

Features

- Low operating voltage: 5V
- Ultra low capacitance: 0.8pF
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 25\text{kV}$
Contact discharge: $\pm 25\text{kV}$
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Lightning):4.5A(8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

Reference:CM1213A-04S7

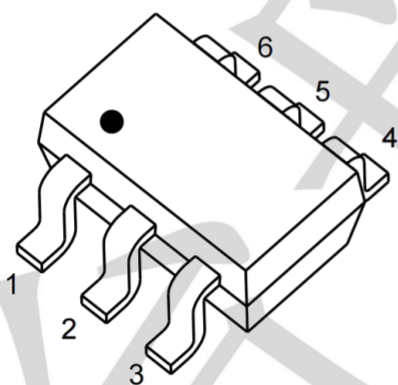
Mechanical Characteristics

- Package: SOT363
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

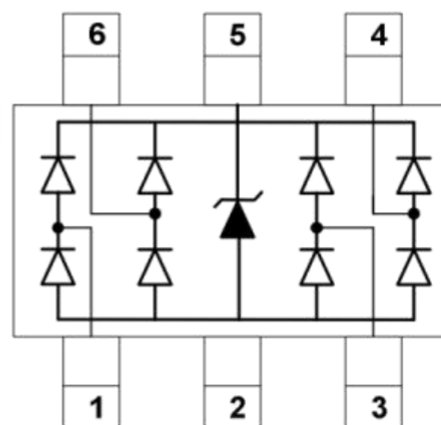
Applications

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Industrial Controls

Dimensions and Pin Configuration



SOT363



Circuit and Pin Schematic

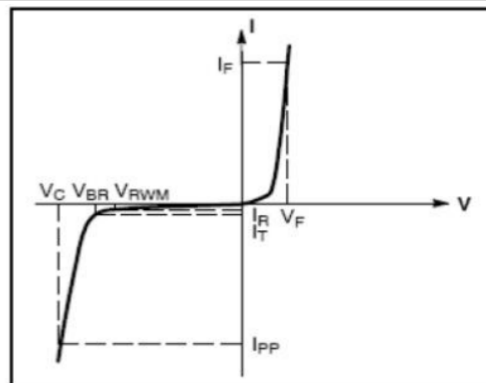
Absolute Maximum Ratings($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s)	Ppp	90	W
Peak Pulse Current (8/20 μ s)	Ipp	4.5	A
ESD per IEC 61000-4-2 (Air)	VESD	± 25	KV
ESD per IEC 61000-4-2 (Contact)		± 25	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}C$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}C$

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	3.3	5	V	Any I/O pin to ground
Breakdown Voltage	VBR	6.5	--	9.4	V	$I_T=1mA$, Any I/O pin to ground
Reverse Leakage Current	IR	--	1	--	μA	VRWM=5V, Any I/O pin to ground
Forward Voltage	VF	0.5	0.8	1.0	V	$I_F=10mA$
Clamping Voltage	VC	--	13.5	20	V	$I_{pp}=4.5A$ (8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	13	20	V	$I_{pp}=8A$ (8x 20us pulse), VCC pin to ground
Junction Capacitance	Cvo-GND	--	0.45	0.8	pF	VR=0V, f=1MHz, Any I/O to GND
	Ci/o- I/O	--	0.25	0.5	pF	VR=0V, f=1MHz, between I/O pins

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage
V_F	Forward Voltage @ I_F
I_F	Forward Current



