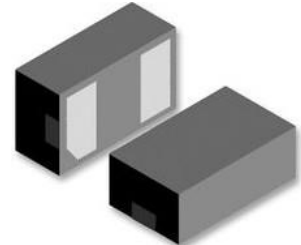


## Ultra Low Capacitance TVS Diode

### Features

- 35Watts peak pulse power ( $t_p = 8/20\mu s$ )
- DFN0603 package
- 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  $\pm 10kV$  contact  $\pm 12kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20  $\mu s$ )
- RoHS compliant



Marking : C

DFN0603

### 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



Schematic Diagram



### Absolute Maximum Ratings ( $T_A=25^\circ C$ , Unless otherwise specified.)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_P=8/20\mu S$ )	$P_{PP}$	35	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	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	5	6.8	12	V
Reverse Leakage Current	$I_R$	$V_R=3.3V$		0.01	0.1	$\mu A$
Trigger Voltage	$V_T$	$I_{PP}=5A, T_P=8/20\mu S$		9.0		V
Clamping Voltage	$V_C$	$I_{PP}=5A, T_P=8/20\mu S$		6.5		V
Clamping Voltage (TLP 8A)	$V_C$	IEC 61000-4-2 Level 2 ( $\pm 4 kV$ Contact, $\pm 4 kV$ Air)		4.5		V
Clamping Voltage (TLP 16A)	$V_C$	IEC 61000-4-2 Level 4 ( $\pm 8 kV$ Contact, $\pm 8 kV$ Air)		6.0		V
Dynamic Resistance	$R_{dyn}$	$I_T = 0\sim 30A, t_p = TLP$		0.25		$\Omega$
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$		0.25	0.35	pF

