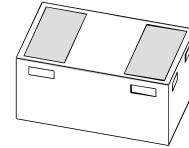


FEATURES

- ◆ 450 Watts Peak Pulse Power ($t_p=8/20\mu s$)
- ◆ Ultra-small package: 1.0x0.6x0.5mm
- ◆ Protects one data or power line
- ◆ Ultra-low leakage: nA level
- ◆ Low operating voltage: 5V
- ◆ Low clamping voltage
- ◆ 2-Pin leadless



IEC COMPATIBILITY (EN61000-4)

- ◆ IEC 61000-4-2 ESD air $\pm 30KV$, contact $\pm 30KV$
- ◆ IEC 61000-4-4 EFT 40A (5/50ns)
- ◆ IEC 61000-4-5 Surge 32A (8/20 μs)

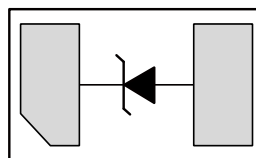
APPLICATIONS

- ◆ Cellular Handsets and Accessories
- ◆ Personal Digital Assistants
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Digital Cameras
- ◆ Peripherals
- ◆ Audio Players
- ◆ Keypads, Side Keys, LCD Displays

MECHANICAL CHARACTERISTICS

- ◆ JEDEC DFN1006-2 package
- ◆ RoHS Compliant

SCHEMATIC & PIN CONFIGURATION



DFN1006-2

ABSOLUTE MAXIMUM RATING

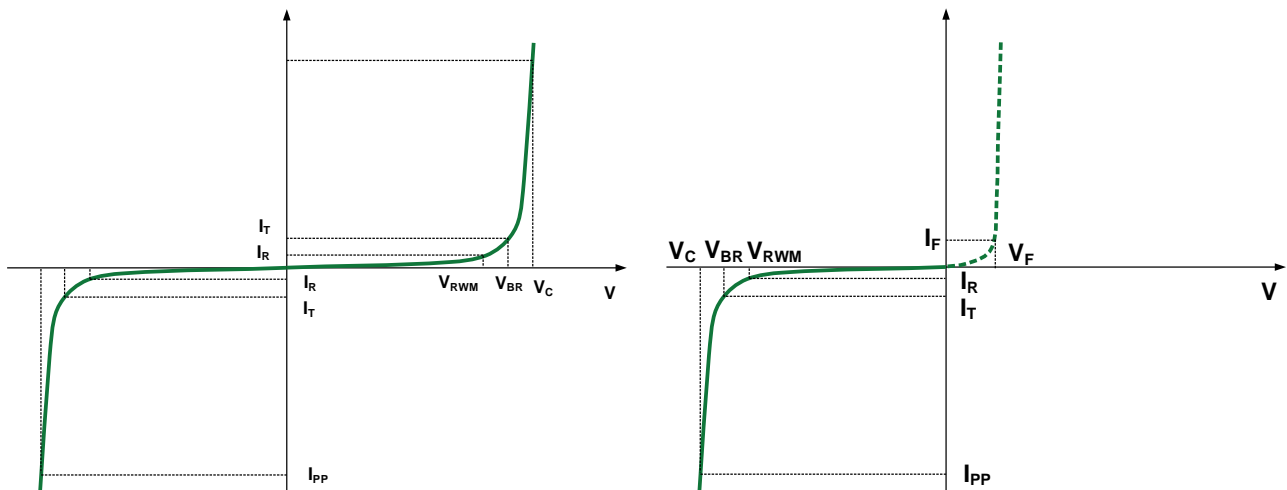
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PK}	450	Watts
Lead Soldering Temperature	T_L	260 (10sec)	$^{\circ}C$
Operating Temperature	T_J	-55~125	$^{\circ}C$
Storage Temperature	T_{STG}	-55~150	$^{\circ}C$
IEC61000-4-2	V_{PP}	Air 30	KV
IEC61000-4-2	V_{PP}	Contact 30	KV

