

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

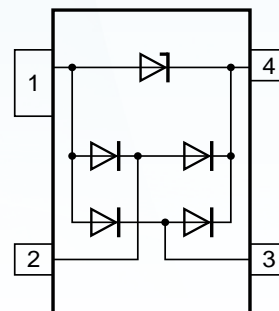
Product Specification

▶ Domestic	Part Number	PRTR5V0U2X
▶ Overseas	Part Number	PRTR5V0U2X
▶ Equivalent	Part Number	PRTR5V0U2X

EV is the abbreviation of name EVVO

Features

- 40W peak pulse power ($t_p = 8/20\mu s$)
- Tiny SOT143 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 0.35pF$ typ I/O to I/O.)
- Protection one data/power line
- IEC 61000-4-2 $\pm 15kV$ contact $\pm 20kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20 μs)



Applications

- USB2.0,
- Ethernet
- Notebooks, Desktops, and Servers
- Video Line Protection

Mechanical Data

- SOT-143 package
- Molding compound flammability rating: UL94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	40	W
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{pp}	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 15	kV
Lead Soldering Temperature	T_L	260/10S	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0	7.2		V
Reverse Leakage Current	I_R	$V_{RWM}=5V, T=25^{\circ}C$		50	500	nA
Clamping Voltage	V_C	$I_{PP}=3.5A, t_p=8/20\mu s$		10		V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ IO to IO		0.35		pF
		$V_R = 0V, f = 1MHz$ IO to GND		0.65		

