

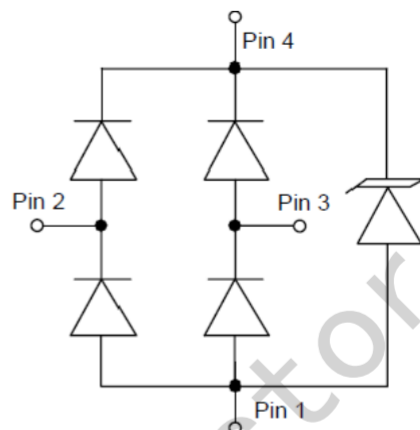
Features

- ◇ 45W (8/20 μ s) Peak Pulse Power
- ◇ Low Capacitance ESD Protection
- ◇ SOT-143 Package
- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free)
- ◇ Protect Two High Speed Data Lines and Vcc
- ◇ Meet IEC61000-4-2 Level 4:
 - Contact Discharge > 15kV
 - Air Discharge > 20kV

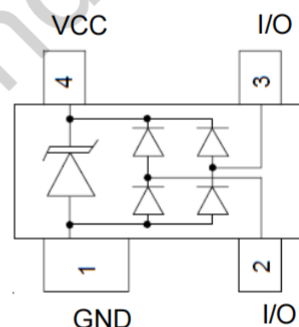
Applications

- ◇ I²C Bus Protection
- ◇ ISDN S/T Interface
- ◇ Ethernet 10/100 BaseT
- ◇ Portable Electronics
- ◇ Video Line Protection
- ◇ WAN/LAN Equipment
- ◇ Microcontroller Input Protection
- ◇ USB Power and Data Line Protection
- ◇ T1/E1 Secondary IC Side Protection

Circuit Diagram



PIN Diagram



Ordering information

Device	Package	Reel Size	Qty / Reel
SPRTR5V0U2X	SOT-143	7 inch	3000

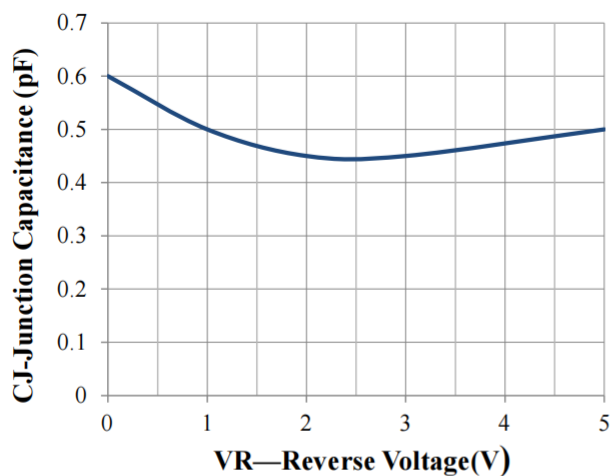
Absolute Maximum Ratings (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s, I/O-GND)	Ppk	45	W
Peak Pulse Power (8/20 μ s, Vcc-GND)	Ppk	60	W
Peak Pulse Current (8/20 μ s, I/O-GND)	IPP	3	A
Peak Pulse Current (8/20 μ s, Vcc-GND)	IPP	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD,VDD}	±20	kV
ESD per IEC 61000-4-2 (Contact)	V _{ESD,I/O}	±15	kV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

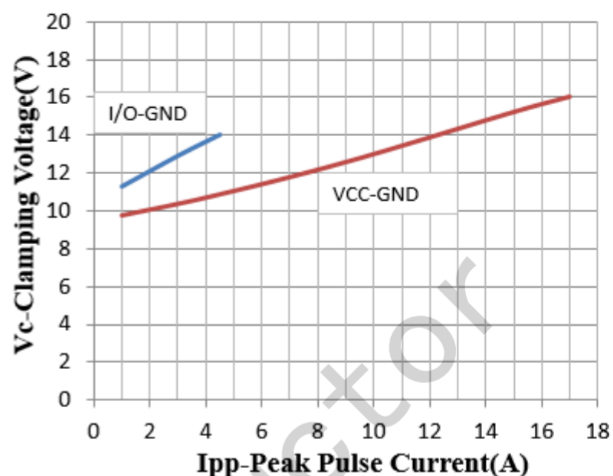
Electrical Characteristics (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}	Pin 5 to GND, I/O-GND			5.0	V
Breakdown Voltage	V _{BR}	I _T = 1mA (Pin 5 to GND, I/O-GND)	6.0	7.5	8.5	V
Reverse Leakage Current	I _R	V _{RWM} = 5.0V			0.5	μA
Forward Breakdown Voltage	V _F	I _F = 15mA, GND to Pin 5/IO		0.8	1.0	V
Clamping Voltage	V _C	I _{PP} = 3A (8 x 20μs pulse, I/O to GND)		14.0	15.0	V
Clamping Voltage	V _C	I _{PP} = 4A (8 x 20μs pulse, Pin 5 to GND)		16.0	18.0	V
Junction Capacitance	C _J	V _{pin5} = 5V, I/O=0V, f = 1MHz, I/O-GND		0.6	0.7	pF
Junction Capacitance	C _J	V _{pin5} = 5V, I/O=0V, f = 1MHz, I/O-I/O pins		0.3	0.4	pF

