

Features

- * Protects one data or power line
- * Operating voltage: $\pm 5V$
- * Ultra low clamping voltage
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15kV$
 - Contact discharge: $\pm 8kV$
 - IEC61000-4-5 (SURGE) 2A (8/20us)

Ordering Information

Part Number	Qty per Reel	Reel Size
TPPESD5V0X1BCAL	10000	7"

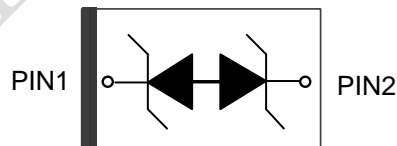
Mechanical Characteristics

- * Package: DFN1006-2(0402)
- * Ultra low leakage: nA level
- * Case Material: "Green" Molding Compound.
- * UL Flammability Classification Rating 94V-0
- * Moisture Sensitivity: Level 3 per J-STD-020

Applications

- * Mobile Phones and Accessories
- * Battery Protection
- * USB VBus
- * Power Line Protection
- * Hand Held Portable Applications

Dimensions and Pin Configuration



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	VESD	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5	V
Breakdown Voltage	V _{BR}	I _T = 1mA(Pin1-Pin2)	6.5		9	V
Reverse Leakage Current	I _R	V _{RWM} = 5.0V(Pin2-Pin1)			0.08	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 x 20us pulse) (Pin1-Pin2)			9	V
Clamping Voltage	V _C	I _{PP} = 2A (8 x 20us pulse) (Pin1-Pin2)			15	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz (Pin1-Pin2)		0.6	0.9	pF

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

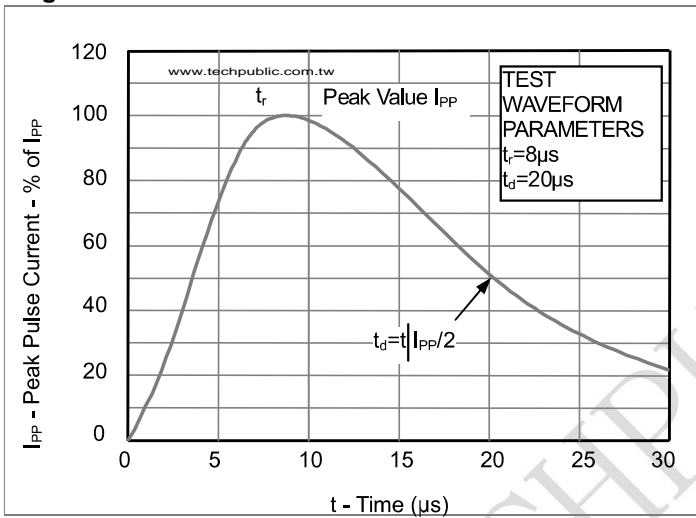


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

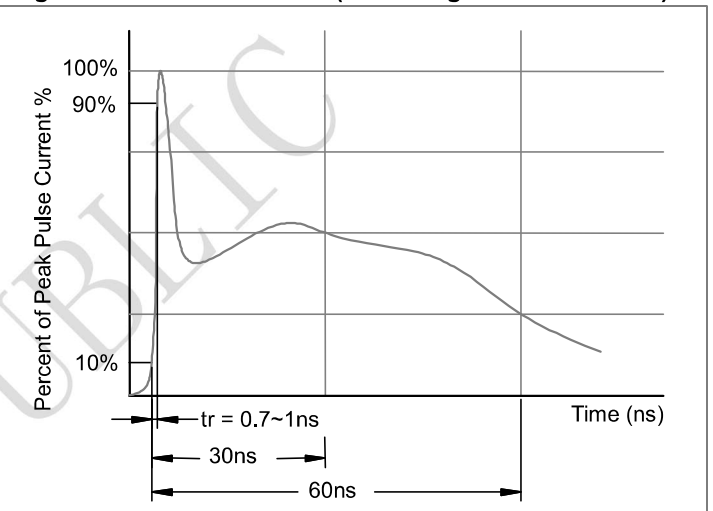
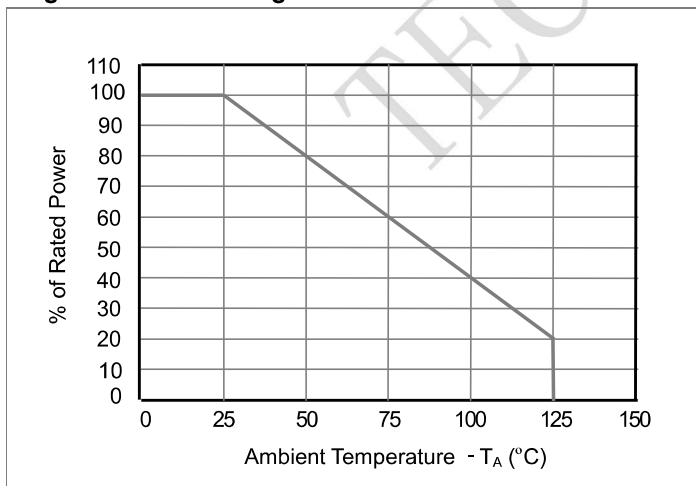
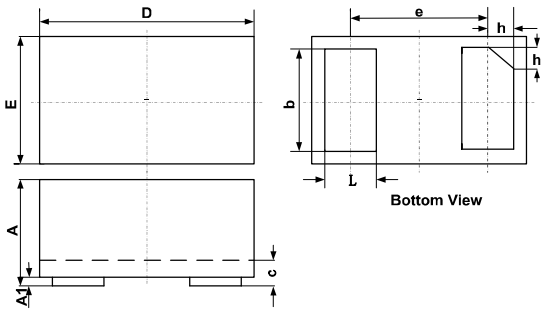


Fig3. Power Derating Curve

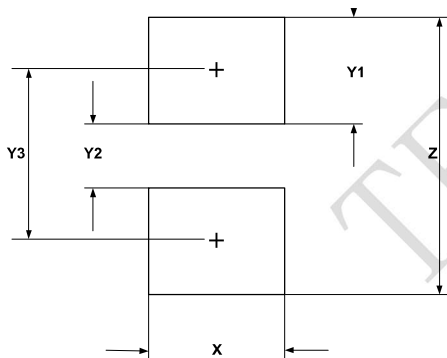


DFN1006-2 Package Outline Drawing (0402)



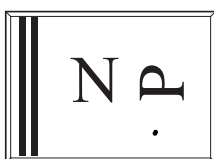
SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

Marking:



N = Specific Device Code