ELECTRICAL CHARACTERISTICS

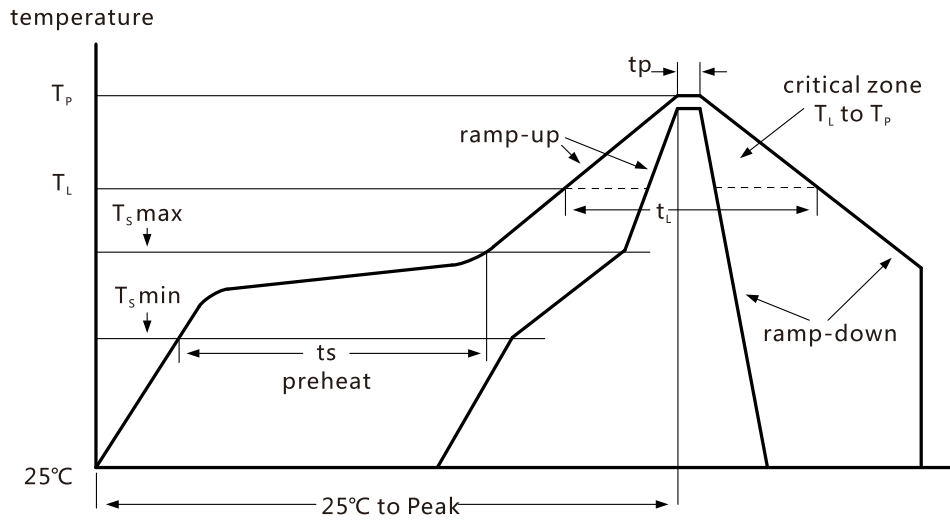
ESD0501TAC1

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_t=1mA$	6.0			V
Leakage Current	I_R	@ V_{RWM}			1.0	μA
Forward Voltage	V_F	$I_F=10mA$		1.0	1.2	V
Clamping Voltage	V_C	@1A			8.0	V
Clamping Voltage	V_C	@32A			14	V
Peak Pulse Current	I_{PP}	8/20 μs			32	A
Junction Capacitance	C_J	$V_R=0V, f=1MHz$			300	pf

I-V CURVE CHARACTERISTICS



REFLOW SOLDERING PROFILE



Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (T_S max to T_P)	3°C/s maximum	3°C/s maximum
Preheat		
Temperature minimum (T_S min)	100°C	150°C
Temperature maximum (T_S max)	150°C	200°C
Time (T_S min to T_S max)	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (T_L)	183°C	217°C
Time (t_L)	60 s to 150 s	60 s to 150 s
Peak/classification temperature (T_P)	235°C	260°C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature (t_p)	10 s to 30 s	20 s to 40 s
Ramp-down rate	6°C/s maximum	6°C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum

LEAEMC ELECTRONICS CO., LTD.