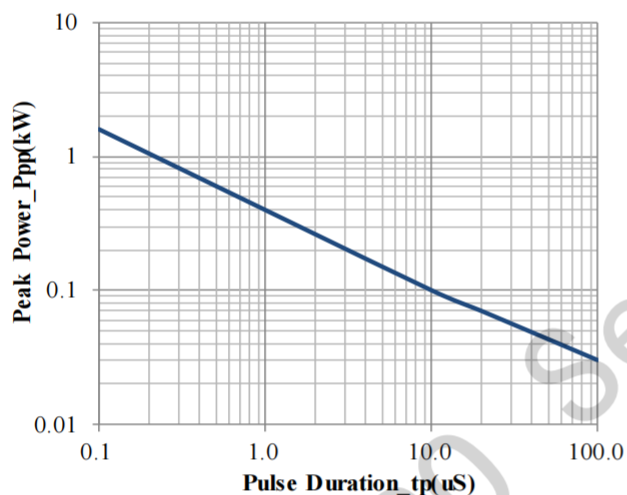
Typical Performance Characteristics (T_A = 25°C unless otherwise Specified)



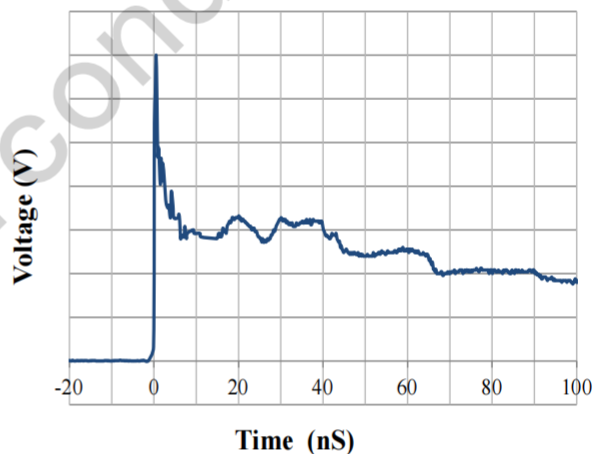
Junction Capacitance vs. Reverse Voltage



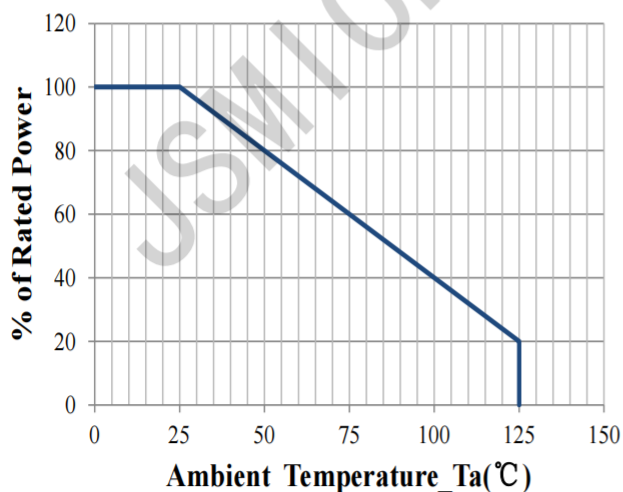
Clamping Voltage vs. Peak Pulse Current



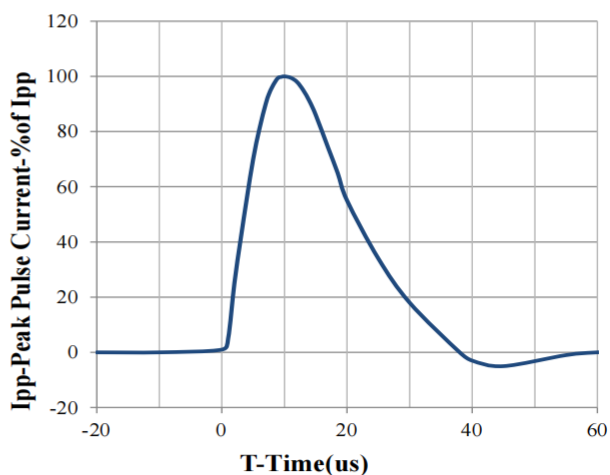
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



Power Derating Curve



8 X 20us Pulse Waveform

Package Information

SOT-143

