

➤ General Description

The SOTxxC series devices is characterized by their high surge capability, low operating and clamping voltages, and fast response time. This makes them ideal for use as board level protection of sensitive semiconductor components. The dual-junction common-anode design allows the user to protect one bidirectional data line or two unidirectional lines.

This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

➤ Feature

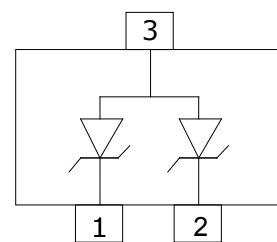
- Small package for use in portable electronics
- Low leakage current
- Low clamping voltage
- Response Time is < 1 ns
- Protects one bidirectional line or two unidirectional lines
- Working voltages : 3V,5V,12V, 15V,24V,36V
- Solid-state silicon avalanche technology
- Device Meets MSL 1 Requirements
- ROHS compliant

➤ SOT-23



➤ Application

- Data lines
- Industrial Controls
- Cellular handsets AND accessories
- Portable instrumentation
- Peripherals
- Notebook Computers
- Set-Top Box
- Projection TV



➤ Maximum Ratings (TA=25°C Unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	300	Watts
ESD Rating per IEC61000-4-2:	Contact	8	KV
	Air	15	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*Other voltages may be available upon request.

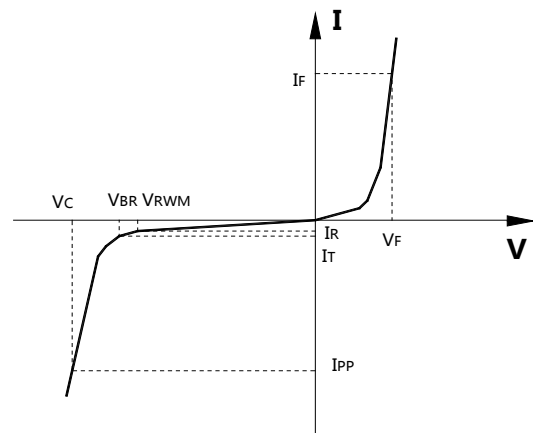
1. Non-repetitive current pulse, per Figure 1.

➤ Electrical Characteristics (TA=25°C Unless otherwise specified)

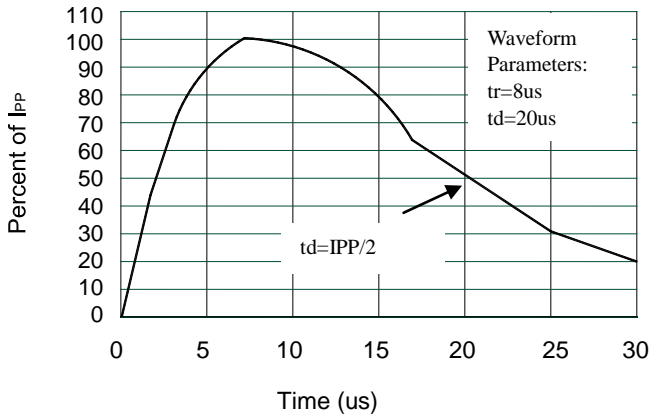
Device	V _{RWM} (V)	I _R @ V _{RWM} (uA)	V _{BR} @ 1 mA	V _C	Max I _{PP} (A)	Capacitance	
			(Volts)	@ 1 A		@ V _R = 0 V, 1 MHz (pF)	
			Min	(V)		Typ	Max
SOT03C	3	20	4.00	7.8	6	53	87
SOT05C	5	1	6.00	9.8	6	45	60
SOT12C	12	1	13.3	19	10	40	55
SOT15C	15	1	16.7	24	7	32	42
SOT24C	24	1	26.7	43	5	45	55
SOT36C	36	1	40.0	60	4	40	45

Junction capacitance is measured in VR=0V,F=1MHz

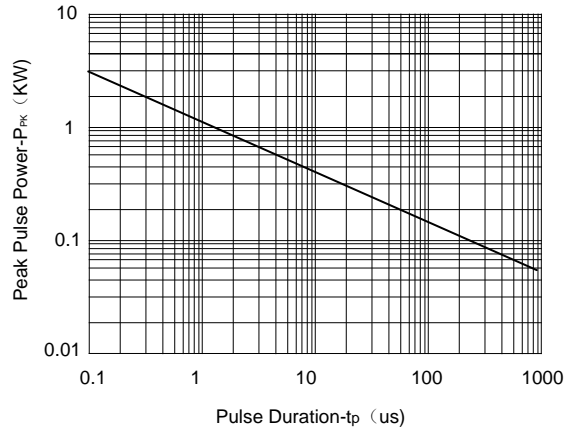
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _r
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



