

DESCRIPTION

ESD2401QC 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, ESD2401QC 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 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

ESD2401QC uses ultra-small DFN1006 package. Each ESD2401QC device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

ORDERING INFORMATION

- ✧ Device: ESD2401QC
- ✧ Package: DFN1006
- ✧ Marking: DH
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 10,000pcs

FEATURES

- ✧ IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lighting) 3A (8/20 μs)
- ✧ 200 Watts Peak Pulse Power per (tp=8/20 μs)
- ✧ Working voltages : 24V
- ✧ Low clamping voltage
- ✧ Low leakage current

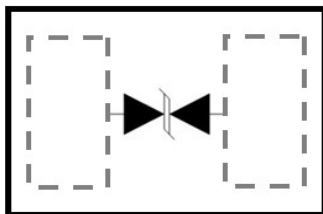
MACHANICAL DATA

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

APPLICATIONS

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

PIN CONFIGURATION



PACKAGE OUTLINE



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 (8/20 μ s)	200	W
T_{OPT}	Operating Temperature	-55/+150	$^{\circ}$ C
T_{STG}	Storage Temperature	-55/+150	$^{\circ}$ C
T_L	Lead Soldering Temperature	260 (10 sec.)	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C)

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

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

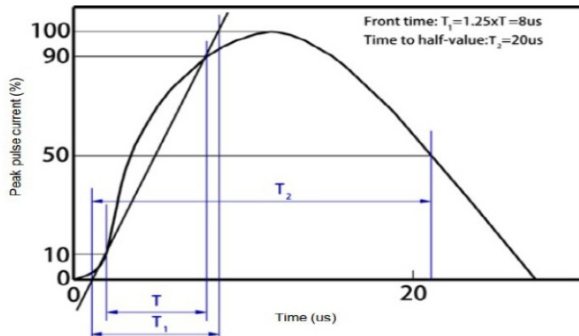


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2

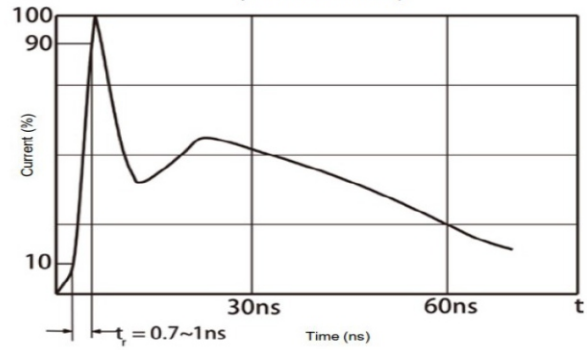


Fig 3 Voltage vs Capacitance

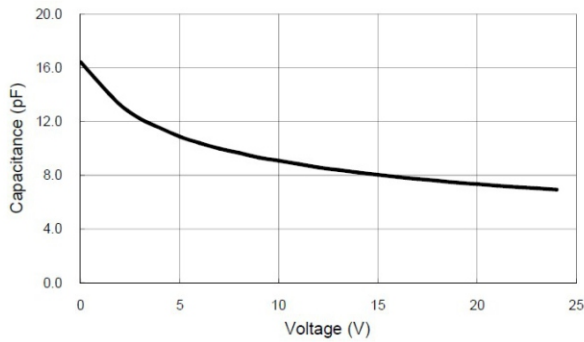
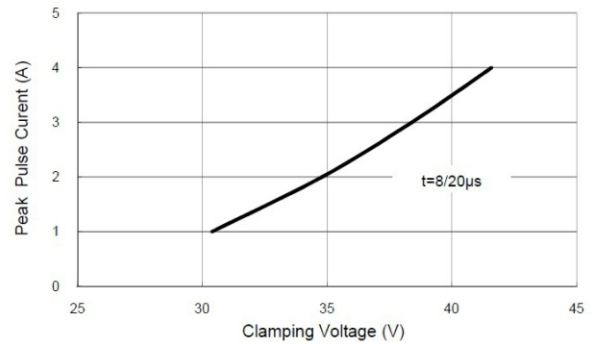
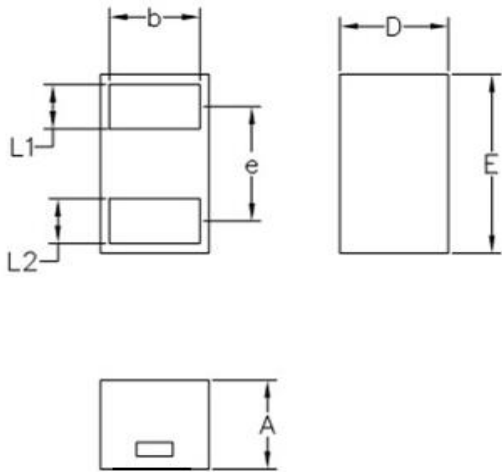


Fig 4 Clamping Voltage vs Peak Pulse Current



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	

