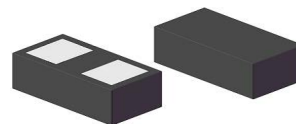


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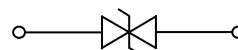
Ultra Low Capacitance TVS Diode

Features

- 30 Watts Peak Pulse Power ($T_P = 8/20\mu s$)
- Bi-Directional Configuration
- Snap-Back Technology
- Low Clamping Voltage
- Low Leakage Current
- Ultra Low Capacitance (0.25pF typical)
- ESD Protection for High-Speed Data Lines to:
IEC 61000-4-2 ± 10 kV Contact, ± 15 kV Air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant



ECP01005



Schematic Diagram

Applications

- USB 3.0, USB 2.0, MHL
- HDMI 2.0, Display Port 1.3, eSATA
- Unified Display Interface (UDI)
- Digital Visual Interface (DVI)
- 1G/2.5G/5G/10G Ethernet

Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P = 8/20\mu s$)	P_{PP}	30	W
Peak Pulse Current ($T_P = 8/20\mu s$)	I_{PP}	5	A
Junction Temperature	T_J	-55 To +125	$^\circ C$
Storage Temperature	T_{STG}	-55 To +150	$^\circ C$

Electrical Characteristics ($T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.0	6.8	12	V
Reverse Leakage Current	I_R	$V_R = 3.3V$	-	0.01	0.1	μA
Trigger Voltage	V_T	$I_{PP} = 5A, T_P = 8/20\mu s$	-	9.0	-	V
Clamping Voltage	V_C	$I_{PP} = 5A, T_P = 8/20\mu s$	-	6.0	-	V
Clamping Voltage (TLP 8A)	V_C	IEC 61000-4-2 Level 2 (± 4 kV Contact, ± 4 kV Air)	-	4.5	-	V
Clamping Voltage (TLP 16A)	V_C	IEC 61000-4-2 Level 4 (± 8 kV Contact, ± 8 kV Air)	-	6.0	-	V
Dynamic Resistance	R_{dyn}	$I_T = 0$ to 30A, $T_P = TLP$	-	0.25	-	Ω
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz, I/O$ to GND	-	0.25	0.35	pF

