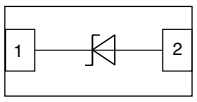
ESD Protection Diode in DFN1006

Features

- 450Watts peak pulse power (Tp = 8/20μs)
- DFN1006 package
- Uni-directional configurations
- Low clamping voltage
- Low leakage current
- Normal capacitance (Cj=270pF typ.)
- Protection one data/power line to:
  IEC 61000-4-2 ±30kV contact ±30kV air
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  IEC 61000-4-5 (Lightning) 40A (8/20μs)



Mechanical Data

- **Case:** DFN1006 (plastic package).
  Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**
  UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
  260 °C/10 sec. at terminals

Applications

- Microprocessor based equipment
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- Portable Instrumentation

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power (T_P=8/20μs)	P_{PP}	450	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	30/30	kV
Peak Pulse Current (T_P = 8/20μs)	I_{PP}	40	A
Junction Temperature	T_J	-55 to +125	℃
Storage temperature	T_{STG}	-55 to +150	℃

Electrical Characteristics

(T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}				6.8	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	7.5			V
Reverse Leakage Current	I_R	V_{RWM}=6.8V			1.0	uA
Clamping Voltage (IEC 61000-4-5)	V_C	I_{PP}=40A			11.0	V
Junction Capacitance	C_J	V_R=0V, f=1MHz		270		pF

