protects five I/O lines
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30\text{kV}$   
Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning) 5A (8/20  $\mu\text{s}$ )
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

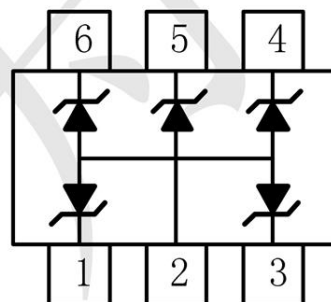
## Mechanical Characteristics

- Package: SOT-363 (2.0X2.1X0.35mm)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Shipping Qty : 3000pcs/7Inch Tape & Reel

## Applications

- Portable Instrumentation
- Microprocessor Based Equipmenmt
- Cell Phone Handsets and Accessories
- Personal Digital Assistants (PDAs) and Pagers

## Dimensions and Pin Configuration



Pin Configuration

**Marking: 6KP**

**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

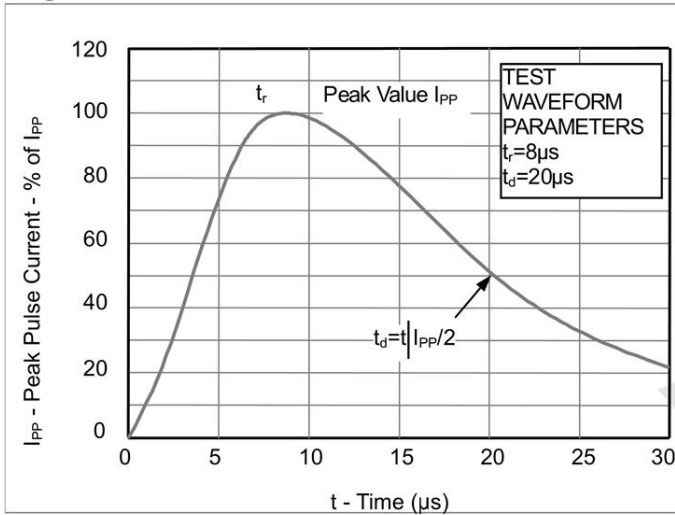
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	150	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	I <sub>PP</sub>	5	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

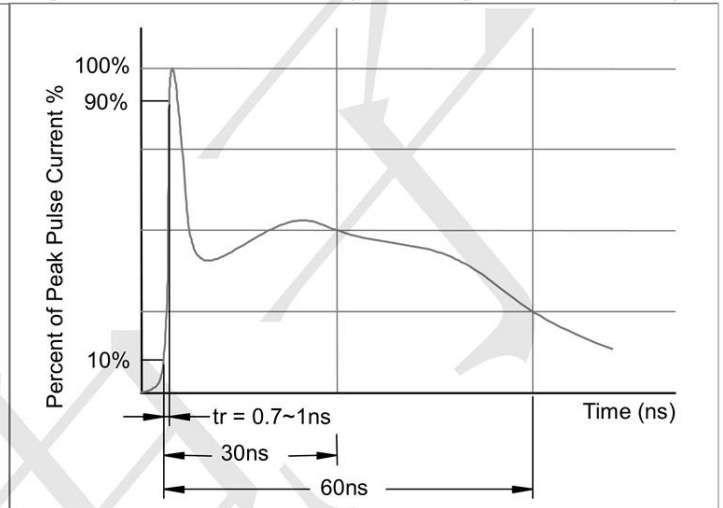
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			12	V	
Breakdown Voltage	V <sub>BR</sub>	13.5			V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>			0.1	$\mu\text{A}$	V <sub>RWM</sub> = 5V
Forward Voltage	V <sub>F</sub>		0.85	1.2	V	I <sub>F</sub> = 15mA
Clamping Voltage	V <sub>C</sub>			18	V	I <sub>PP</sub> = 1A(8x20us pulse)
Clamping Voltage	V <sub>C</sub>			28	V	I <sub>PP</sub> = 10A(8x20us pulse)
Junction Capacitance	C <sub>J</sub>			20	pF	V <sub>R</sub> = 0V, f = 1MHz

Note 1: I/O pins are Pin 1, 3, 4, 5 and 6

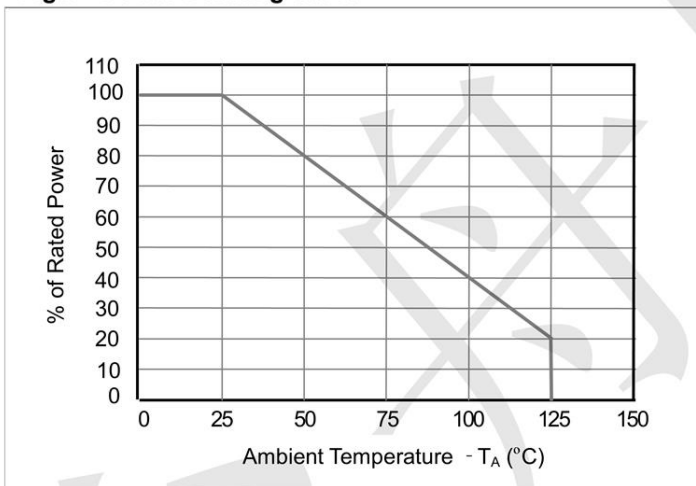
**Fig1. 8/20 $\mu$ s Pulse Waveform**



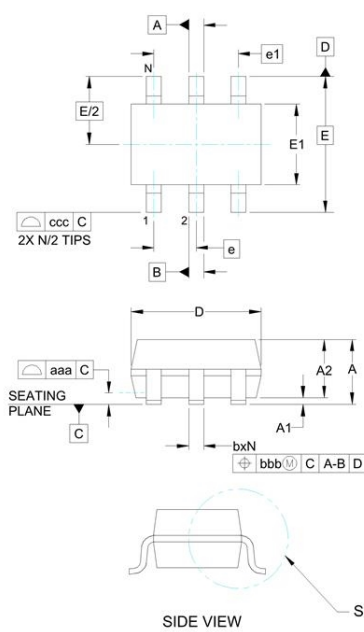
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

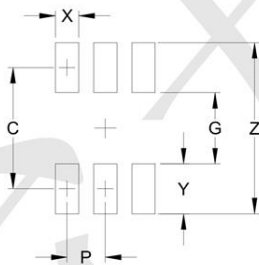


**Outline Drawing - SOT-363(2.0X2.1)**



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	-	-	.043	-	-	1.10
A1	.000	-	.004	0.00	-	0.10
A2	.028	.035	.039	0.70	0.90	1.00
b	.006	-	.012	0.15	-	0.30
c	.003	-	.009	0.08	-	0.22
D	.071	.079	.087	1.80	2.00	2.20
E1	.045	.049	.053	1.15	1.25	1.35
E	.083 BSC			2.10 BSC		
e	.026 BSC			0.65 BSC		
e1	.051			1.30 BSC		
L	.010	.014	.018	0.26	0.36	0.46
L1	(.017)			(0.42)		
N	6			6		
01	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.004			0.10		
ccc	.012			0.30		

**Land Pattern - SOT-363**



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.073)	(1.85)
G	.039	1.00
P	.026	0.65
X	.016	0.40
Y	.033	0.85
Z	.106	2.70