

Features

- * Ultra small package: 1.0x0.6x0.5mm
- * Ultra low capacitance: 0.6pF typical
- * Ultra low leakage: nA level
- * Low operating voltage: 3.3V
- * Low clamping voltage
- * 2-pin leadless package
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 20A (8/20 μs)
- * RoHS Compliant



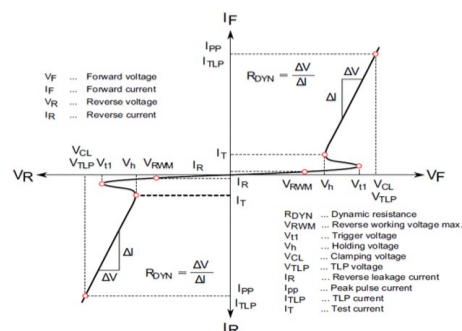
DFN1006-2L



Circuit diagram

Electrical Characteristics

Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



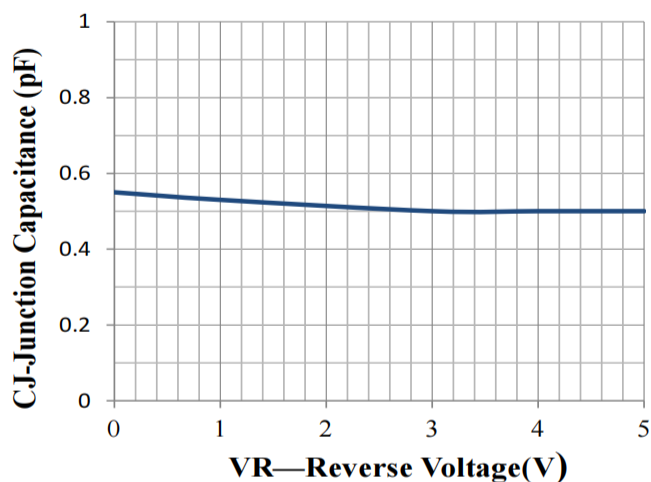
Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	150	W
Peak Pulse Current (8/20 μs)	IPP	20	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

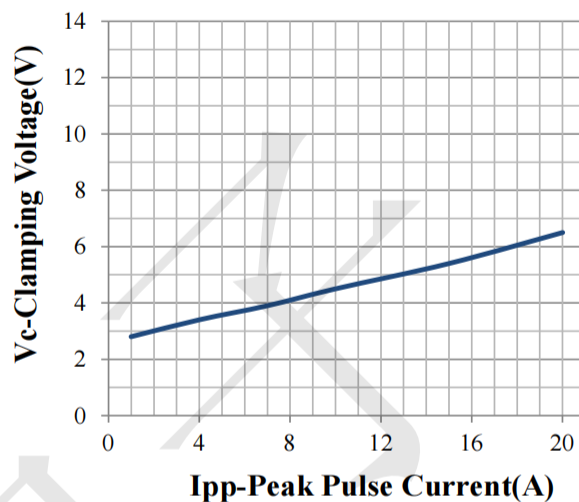
Electrical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$		6.8		V
Holding Voltage	V_h	$I_T = 50\text{mA}$	1.5	2.1		V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			0.2	μA
ESD Dynamic Turn on Resistance	R_{DYN}	$T_P = 10/100\text{ ns}$		0.17		Ω
ESD Clamping Voltage	V_{CL-ESD}	IEC 61000-4-2 +8kV (ITLP = 16A), Contact mode, $T=25^\circ\text{C}$.		5.0		V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)		2.8	3.9	V
Clamping Voltage	V_C	$I_{PP} = 20\text{A}$ (8 x 20 μs pulse)		6.5	8.0	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.6	0.9	pF

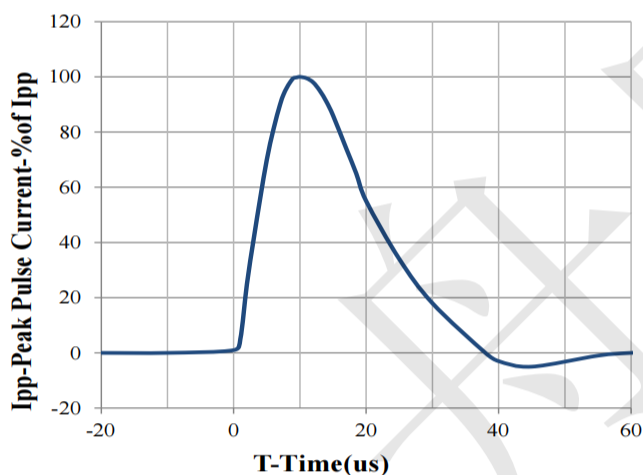
Typical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise specified)



