

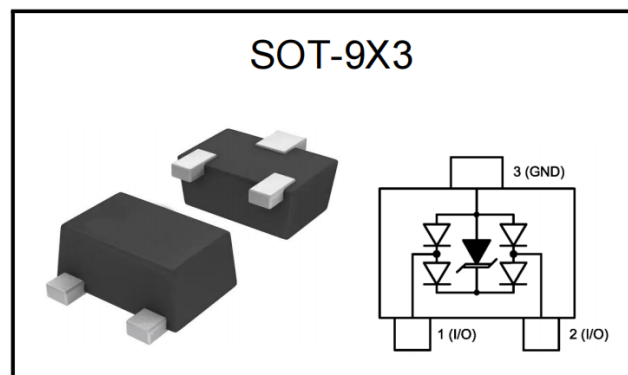
TPD2EUSB30DRTR-N

ESD Protection Diode

Features

- 56W Peak pulse power per line ($t_p = 8/20\mu s$)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 20kV$ contact ; $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A(8/20 μs)

Package



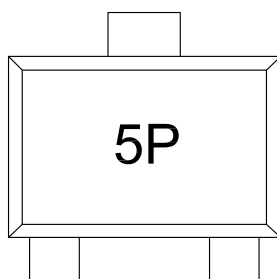
Applications

- Digital TV
- Set-top box and Digital TV
- Mobile Phones and Accessories
- Cellular Handsets and Accessories

Mechanical Characteristics

- SOT- 9 × 3 package
- UL Flammability Classification Rating 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
TPD2EUSB30DRTR-N	SOT- 9 × 3	10K	Tape and reel

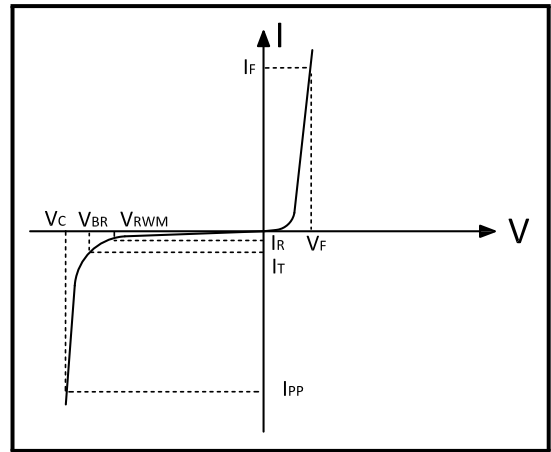


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Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	56	Watts
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	25	KV
ESD per IEC 61000-4-2 (Contact)		20	
Lead Soldering Temperature	T_L	260(10seconds)	$^\circ\text{C}$
Junction Temperature	T_J	-55 to + 150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to + 150	$^\circ\text{C}$

Electrical Characteristics

Parameter	Symler	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}	—	—	—	5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.0	—	—	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$	—	—	0.1	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu\text{s}$	—	—	4	A
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$	—	12	14	V
Junction Capacitance	C_O	$V_{DC} = 0\text{V}$, $f = 1\text{MHz}$ (IO to IO)	—	0.25	0.35	pF
Junction Capacitance	C_j	$V_{DC} = 0\text{V}$, $f = 1\text{MHz}$ (IO to GND)	—	0.45	0.6	pF