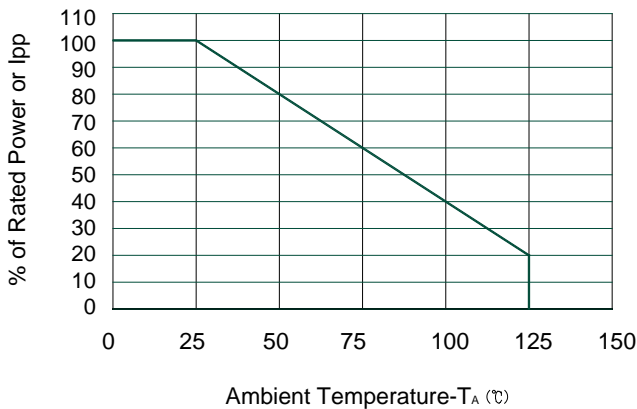
➤ Typical Characteristics



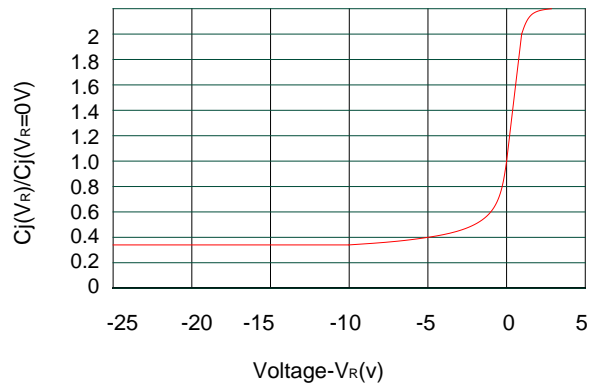
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

