

Features

- 1-Line, Bi-directional
- Working voltage: $\pm 3.3\text{V}$ Max.
- ESD withstand voltage according to IEC61000-4-2: $\pm 30\text{kV}$ (contact & air discharge)
- Lighting withstand according to IEC61000-4-5: 20A ($8/20\mu\text{s}$)
- Solid-state silicon technology
- Low leakage current
- Device meets MSL 1 requirements
- Pb-Free, Halogen Free, RoHS Compliant

Applications

- 10/100/1000 Ethernet
- STB
- Router and Networking



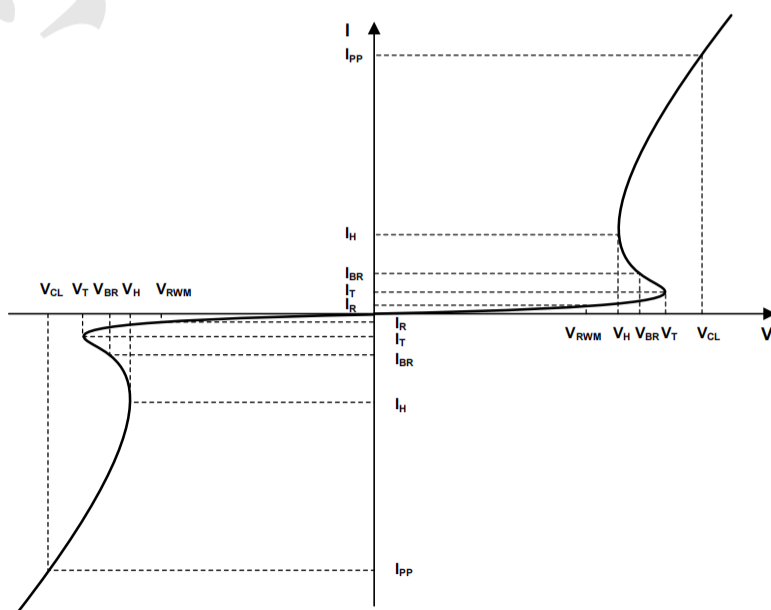
DFN1006-2L



Circuit diagram

Electrical Characteristics

Symbol	Parameter
V_{BR}	Reverse Breakdown Voltage
I_{BR}	Reverse Breakdown Current
V_{RWM}	Reverse Stand-off Voltage
I_R	Reverse Leakage Current
V_H	Holding Voltage
I_H	Holding Current
V_T	Trigger Voltage
I_T	Trigger Current
I_{PP}	Peak Pulse Current
V_{CL}	Clamping Voltage



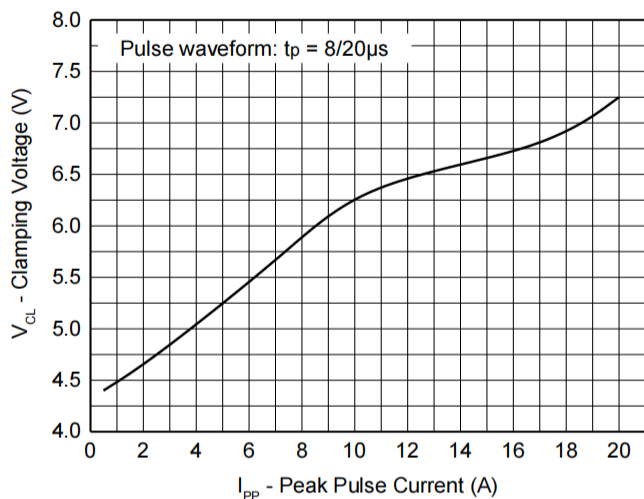
Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	180	W
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{PP}	20	A
ESD air discharge voltage according to IEC61000-4-2	V_{ESD}	± 30	kV
ESD contact discharge voltage according to IEC61000-4-2		± 30	
Junction Temperature Range	T_J	-55~125	$^\circ\text{C}$
Operating Temperature Range	T_{OP}	-55~125	$^\circ\text{C}$
Lead Solder Temperature (10 Seconds)	T_L	260	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$

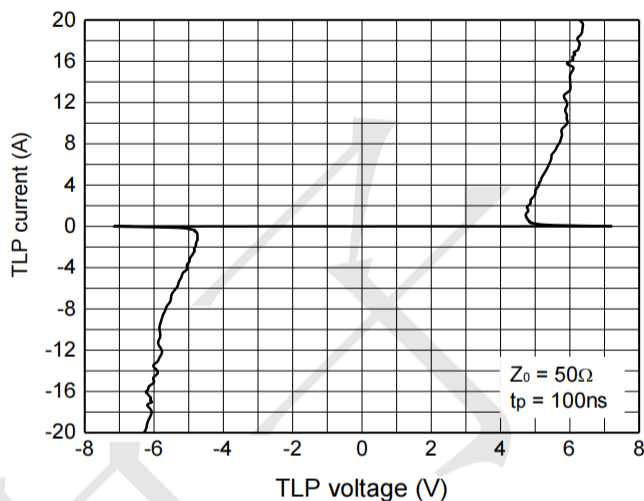
Electrical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}				± 3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4.0		6.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			200	nA
Holding Voltage	V_H	$I_H = 100\text{mA}$	3.7			V
Clamping Voltage ¹⁾	V_{CL}	$I_{PP} = 16\text{A}$, $t_p = 100\text{ns}$		6.1		V
Dynamic Resistance ¹⁾	R_{DYN}			0.09		Ω
Clamping Voltage ²⁾	V_{CL}	$V_{ESD} = \pm 8\text{kV}$		6.5		V
Clamping Voltage ³⁾	V_{CL}	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$		4.5	5.5	V
		$I_{PP} = 20\text{A}$, $t_p = 8/20\mu\text{s}$		7.2	9	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.72	1.0	pF