Typical Characteristic Curves

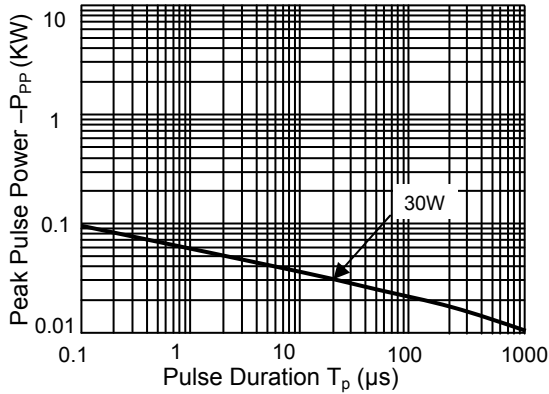


Figure 1. Peak Pulse Power Rating Curve

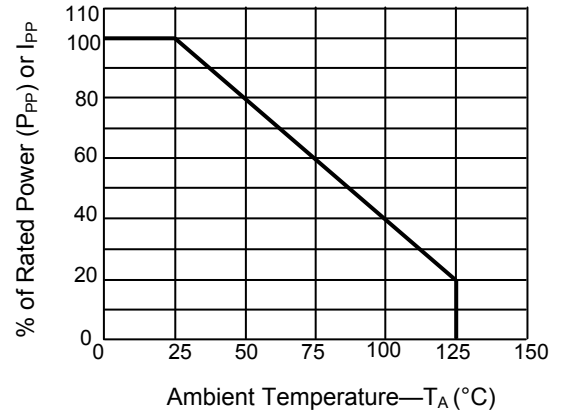


Figure 2. Pulse Derating Curve

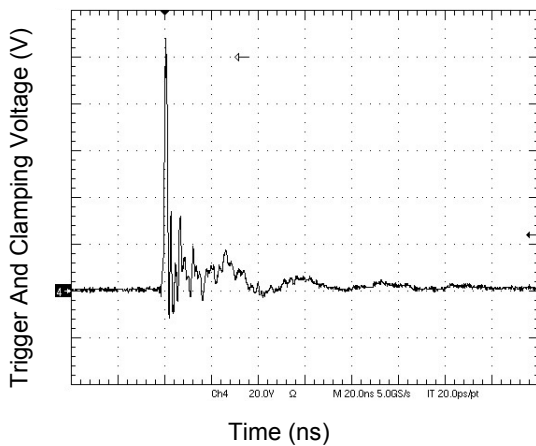


Figure 3. IEC61000-4-2 +8kV Contact Discharge

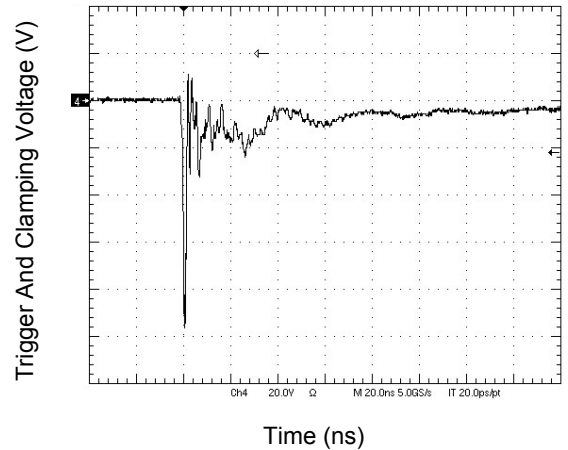


Figure 4. IEC61000-4-2 -8kV Contact Discharge

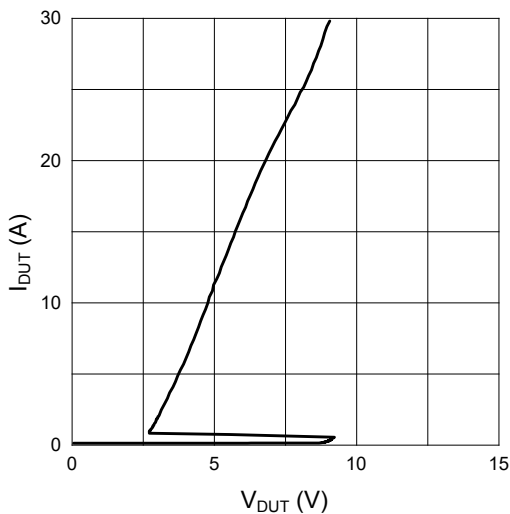


Figure 5. Transmission Line Pulse ($T_p=100\text{ns}$)

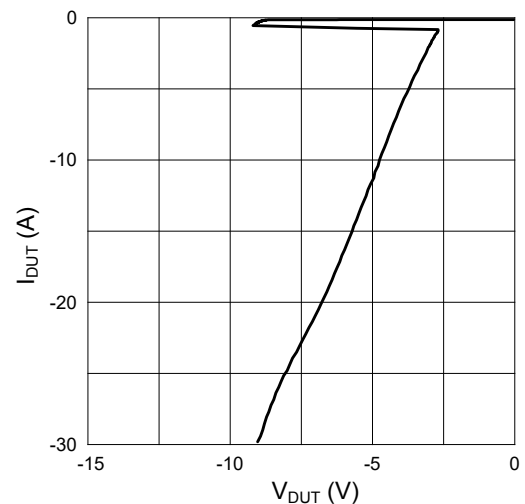
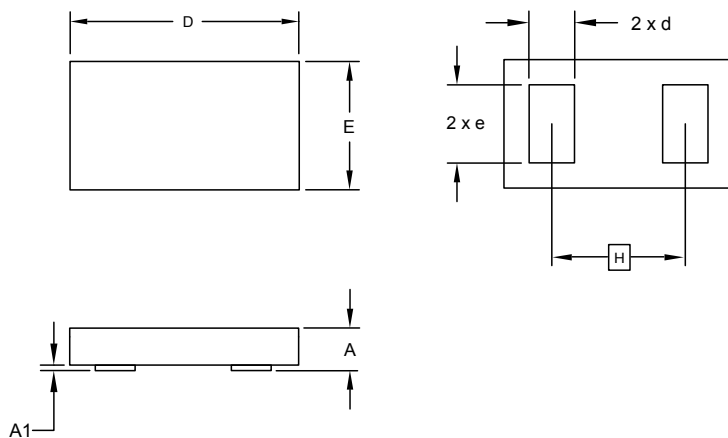


Figure 6. Transmission Line Pulse ($T_p=100\text{ns}$)

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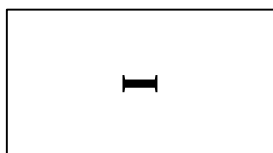
Ultra Low Capacitance TVS Diode

Product Dimensions ECP01005



Symbol	NOM	Toler.
A	0.145	±0.025
A1	0.011	±0.003
D	0.430	±0.025
E	0.230	±0.025
d	0.090	±0.006
e	0.123	±0.008
H	0.240	NA

Marking



Order Information

Device	Package	Marking	Carrier	Quantity	HSF Status
GSEDP3B003	ECP01005	I	Tape & Reel	10,000pcs	RoHS Compliant