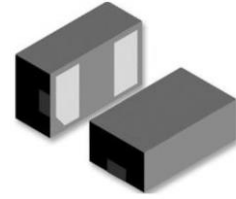


Features

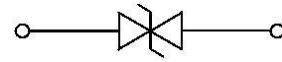
- Bidirectional ESD protection of one line
- Extremely low diode capacitance $C_d = 0.35$ pF
- Extremely low clamping voltage to protect sensitive I/Os
- Extremely low inductance protection path to ground
- ESD protection up to 16 kV according to IEC 61000-4-2
- 10 A maximum 8/20 μ s peak pulse current
- RoHS Compliant



DFN1006

Applications

- Protect 2 differential lines from overvoltage events
- 1G/2.5G/5G/10G Ethernet
- Integrated Magnetics / RJ-45 Connectors
- Central Office Equipment
- Industrial Equipment
- IP Camera

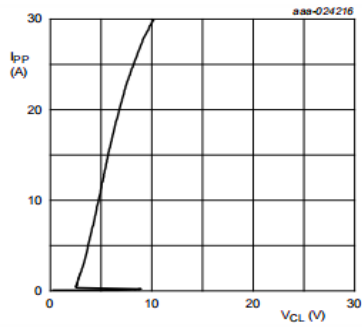


Device Symbol

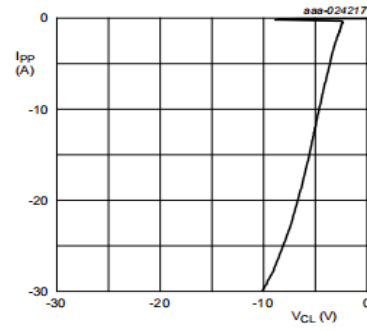
Limiting values

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Rated peak pulse current	I_{PPM}	$T_p = 8/20 \mu s$			10	A
Reverse standoff voltage	V_{RWM}	$T_{amb} = 25 \text{ }^\circ\text{C}$			5	V
Breakdown voltage	V_{BR}	$I_R = 1 \text{ mA}; T_{amb} = 25 \text{ }^\circ\text{C}$	5.5	6.5	8	V
Reverse leakage current	I_{RM}	$V_{RWM} = 3.3 \text{ V}; T_{amb} = 25 \text{ }^\circ\text{C}$			50	nA
Electrostatic discharge	V_{ESD}	IEC 61000-4-2 contact discharge		-16	+16	kV
		IEC 61000-4-2 air discharge		-16	+16	kV
Diode capacitance	C_d	$f = 1 \text{ MHz}; V_R = 0 \text{ V}; T_{amb} = 25 \text{ }^\circ\text{C}$		0.35	0.5	pF
		$f = 1 \text{ MHz}; V_R = 1.5 \text{ V}; T_{amb} = 25 \text{ }^\circ\text{C}$		0.28		pF
Clamping voltage	V_{CL}	$I_{PP} = 4 \text{ A}; T_p = 8/20 \mu s; T_{amb} = 25 \text{ }^\circ\text{C}$		4		V
		$I_{PP} = 10 \text{ A}; T_p = 8/20 \mu s; T_{amb} = 25 \text{ }^\circ\text{C}$		6		V
Trigger voltage	V_t	$I_{PP} = 10 \text{ A}; T_p = 8/20 \mu s$		9		V
Dynamic resistance	R_{dyn}	$0 \text{ A} \leq I_R \leq 30 \text{ A}; T_p = \text{TLP}; T_{amb} = 25 \text{ }^\circ\text{C}$		0.25		Ω

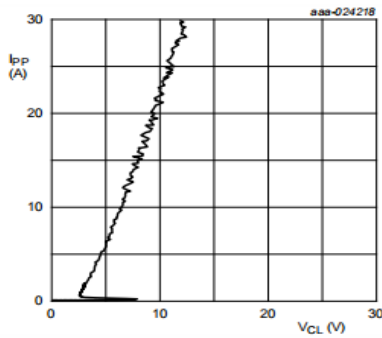
Parameter	Symbol	Value	Unit
Junction temperature	T_J	150	$^\circ\text{C}$
Ambient temperature	T_{amb}	-40 to +125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$



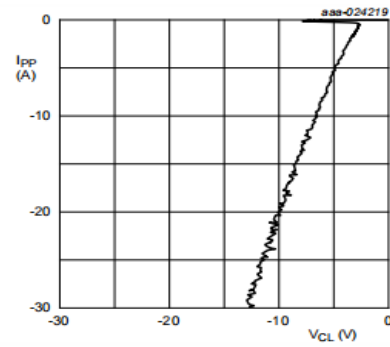
Transmission Line Pulse (TLP) = 100 ns; rise time = 1
 Fig. 1. Positive clamping voltage (TLP); typical values



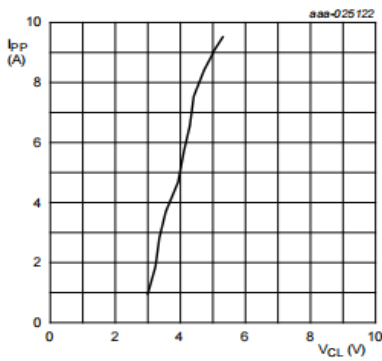
Transmission Line Pulse (TLP) = 100 ns; rise time = 1
 Fig. 2. Negative clamping voltage (TLP); typical values



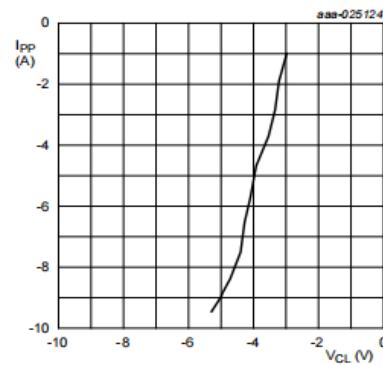
Very Fast Transmission Line Pulse (VF-TLP) = 5 ns
 Fig. 3. Positive clamping voltage (VF-TLP); typical values



Very Fast Transmission Line Pulse (VF-TLP) = 5 ns
 Fig. 4. Negative clamping voltage (VF-TLP); typical values

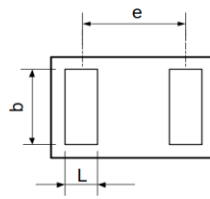
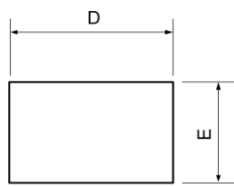


IEC 61000-4-5; $t_p = 8/20 \mu s$; positive pulse
 Fig.5. Dynamic resistance with positive clamping; typical values



IEC 61000-4-5; $t_p = 8/20 \mu s$; negative pulse
 Fig.6. Dynamic resistance with negative clamping; typical values

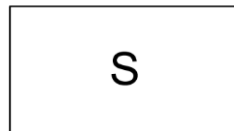
Product Dimension



Symbol	Milimeter		
	min	nom	max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
A	0.45	0.50	0.55
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e	0.65BSC		



Marking



Marking

Device	Package	Carrier	Quantity	HSF Status
VT5VD1006-10A	DFN1006	Tape & Reel (7")	10000pcs / Ree	Rohs Compliant