

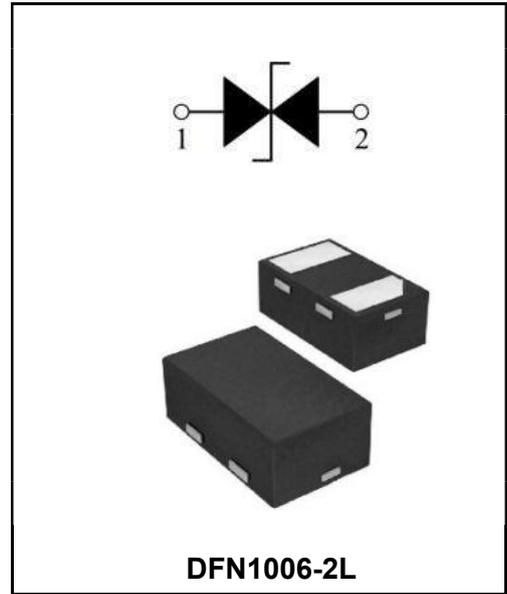
Bi-directional ESD Protection Diode

FEATURES

- ◆Capacitance: 0.3pF(typ.)
- ◆Reverse Working Voltage: 5.0V
- ◆IEC 61000-4-2 (ESD Air): ±30KV
- ◆IEC 61000-4-2 (ESD Contact): ±30KV
- ◆IEC 61000-4-5 (Lightning 8/20μs): 5.5A

APPLICATION

- ◆Smart Phone and Tablet PC
- ◆TV and Set Top Box
- ◆Wearable Devices
- ◆PDA



Marking Code

ESD1006B5V0	5F
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Limiting Values(T_A=25 °C, unless otherwise specified)

Parameter	Conditions	Symbol	Min	Max	Unit
Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	V_{ESD}	-	±30	kV
	IEC 61000-4-2; Air Discharge		-	±30	kV
Peak Pulse Power	t _p = 8/20 μs	P_{PP}	-	55	W
Rated Peak Pulse Current	t _p = 8/20 μs	I_{PPM}	-	5.5	A
Ambient Temperature Range	-	T_A	-55	125	°C
Storage Temperature Range	-	T_{stg}	-55	150	°C

Electrical Characteristics(TA=25 °C, unless otherwise specified)

Parameter	Conditions	Symbol	Min	Typ.	Max	Unit
Reverse Working Voltage	T _A = 25 °C	V_{RWM}	-	-	5.0	V
Breakdown Voltage	I _R = 1mA; T _A = 25 °C	V_{BR}	5.8	7.5	9.5	V
Reverse Leakage Current	V _{RWM} = 5V; T _A = 25 °C	I_R	-	-	0.2	μA
Clamping Voltage	TLP, t _p = 0.2/100ns, I _{TL} P = 16A	V_C	-	9.0	-	V
	I _{PP} = 1A, t _p = 8/20μs		-	5.8	7.5	V
	I _{PP} = 5.5A, t _p = 8/20μs		-	8	10	V
Junction Capacitance	V _R = 0V, f = 1 MHz	C_J	-	0.3	0.4	pF