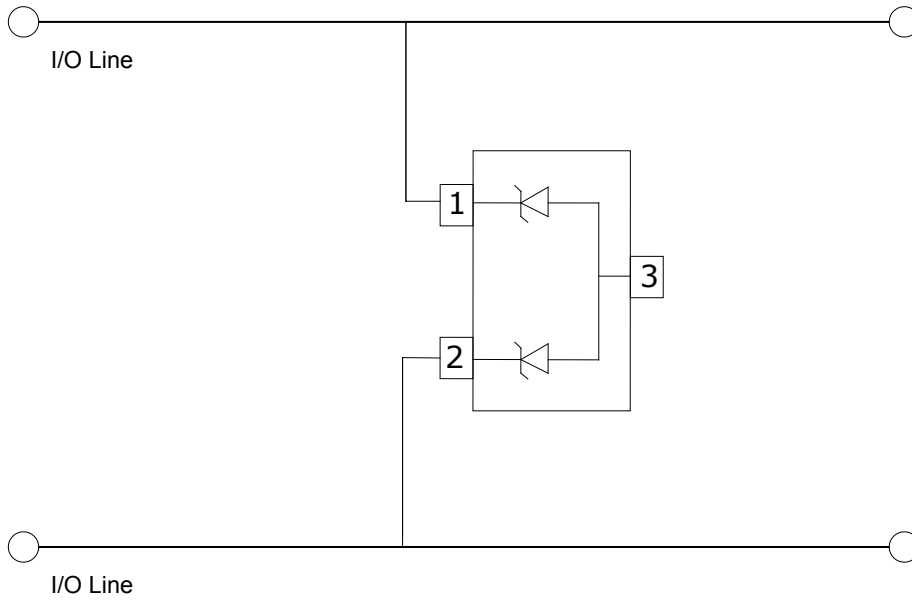


Junction Capacitance vs. Reverse Voltage

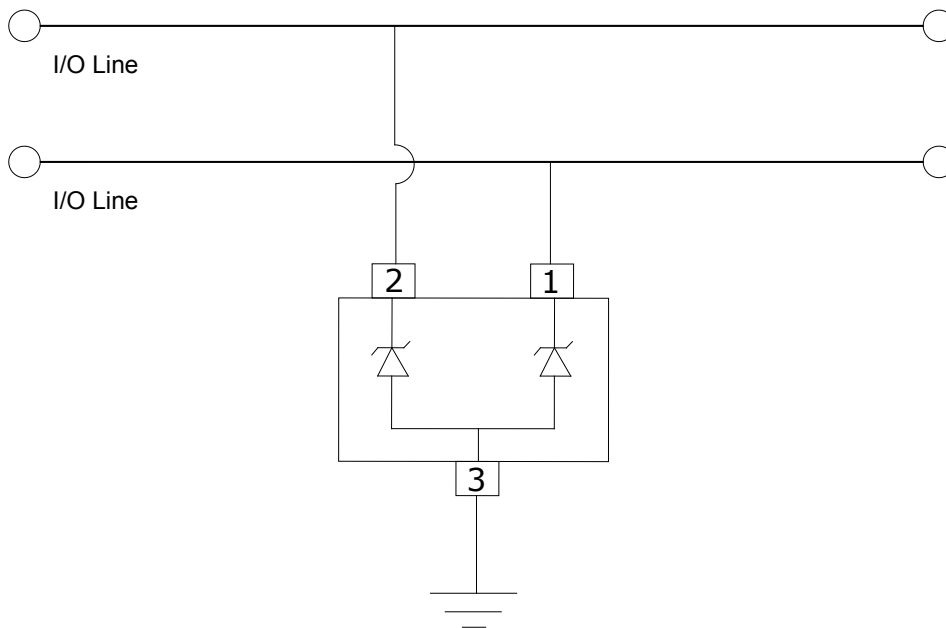
➤ Ordering Information

Part Number	Description	Quantity
SOT03C~SOT36C	SOT-23 Reel	3000 pcs

➤ Typical applications



I/O Line Bi-direction Protection

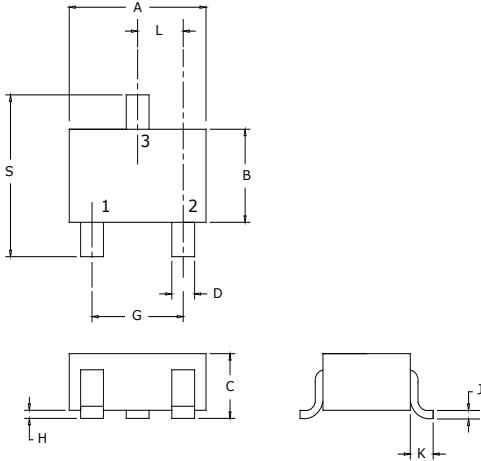


I/O Line uni-direction Protection

➤ Package Information (SOT-23)

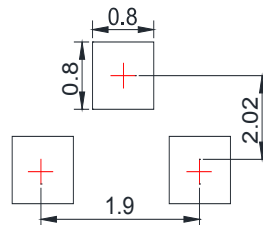
Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability

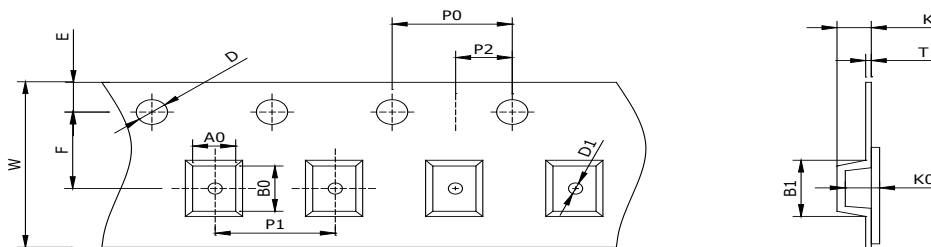


Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.00	0.110	0.118
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.30	0.50	0.011	0.020
G	1.8	2.0	0.071	0.078
H	0.0	0.100	0	0.004
J	0.080	0.15	0.003	0.006
K	0.550REF		0.022REF	
L	0.95TYP		0.037TYP	
S	2.25	2.550	0.089	0.100

Recommended Pad outline



SOT-23 Reel Dim



Package	Chip Size	Pocket Size B0×A0×K0(mm)	Tape Width	Reel Diameter	Quantity Per Reel	P0	P1
SOT-23	3.0×2.50×1.10	3.10×2.70×1.20	8mm	178mm(7")	3000	4mm	4mm
D0	D1	E	F	K	T	W	
1.5mm	1.0mm	1.75mm	3.5mm	1.10mm	0.2mm	8mm	

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