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

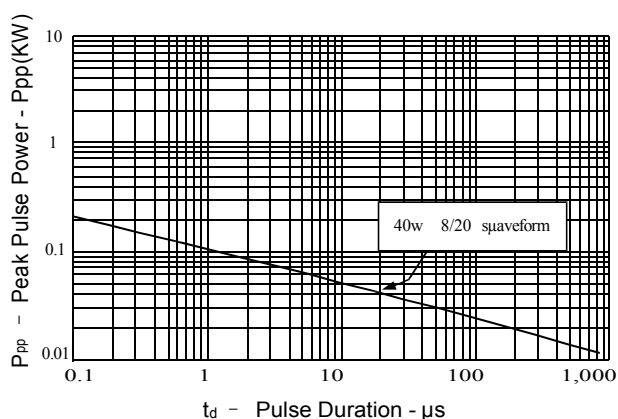


Figure 2: Power Derating Curve

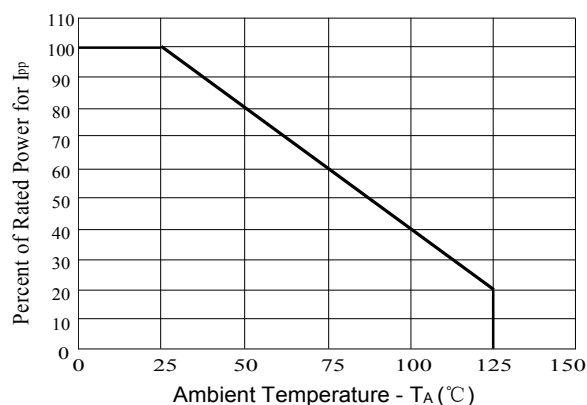


Figure3: Pulse Waveform

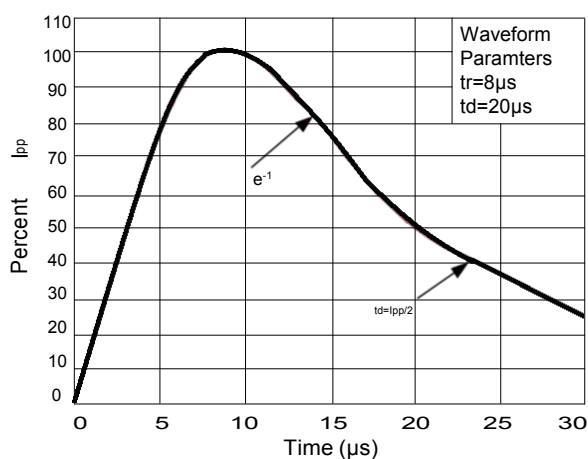
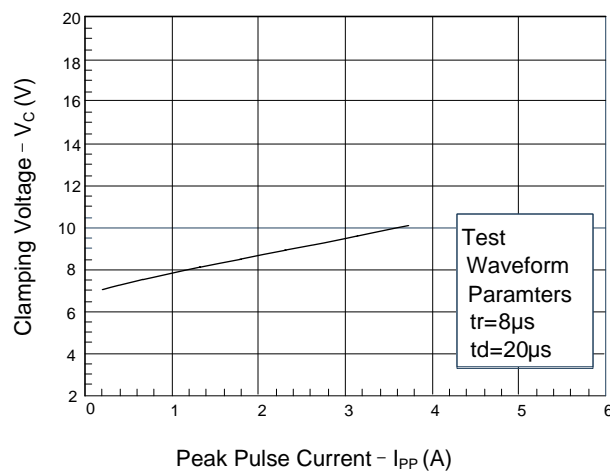
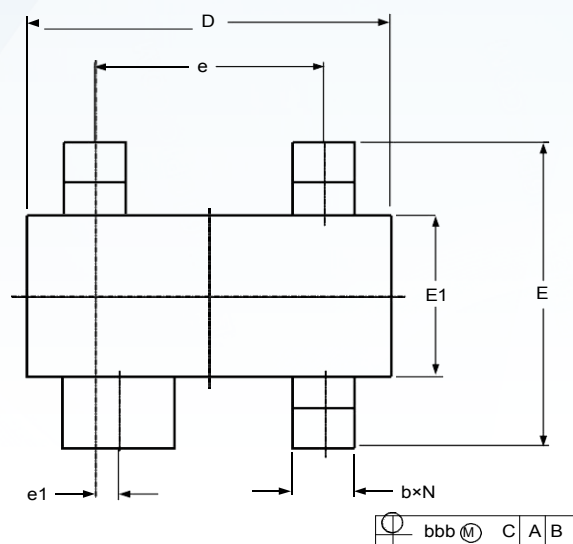


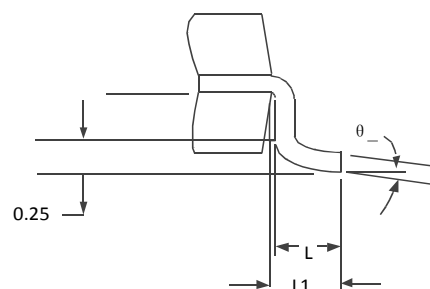
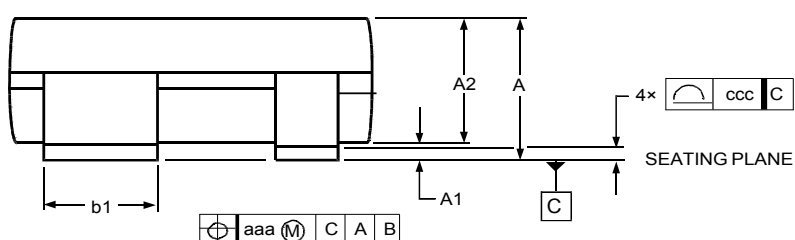
Figure 4: Clamping Voltage vs. Ipp



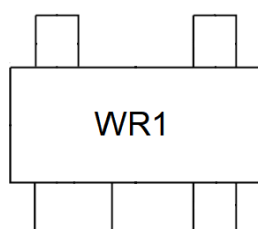
Outline Drawing – SOT-143



SYMBOL	DIMENSIONS		DIMENSIONS	
	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
b1	0.750	0.900	0.030	0.035
D	2.800	3.000	0.110	0.118
e	1.800	2.000	0.071	0.079
e1	0.200TYP		0.008TYP	
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
θ	0°	8°	0°	8°
aaa	.006		0.15	
bbb	.008		0.20	
ccc	.004		0.10	



Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
PRTR5V0U2X	SOT-143	3000	Tape and reel

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