Typical Characteristics

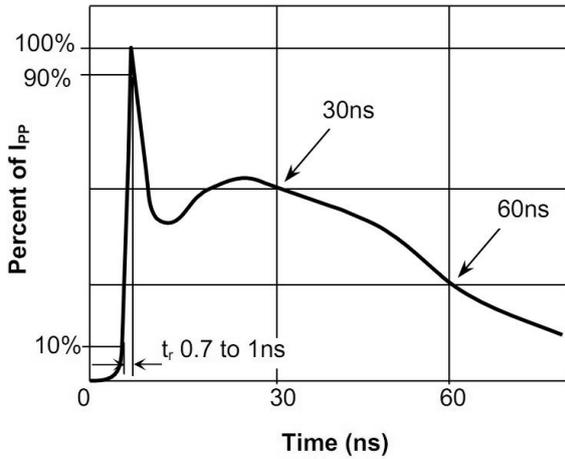


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

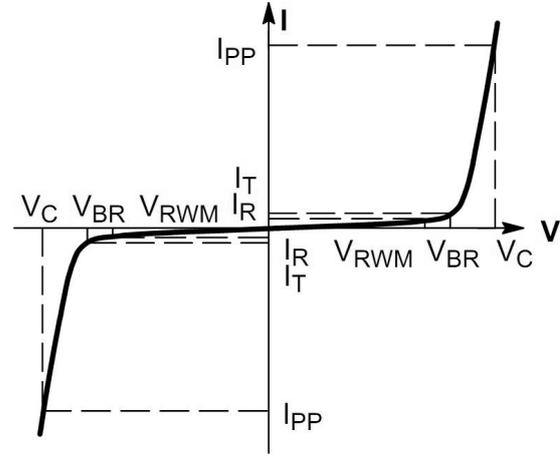


Fig.2 V-I Characteristics for Bidirectional Diode

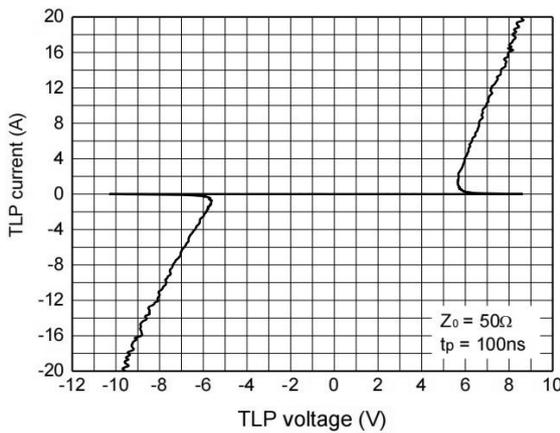


Fig.3 Transmission Line Pulse (TLP)

