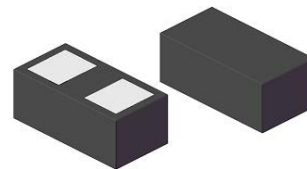


GSECA5B003

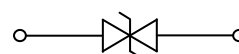
Ultra Low Capacitance TVS Diode

Features

- 60 Watts peak pulse power ($T_P=8/20\mu s$)
- ECP0201 package
- Snap-back technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance (0.30pF typical)
- ESD protection for high-speed data lines to:
IEC 61000-4-2 $\pm 16KV$ Contact $\pm 20KV$ Air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 10A (8/20 μs)
- RoHS Compliant



ECP0201



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}	60	W
Peak Pulse Current ($T_P=8/20\mu s$)	I_{PP}	10	A
Junction Temperature Range	T_J	-55 To +125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 To +150	$^{\circ}C$

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.5	6.5	8.6	V
Reverse Leakage Current	I_R	$V_R=5.0V$	-	0.01	0.05	μA
Trigger Voltage (SURGE)	V_T	$I_{PP}=10A, T_P=8/20\mu s$	-	9.0	-	V
Clamping Voltage (SURGE)	V_C	$I_{PP}=10A, T_P=8/20\mu s$	-	6.0	-	V
Clamping Voltage (TLP)	V_C	$I_{PP}=8A, T_P=100ns$	-	4.5	-	V
		$I_{PP}=16A, T_P=100ns$	-	6.0	-	V
Dynamic Resistance (TLP)	R_{dyn}	$I_T=0$ to 30A, $T_P=100ns$	-	0.25	-	Ω
Trigger Voltage (ESD)	V_T	$V_{ESD}=8kV$ (Contact)	-	110	-	V
Clamping Voltage (ESD)	V_C	$V_{ESD}=8kV$ (Contact)	-	10	-	V
Junction Capacitance	C_J	$V_R=0V, f=1MHz, I/O$ to GND	-	0.3	0.50	pF

