HESD2401QC

Low Capacitance TVS/ESD Protection Diode

DESCRIPTION

HESD2401QC is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for data, control or power lines. With maximum capacitance of 17pF only, HESD2401QC is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 (±15kV air, ±8kV contact discharge), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

HESD2401QC uses ultra-small DFN1006 package. Each HESD2401QC device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

FEATURES

✧IEC61000-4-2 (ESD) ±30kV (air), ±20kV (contact)
✧IEC61000-4-4 (EFT) 40A (5/50ηs)
✧IEC61000-4-5 (Lighting) 3A (8/20μs)
✧200 Watts Peak Pulse Power per (tp=8/20μs)
✧Working voltages : 24V
✧Low clamping voltage
✧Low leakage current

MACHANICAL DATA

✧DFN1006 package
✧Flammability Rating: UL 94V-0
✧Packaging: Tape and Reel
✧Reel size: 7 inch

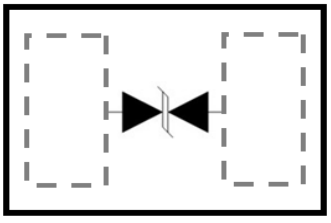
ORDERING INFORMATION

✧Device: HESD2401QC
✧Package: DFN1006
✧Marking: DH
✧Material: Halogen free
✧Packing: Tape & Reel
✧Quantity per reel: 10,000pcs

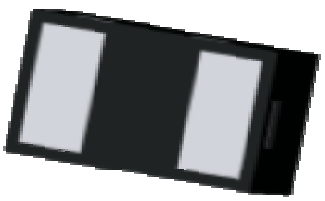
APPLICATIONS

✧Serial and Parallel Ports
✧Notebooks, Desktops, Servers
✧Projection TV
✧Cellular handsets and accessories
✧Portable instrumentation
✧Peripherals

PIN CONFIGURATION



PACKAGE OUTLINE



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ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±30 ±20	kV
P_{PP}	Peak Pulse Power (8/20μs)	200	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	26		32	V
I_R	Reverse Leakage Current	V_{RWM} = 24V			1	μA
V_{C1}	Clamping Voltage 1	I_{PP} = 1A, t_p = 8/20μs			36	V
V_{C2}	Clamping Voltage 2	I_{PP} = 3A, t_p = 8/20μs			50	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		13	17	pF

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ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20μs Waveform per IEC61000-4-5

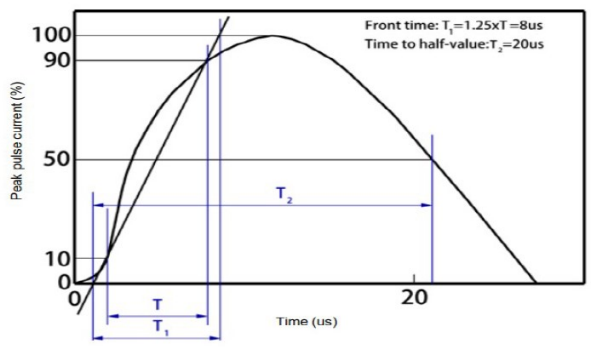


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

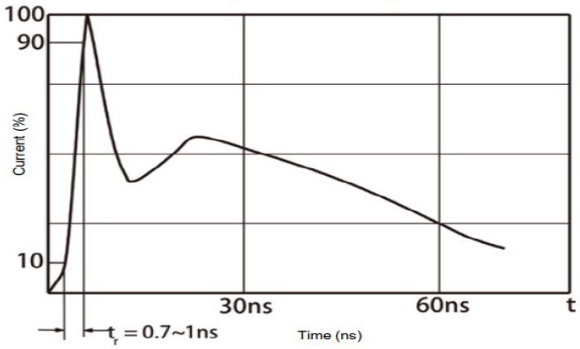


Fig 3 Voltage vs Capacitance

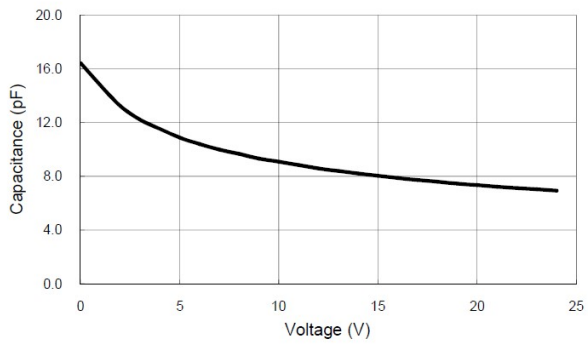
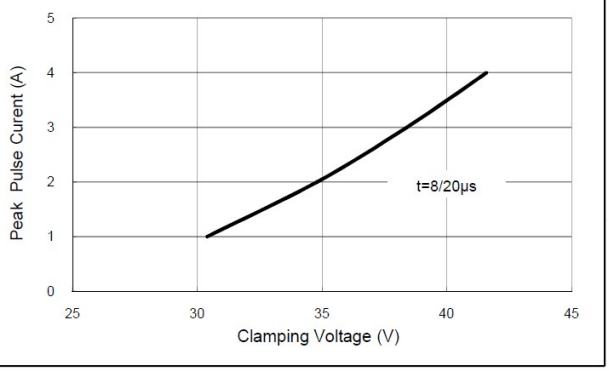


Fig 4 Clamping Voltage vs Peak Pulse Current



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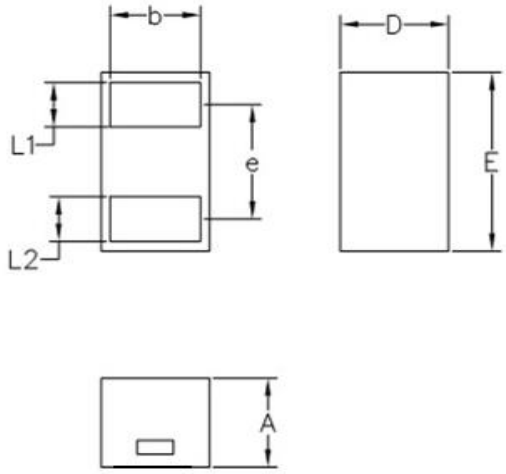
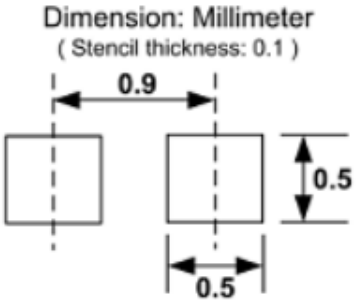
DFN1006 PACKAGE OUTLINE DIMENSIONS



NOTE:ALL DIMENSIONS IN MM

	MIN	NOM	MAX
D	0.55	0.60	0.65
E	0.95	1.00	1.05
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
A	0.45	0.50	0.55
b	0.45	0.50	0.55
e		0.64BSC	



Soldering Footprint