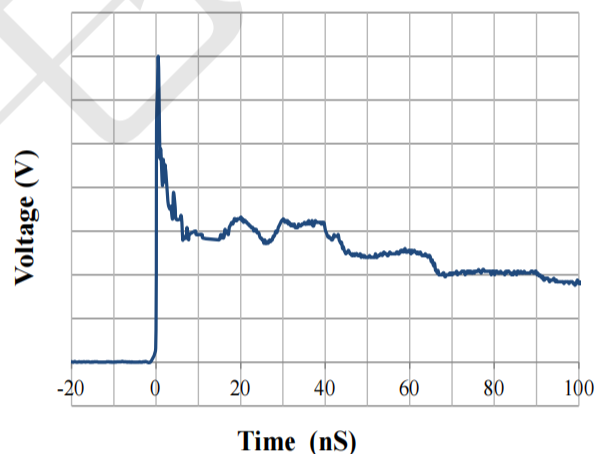
Junction Capacitance vs. Reverse Voltage



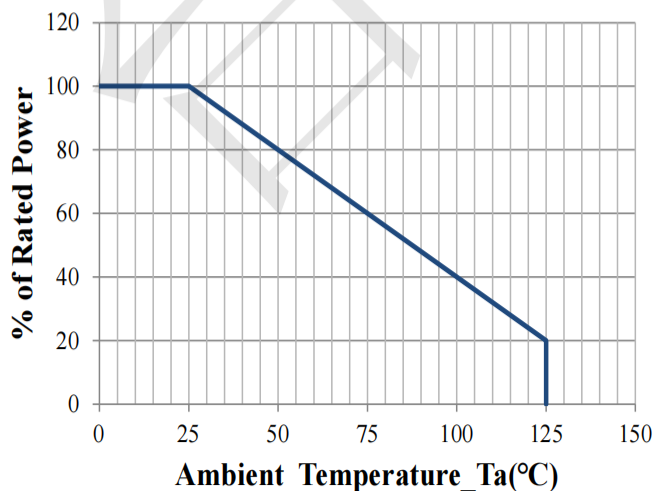
Clamping Voltage vs. Peak Pulse Current



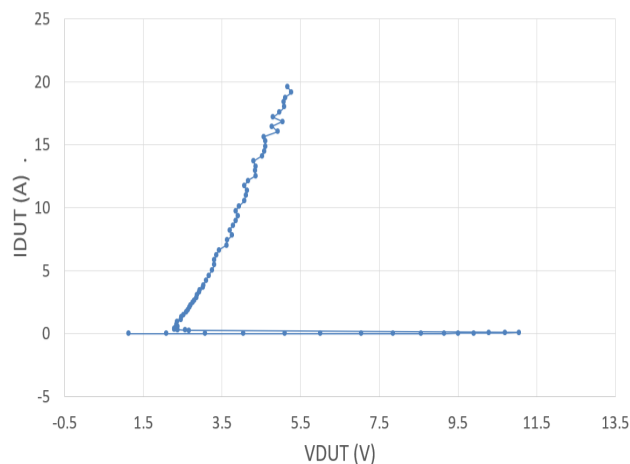
8 X 20us Pulse Waveform



IEC61000-4-2 Pulse Waveform

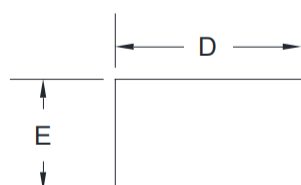


Power Derating Curve

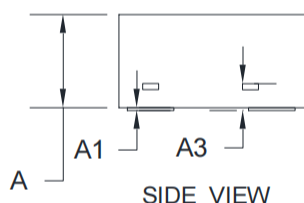


TLP Curve

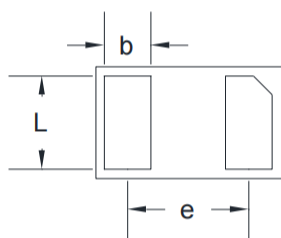
PACKAGE OUTLINE & PCB LAYOUT DIMENSIONS



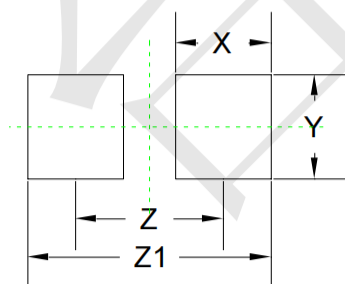
TOP VIEW



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