## Ratings and Characteristics Curves

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

Fig.1 Peak Pulse Power Rating Curve

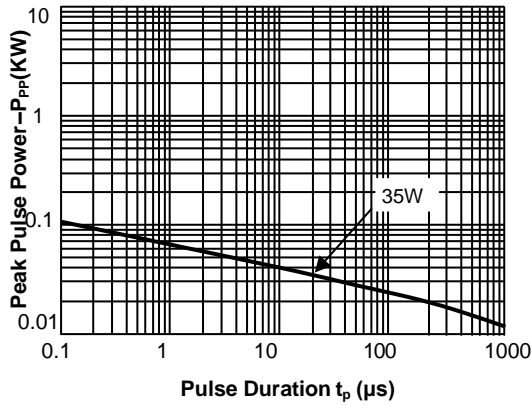


Fig.2 Pulse Derating Curve

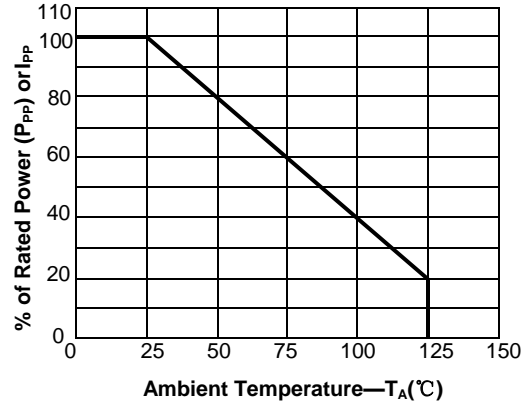


Fig.3 IEC61000-4-2 +8kV Contact Discharge

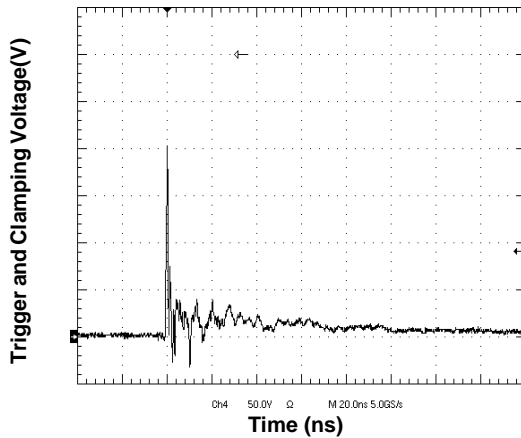


Fig.4 IEC61000-4-2 -8kV Contact Discharge

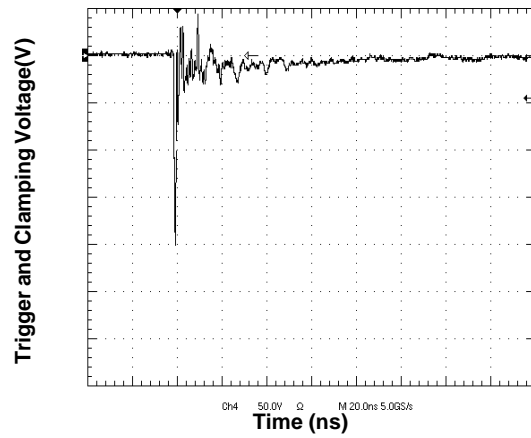


Fig.5 Transmission Line Pulse (tp=100ns)

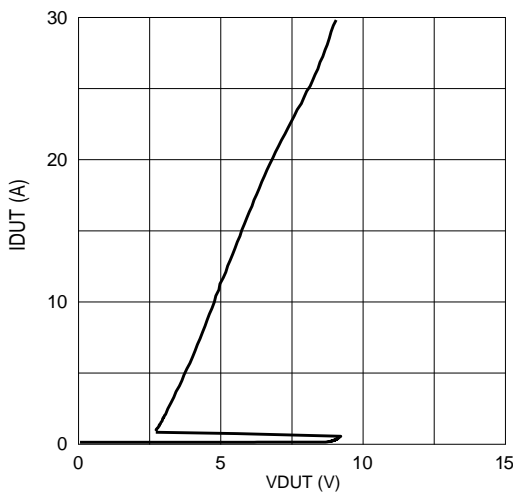
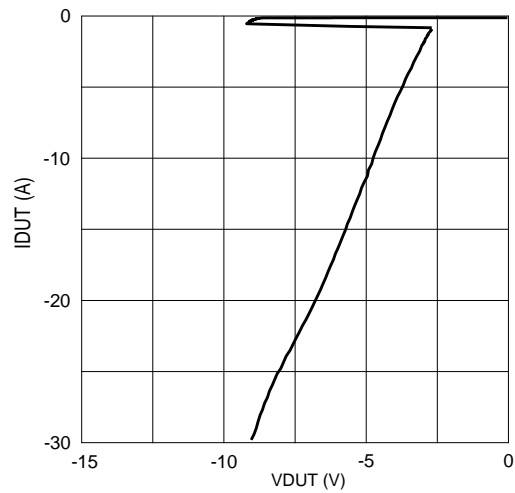
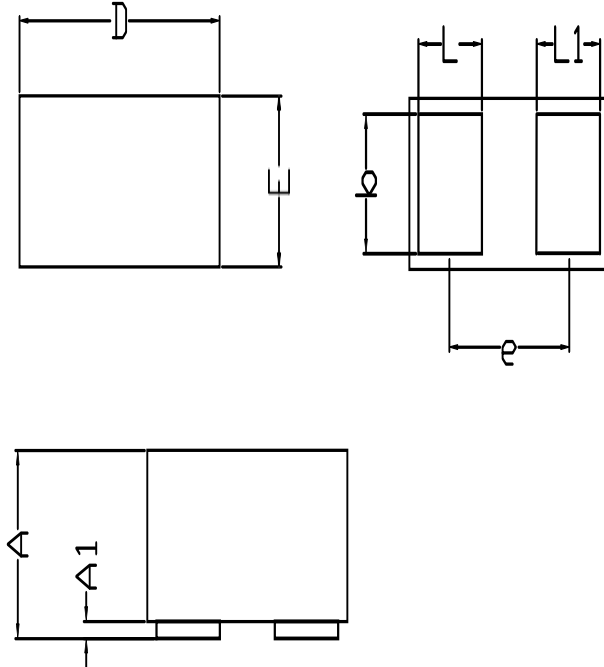


Fig.6 Transmission Line Pulse (tp=100ns)



## Package Outline Dimensions

millimeters



Symbol	millimeters		
	Min	Nom	Max
A	0.23	-	0.33
A1	0.00	-	0.05
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.215	0.245	0.275
L	0.13	0.18	0.23
L1	0.13	0.18	0.23
e	0.355 BSC		

## Revision History

Document Version	Date of release	Discription of changes
Rev.A	2022.01.01	First issue

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