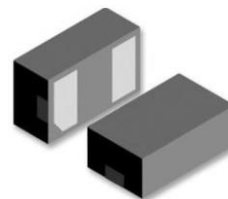


Features

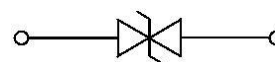
- Bidirectional ESD protection of one line
- Extremely low diode capacitance $C_d = 0.7 \text{ pF}$
- Extremely low clamping voltage to protect sensitive I/Os
- Extremely low inductance protection path to ground
- IEC 61000-4-2 $\pm 30 \text{ kV}$ contact $\pm 30 \text{ kV}$ air
- IEC 61000-4-4(EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 18A (8/20 μs)
- RoHS Compliant



DFN1006

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



Device Symbol

Limiting values

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Peak pulse power	P_{pp}	$T_p = 8/20 \mu\text{s}$		132		W
Rated peak pulse current	I_{PPM}	$T_p = 8/20 \mu\text{s}$			18	A
Reverse standoff voltage	V_{RWM}	$T_{amb} = 25^\circ\text{C}$			3.3	V
Breakdown voltage	V_{BR}	$I_R = 1 \text{ mA}; T_{amb} = 25^\circ\text{C}$	5.5	6.5	10	V
Reverse leakage current	I_{RM}	$V_{RWM} = 3.3 \text{ V}; T_{amb} = 25^\circ\text{C}$		0.01	0.1	μA
Electrostatic discharge	V_{ESD}	IEC 61000-4-2 contact discharge		-30	+30	kV
		IEC 61000-4-2 air discharge		-30	+30	kV
Diode capacitance	C_d	$f = 1 \text{ MHz}; V_R = 0 \text{ V}; T_{amb} = 25^\circ\text{C}$		0.7	1.5	pF
Clamping voltage	V_C	$I_{PP} = 18 \text{ A}; T_p = 8/20 \mu\text{s}; T_{amb} = 25^\circ\text{C}$		8.8		V
Clamping voltage (TLP 8A)	V_C	IEC 61000-4-2 Level 2 ($\pm 4 \text{ kV}$ Contact, $\pm 4 \text{ kV}$ Air)		4.5		V
Clamping voltage (TLP 16A)	V_C	IEC 61000-4-2 Level 2 ($\pm 8 \text{ kV}$ Contact, $\pm 8 \text{ kV}$ Air)		6		V
Trigger voltage	V_t	$I_{PP} = 18 \text{ A}; T_p = 8/20 \mu\text{s}$		9		V
Dynamic resistance	R_{dyn}	$0 \text{ A} \leq I_R \leq 30 \text{ A}; T_p = \text{TLP}; T_{amb} = 25^\circ\text{C}$		0.25		Ω

Parameter	Symbol	Value	Unit
Junction temperature	T_J	-55 to +125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

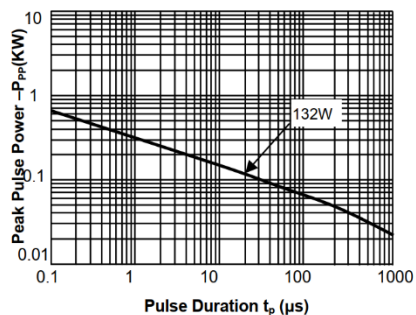


Fig.2 Pulse Derating Curve

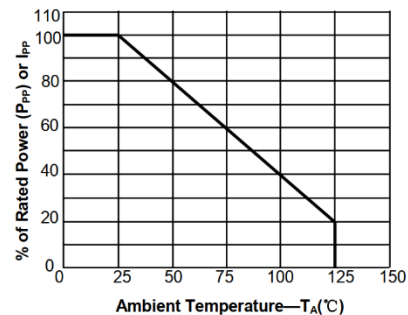


Fig.3 IEC61000-4-2 +8kV Contact Discharge

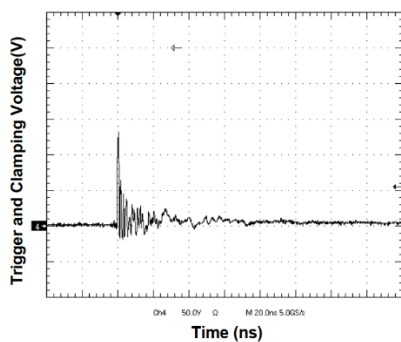


Fig.4 IEC61000-4-2 -8kV Contact Discharge

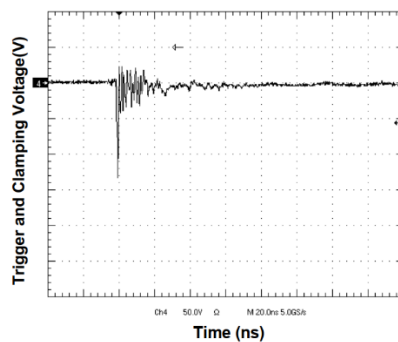


Fig.5 Transmission Line Pulse (tp=100ns)

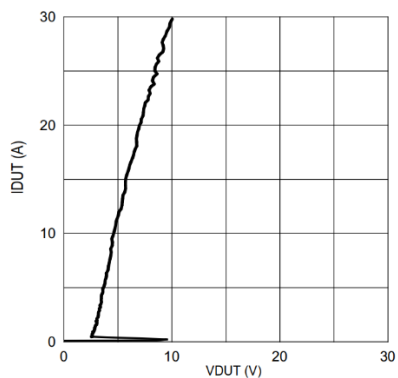
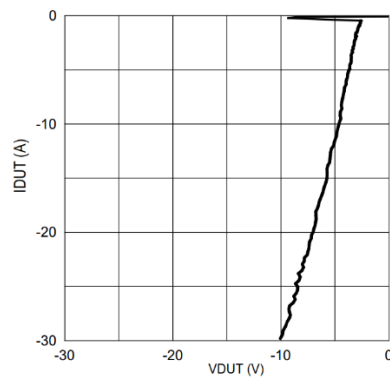
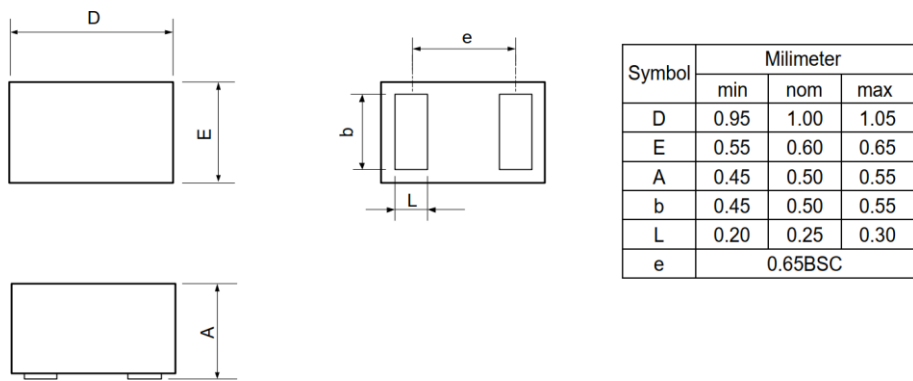


Fig.6 Transmission Line Pulse (tp=100ns)



Product Dimension



Marking



Marking

Device	Package	Carrier	Quantity	HSF Status
VT3V3D1006-18A	DFN1006	Tape & Reel (7")	10000pcs / Reel	Rohs Compliant