Figure 1. Junction Capacitance vs. Reverse Voltage

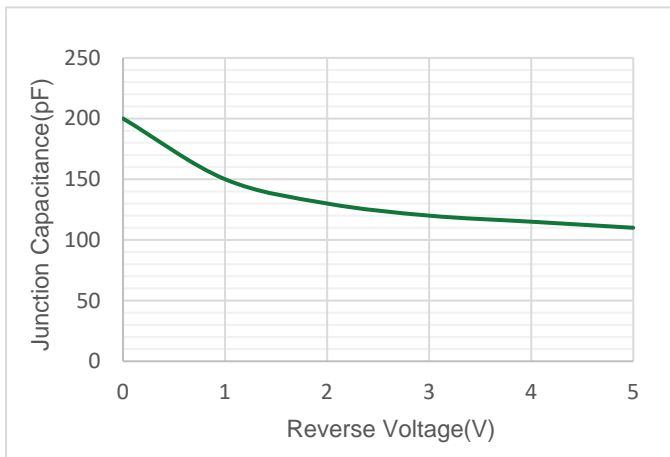


Figure 2. Peak Pulse Power vs. Pulse Time

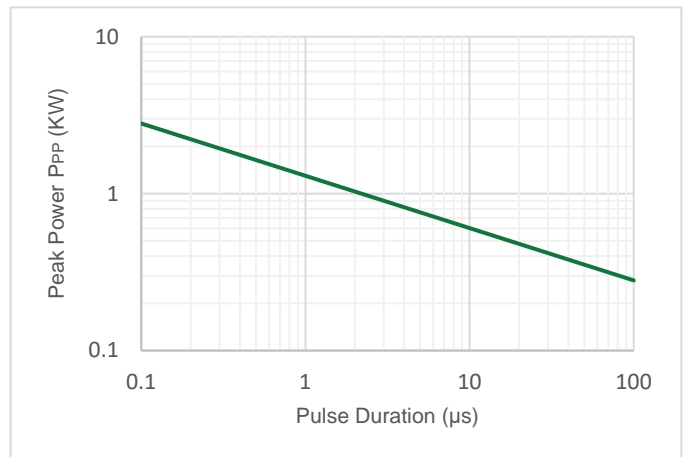


Figure 3. Clamping Voltage vs. Peak Pulse Current

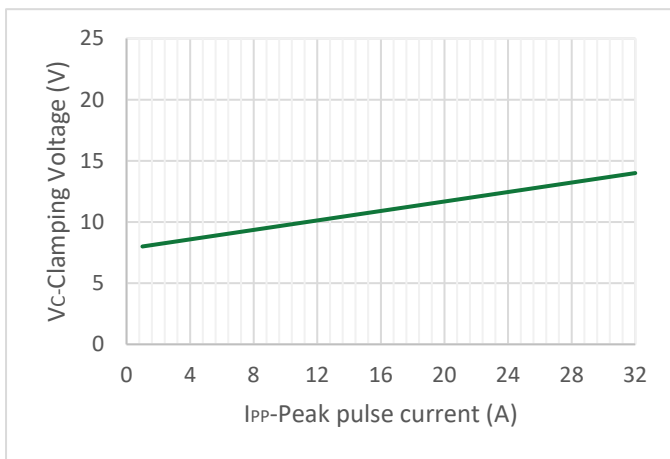


Figure 4. Power Derating Curve

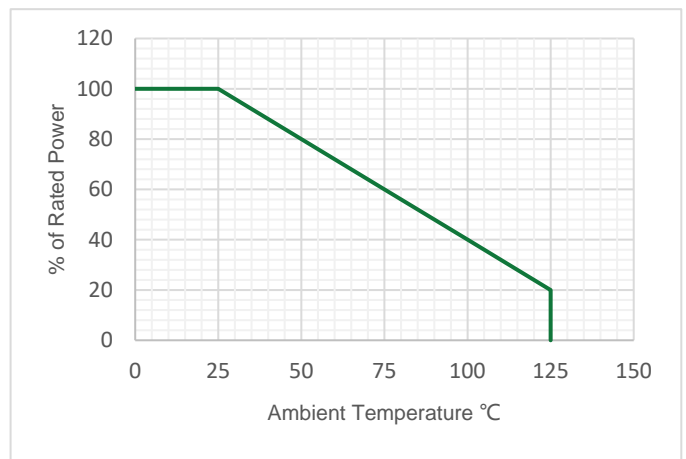
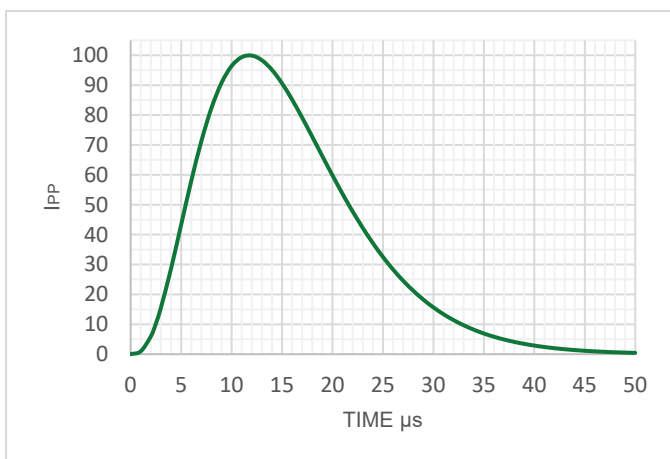
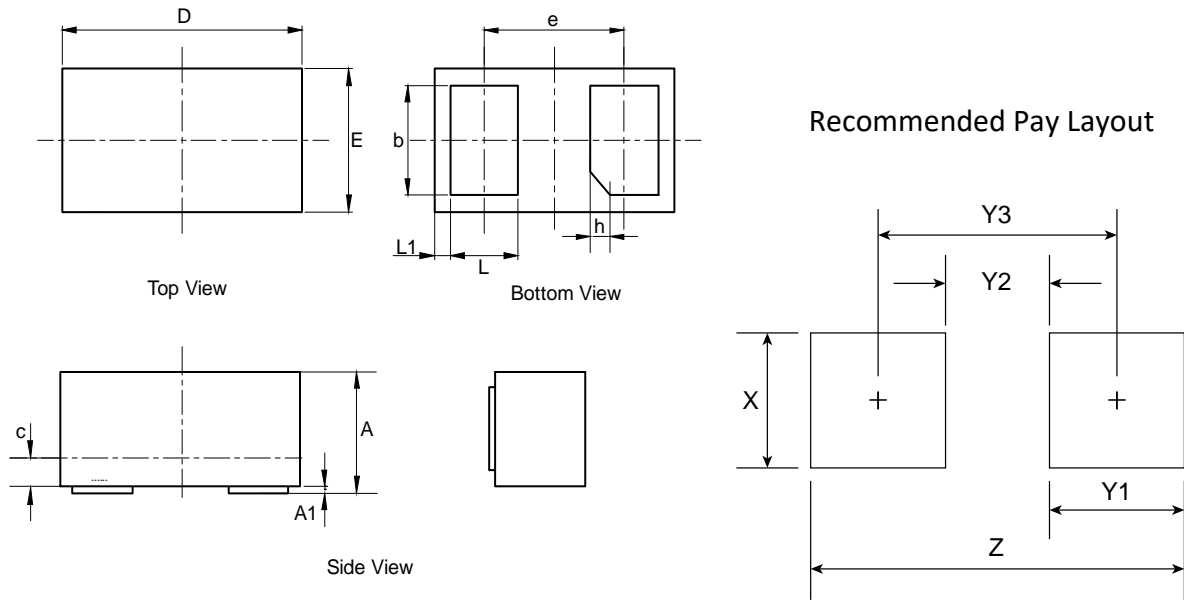


Figure 5. 8/20µs Pulse Waveform



ESD0501TAC1

DIMENSIONS



DFN1006-2

DIM	Millimeters			Inch		
	Min	Nom	Max	Min	Nom	Max
A	0.450	0.500	0.550	0.018	0.020	0.022
A1	0.000	0.020	0.050	0.000	0.001	0.002
b	0.450	0.500	0.550	0.018	0.020	0.022
c	0.120	0.150	0.180	0.005	0.006	0.007
D	0.950	1.000	1.050	0.037	0.039	0.041
e	0.650 BSC			0.026 BSC		
E	0.550	0.600	0.650	0.022	0.024	0.026
L	0.200	0.250	0.300	0.008	0.010	0.012
L1	0.050 REF			0.002 REF		
h	0.070	0.120	0.170	0.003	0.005	0.007
X	-	0.600	-	-	0.024	-
Y1	-	0.500	-	-	0.020	-
Y2	-	0.300	-	-	0.012	-
Y3	-	0.800	-	-	0.032	-
Z	-	1.300	-	-	0.052	-

PACKAGING

Part Number	Marking Code	Package	Quantity	Packaging
ESD0501TAC1	57	DFN1006-2	10,000pcs	7" Reel