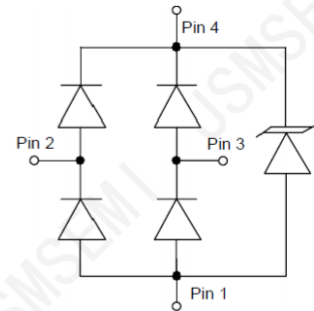


Features

- ◆ 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

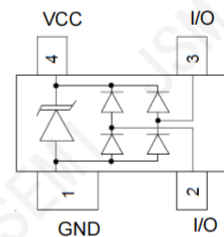
Air Discharge > 20kV



Circuit Diagram

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



PIN Diagram

Ordering information

Device	Package	Reel Size	Qty / Reel
PRTR5V0U2X-JSM	SOT-143	7 inch	3000

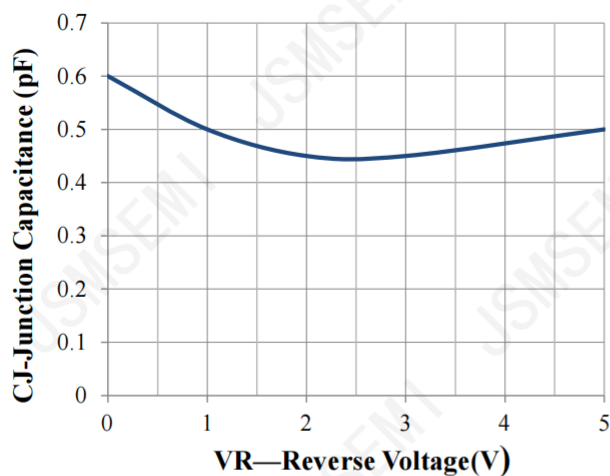
Absolute Maximum Ratings (TA =25°C unless otherwise specified)

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

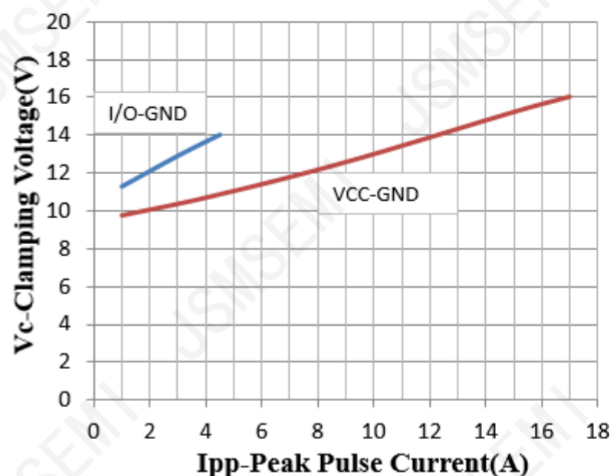
Electrical Characteristics (TA =25°C unless otherwise specified)

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/I/O		0.8	1.0	V
Clamping Voltage	V_C	$I_{PP} = 3A$ (8 x 20 μs pulse, I/O to GND)		14.0	15.0	V
Clamping Voltage	V_C	$I_{PP} = 4A$ (8 x 20 μs 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

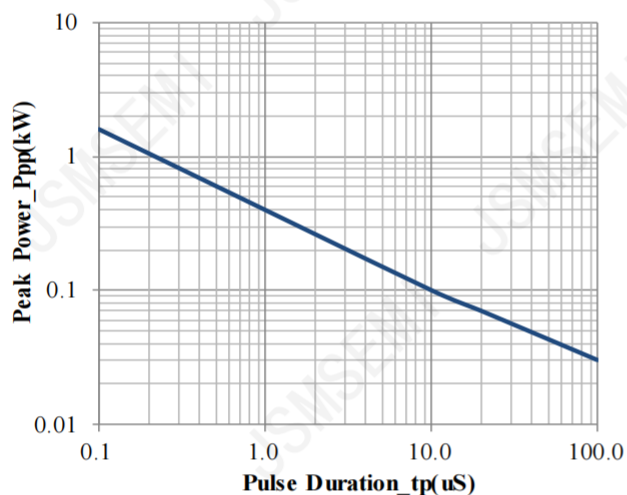
Typical Performance Characteristics (TA =25°C unless otherwise Specified)



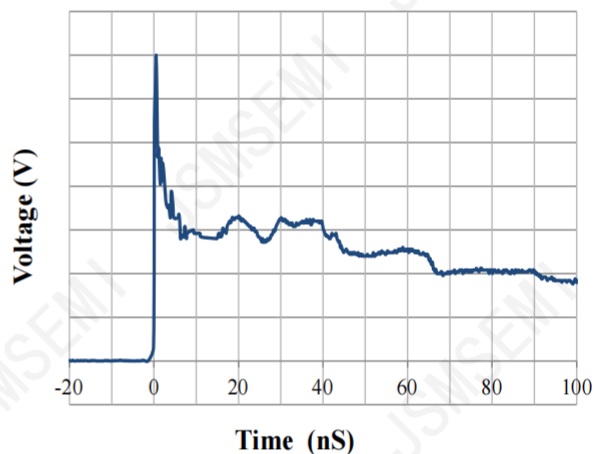
Junction Capacitance vs. Reverse Voltage



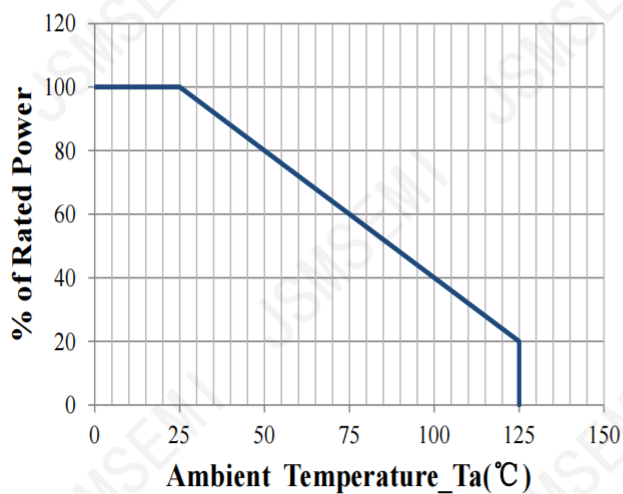
Clamping Voltage vs. Peak Pulse Current



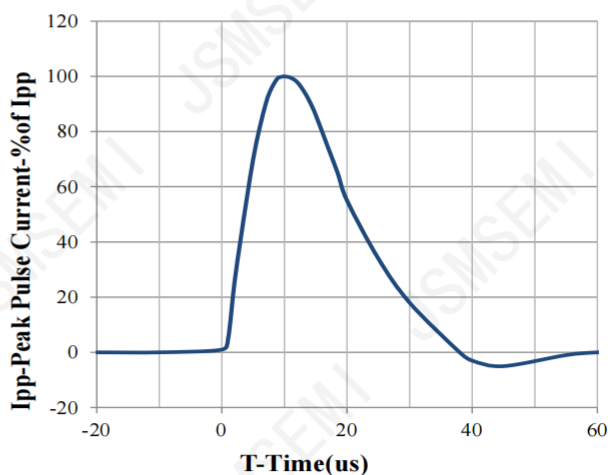
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



Power Derating Curve



8 X 20us Pulse Waveform

SOT-143