Typical Characteristic Curves

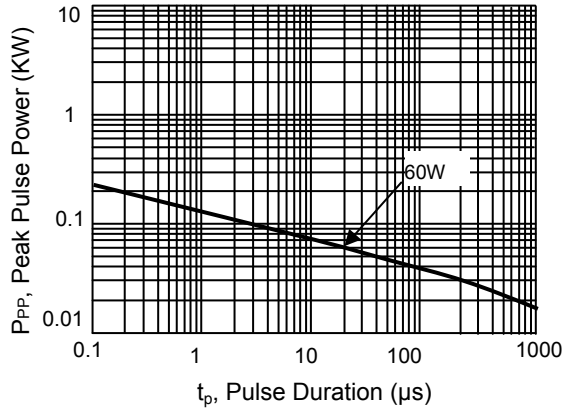


Figure 1. Peak Pulse Power Rating Curve

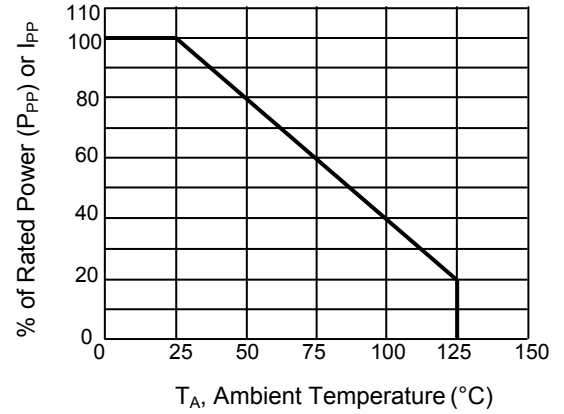


Figure 2. Pulse Derating Curve

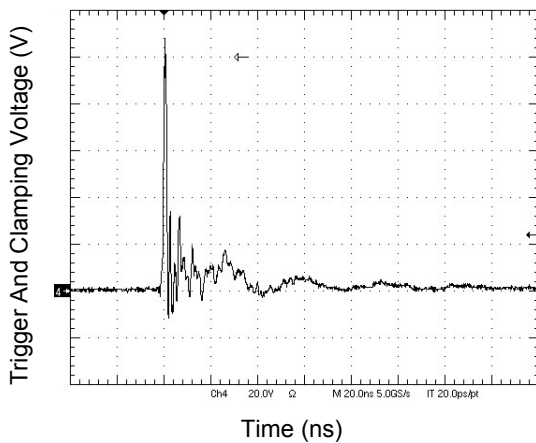


Figure 3. IEC61000-4-2 +8kV Contact Discharge

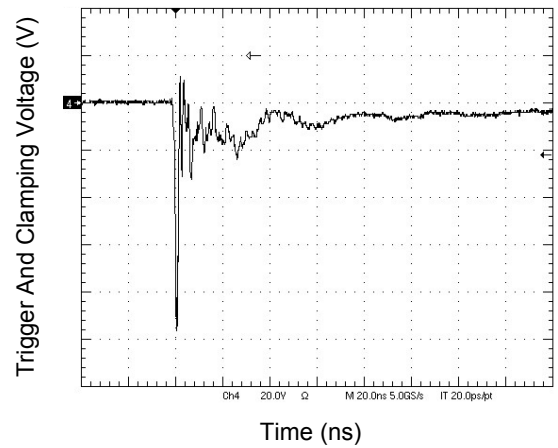


Figure 4. IEC61000-4-2 -8kV Contact Discharge

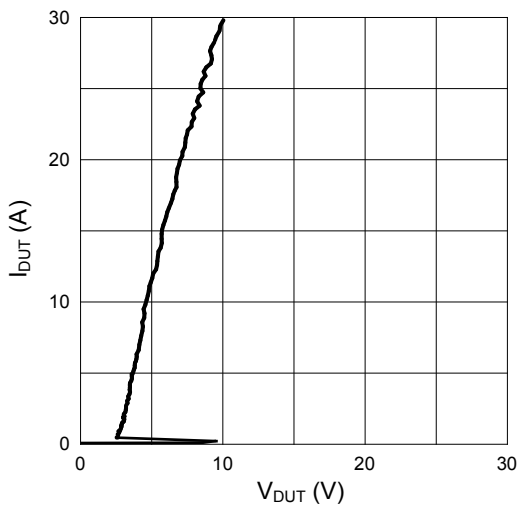


Figure 5. Transmission Line Pulse ($T_p=100ns$)

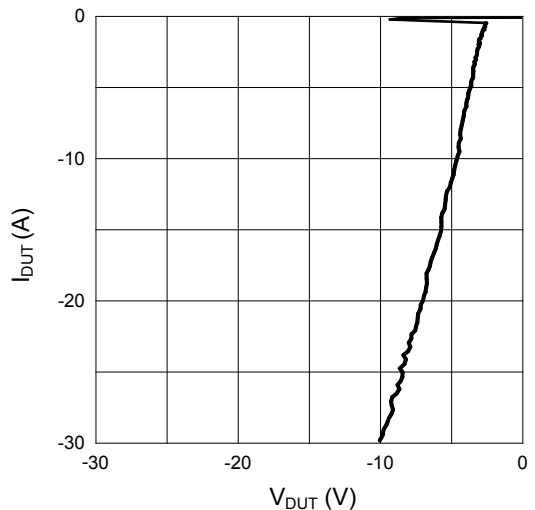
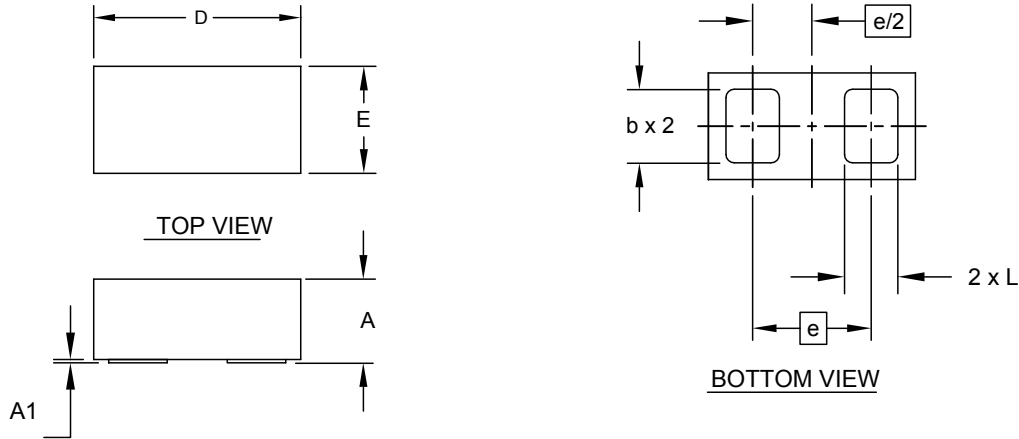


Figure 6. Transmission Line Pulse ($T_p=100ns$)

Package Outline Dimensions (ECP0201)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.185	0.227	0.007	0.009
A1	0.000	0.050	0.000	0.002
b	0.200	0.240	0.008	0.009
D	0.590	0.640	0.023	0.025
E	0.290	0.340	0.011	0.013
e	0.355 BSC		0.014 BSC	
L	0.140	0.180	0.006	0.007

Order Information

MPN	Package	Marking	Carrier	Quantity
GSECA5B003	ECP0201	S	Tape & Reel	10,000pcs / Reel