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

Fig.1 Peak Pulse Power Rating Curve

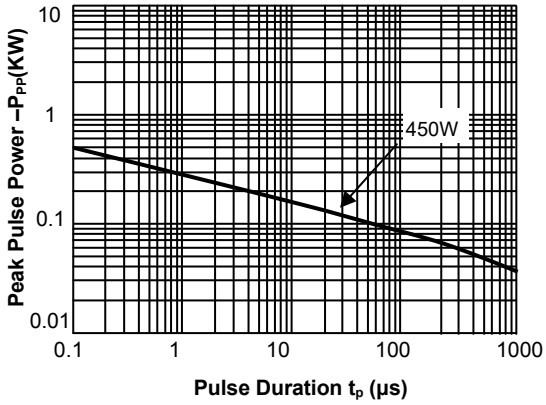


Fig.2 Pulse Derating Curve

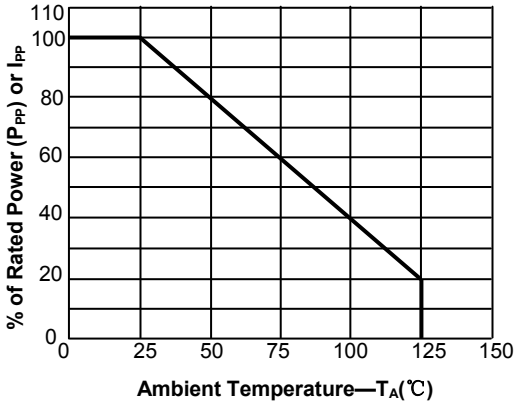


Fig.3 Pulse Waveform-8/20μs

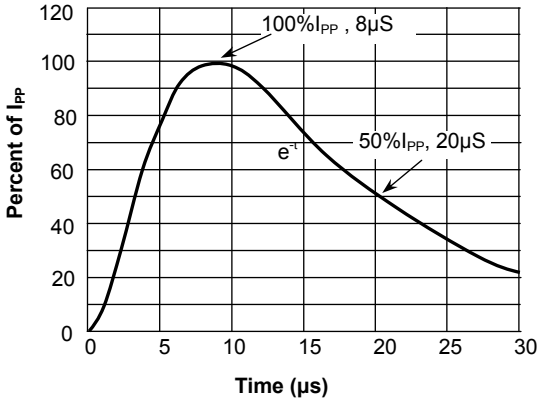
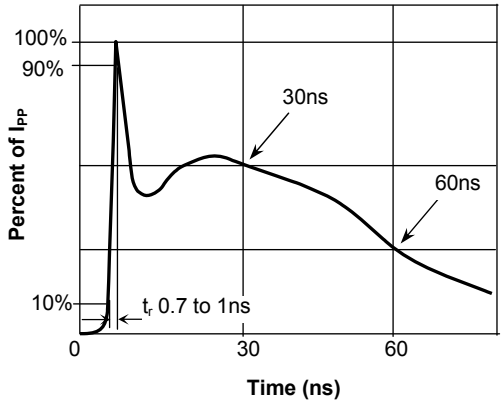
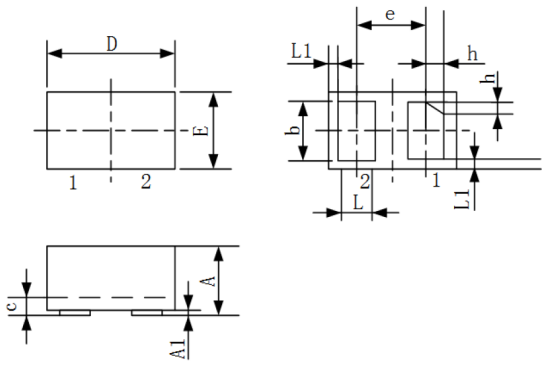


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

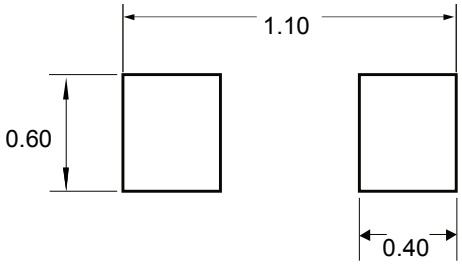


Package Dimensions



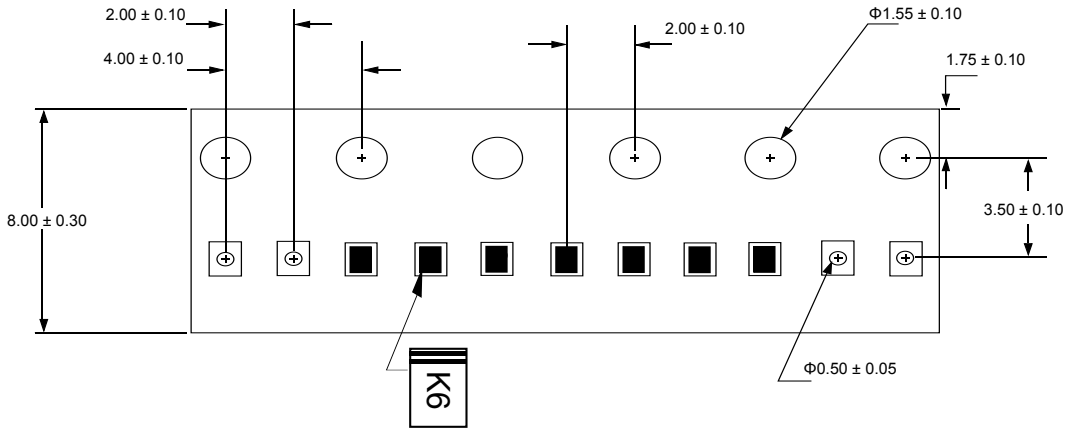
Symbol	Dimensions in millimeters		
	Min	Nom	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e		0.65 BSC	
A	0.40	0.50	0.55
A1	0	0.02	0.05
c	0.12	0.15	0.18
h	0.07	0.12	0.17
L1		0.05 REF	

Pad Dimensions



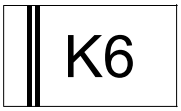
Unit:mm

Tape and Reel Specification



Unit:mm

Marking



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
TESD1006HC 6V8U	DFN1006	Tape and reel	10000pcs / reel	EIA STD RS-481