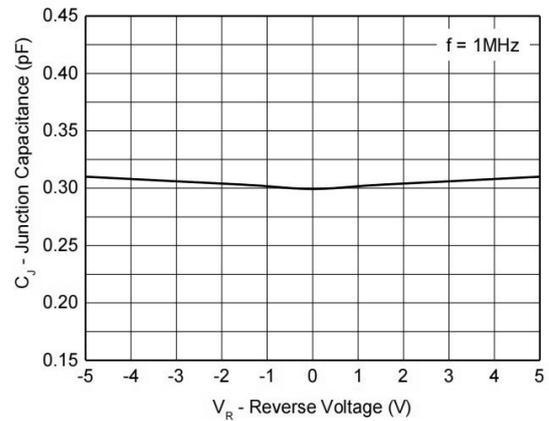


Fig.4 Capacitance-Voltage Curve

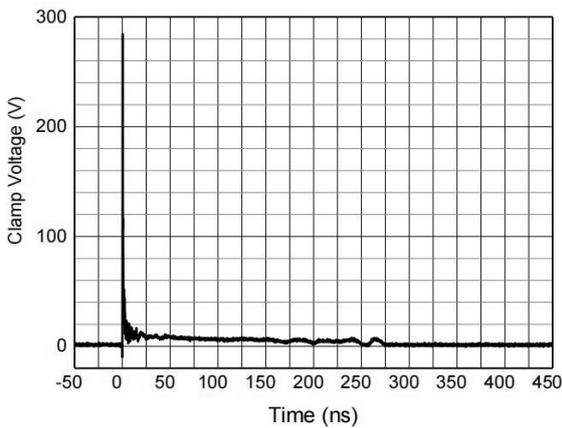


Fig.5 Clamping Voltage at IEC61000-4-2
+8kV Pulse Waveform

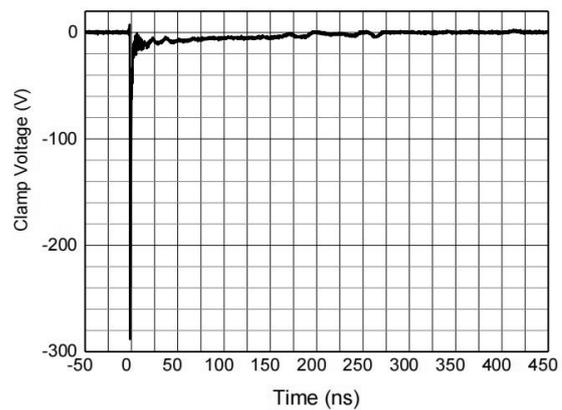
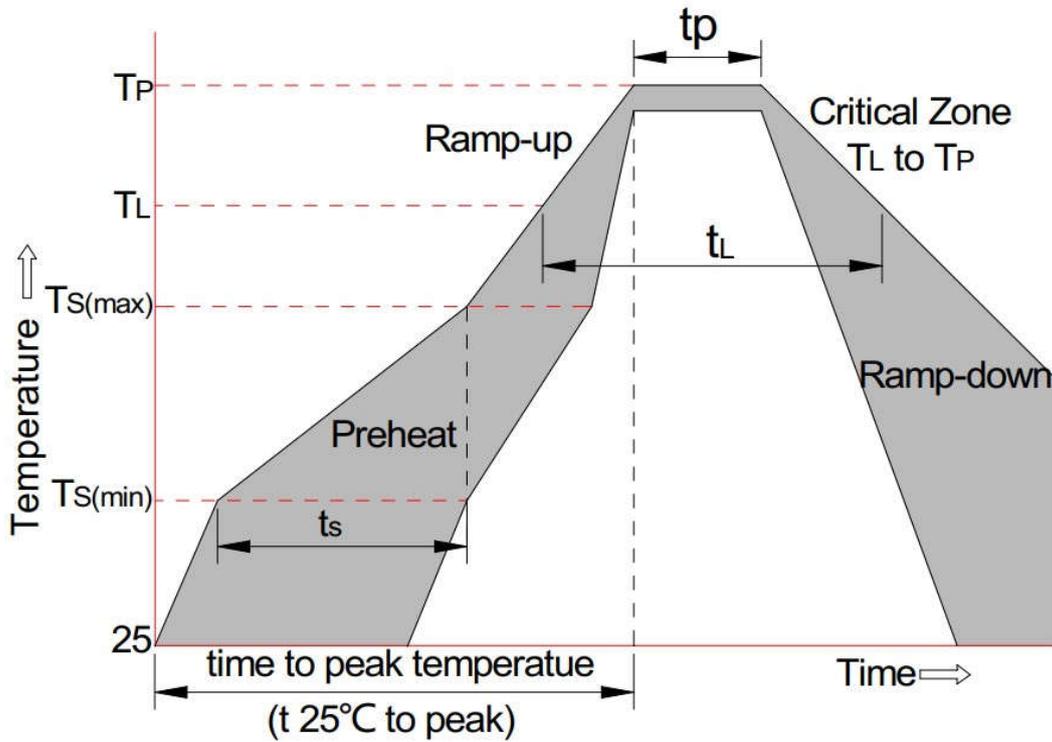


Fig.6 Clamping Voltage at IEC61000-4-2
-8kV Pulse Waveform



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts(min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts(max) to TL - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(TL)(Liquid us)	+217°C
	-Temperature(tL)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

Ordering information

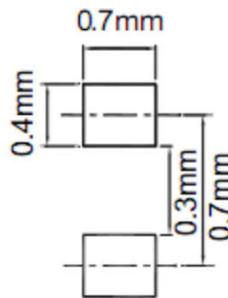
Package	Packing Description	Packing Quantity
DFN1006-2L	Tape/Reel,7"reel	10000PCS/Reel 400000PCS/Carton

Package Dimensions

DFN1006-2L

<p>Top view</p> <p>Bottom view</p> <p>Side view</p>	Dim.	Millimeter(mm)		Inches	
		Min.	Max.	Min.	Max.
	A	0.350	0.450	0.014	0.018
	D	0.550	0.650	0.022	0.026
	E	0.950	1.050	0.037	0.041
	D1	0.420	0.520	0.017	0.020
	E1	0.550	0.650	0.022	0.026
	L	0.270	0.370	0.011	0.015
	L1	-	0.100	-	0.004

The recommended mounting pad size



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