V-I characteristics for a uni-directional TVS

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

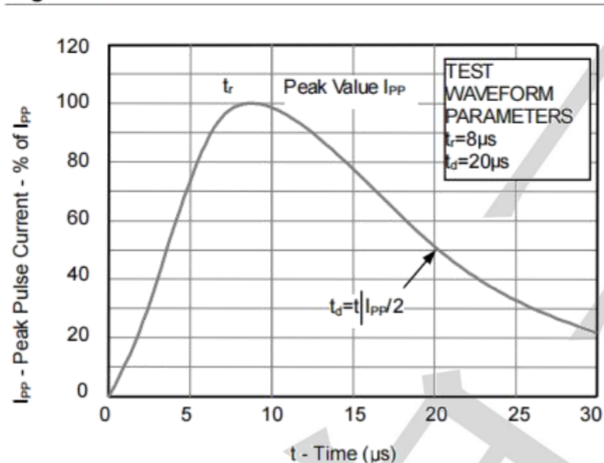


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

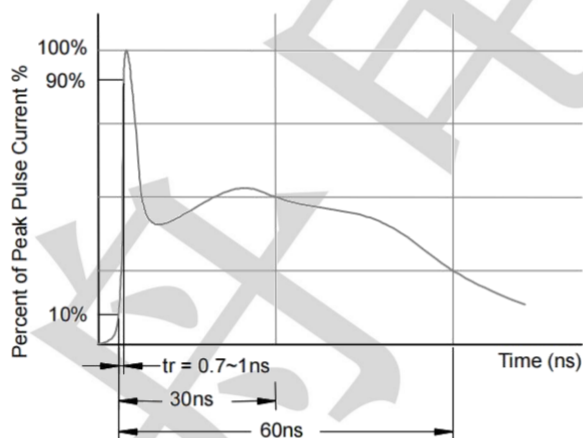
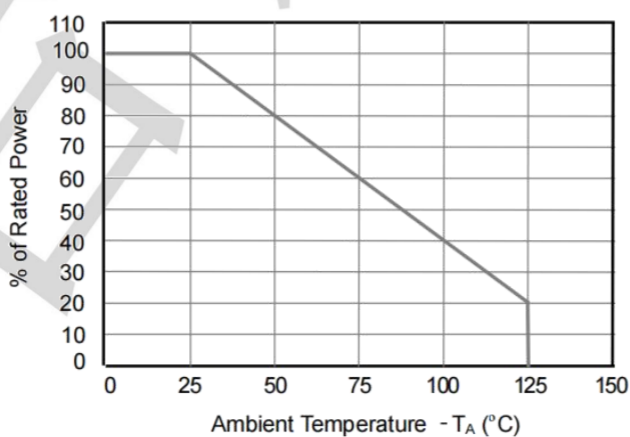
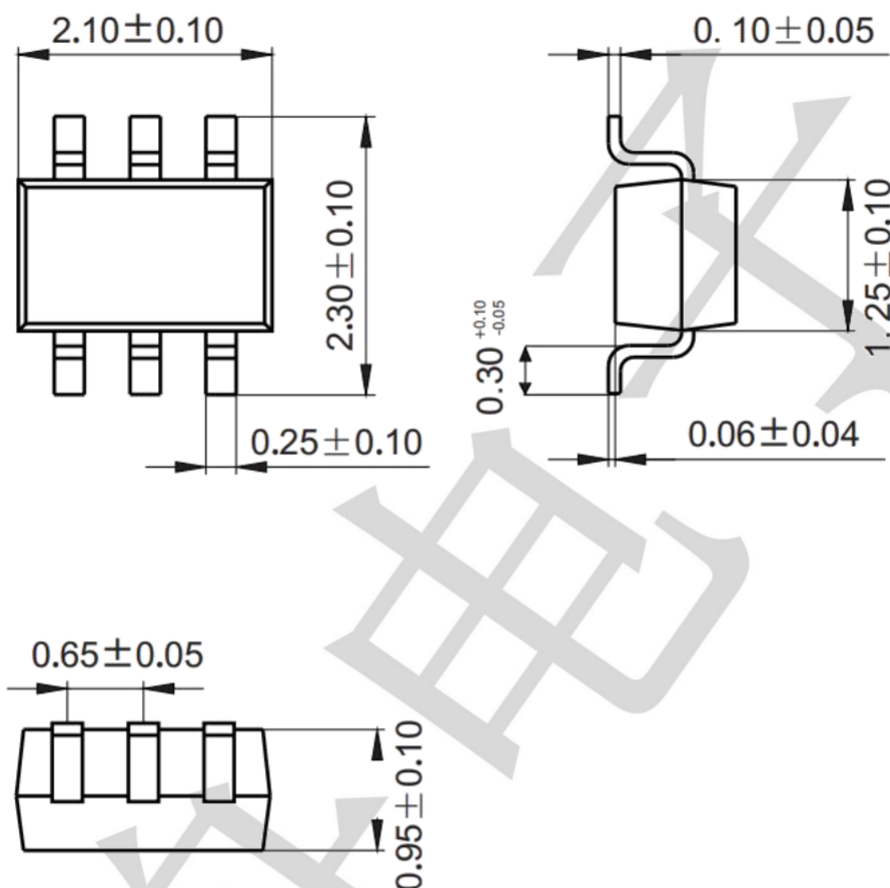


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

SOT363



Mounting Pad Layout (unit: mm)