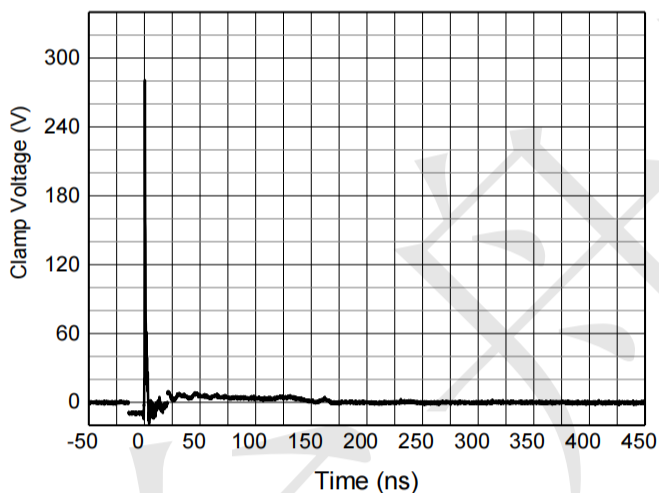
Typical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise specified)



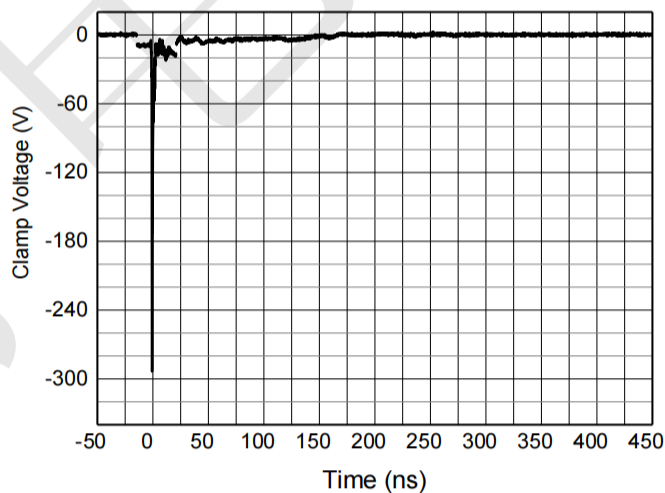
Clamping Voltage vs. Peak Pulse Current



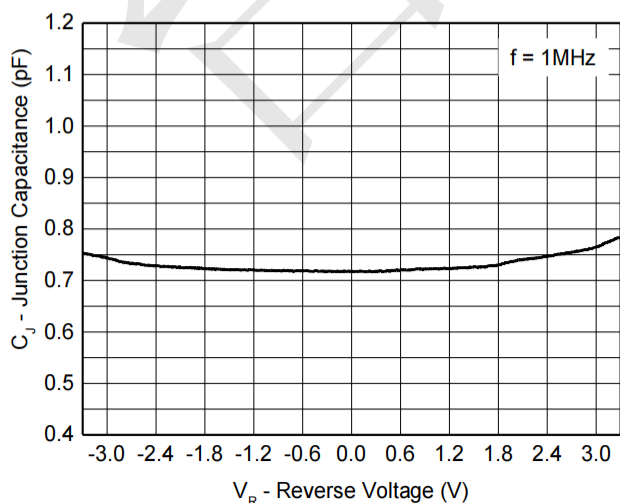
TLP IV Curve



+8kV contact discharge per IEC61000-4-2

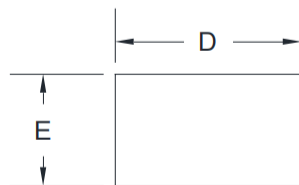


-8kV contact discharge per IEC61000-4-2

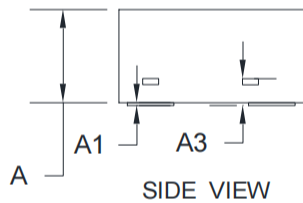


Capacitance vs. Reverse Voltage

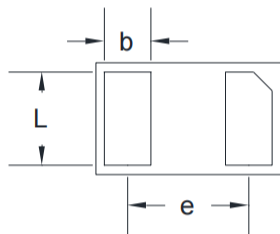
PACKAGE OUTLINE & PCB LAYOUT DIMENSIONS



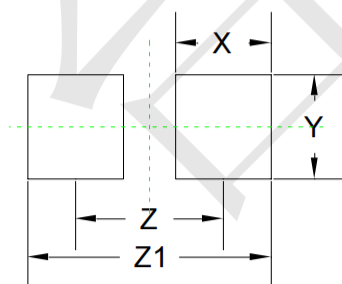
TOP VIEW



SIDE VIEW



BOTTOM VIEW



Land Layout

Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.360	0.500	0.550
A1	0.000	-	0.005
A3	0.125Ref		
D	0.95	1.000	1.050
E	0.550	0.600	0.650
b	0.200	0.250	0.300
L	0.450	0.500	0.550
e	0.650BSC		

Symbol	Dimensions in Millimeters
X	0.55
Y	0.60
Z	0.85
Z1	1.40