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

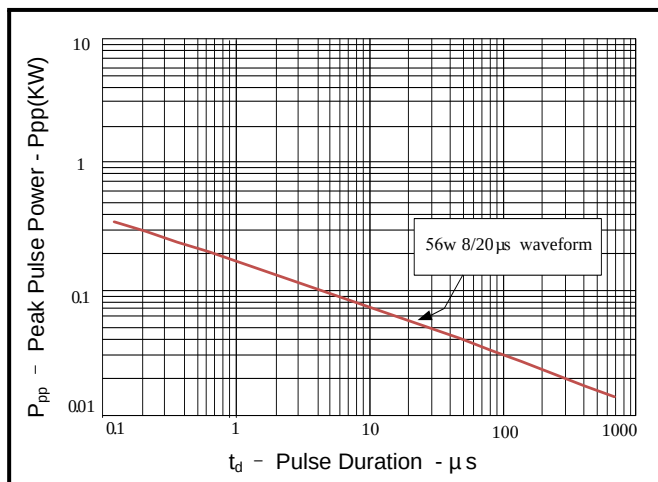


Figure 2: Power Derating Curve

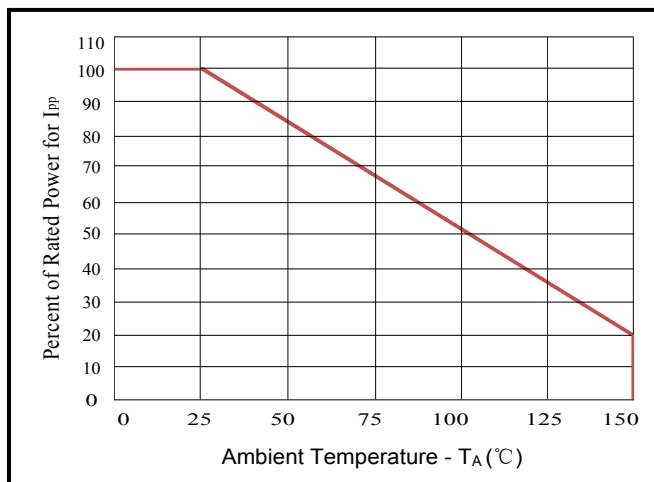


Figure 3: Pulse Waveform

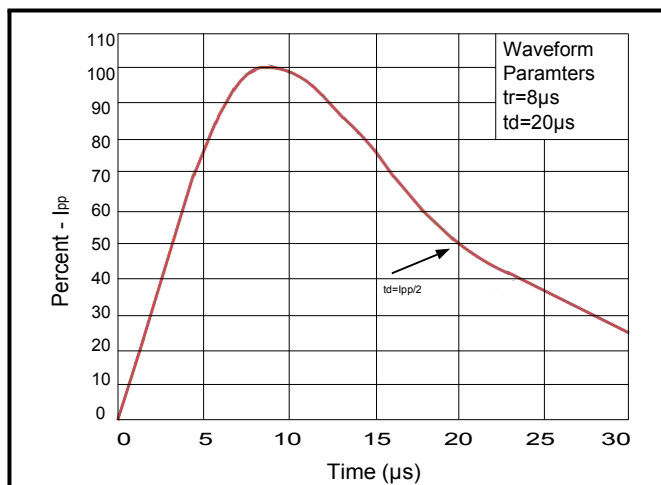
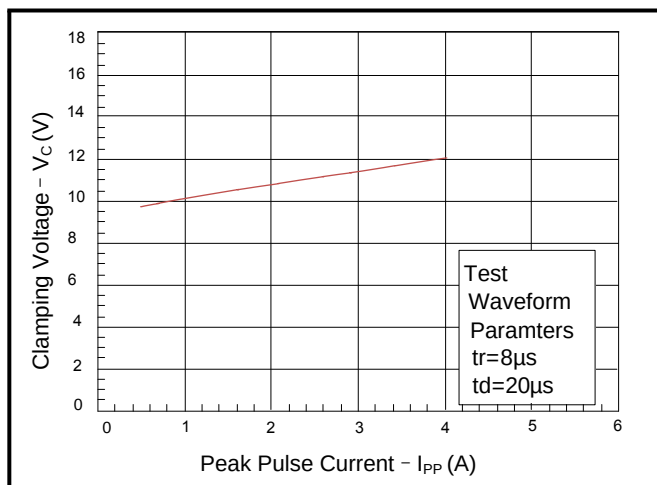


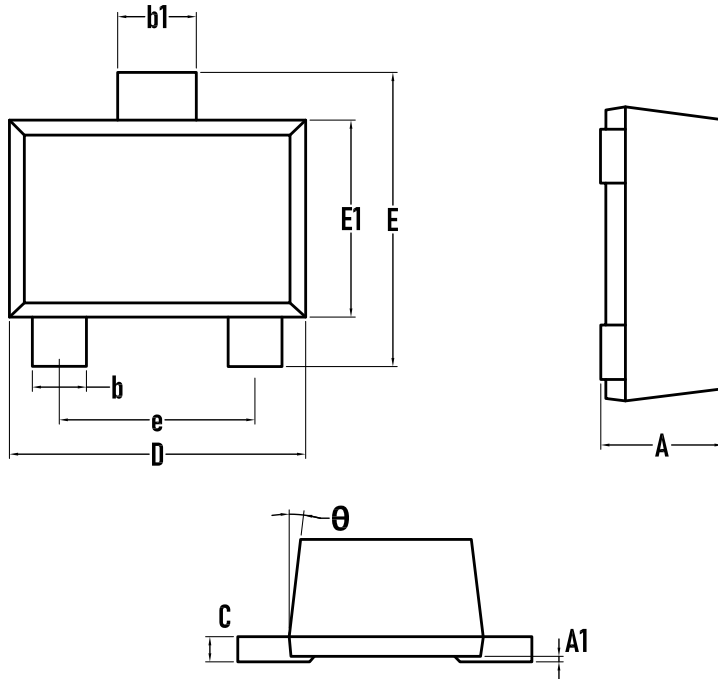
Figure 4: Clamping Voltage vs. I_{pp}



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Outline Drawing – SOT- 9 × 3



SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.350	–	0.490
A1	0.000	–	0.100
b	0.170	0.220	0.270
b1	0.225	–	0.370
C	0.080	0.110	0.150
D	1.150	1.200	1.250
E	1.150	1.200	1.250
E1	0.750	–	0.850
e	0.800TYP.		
θ	0°	–	7°

