

DESCRIPTION

The SD12FDT is a transient voltage suppressor designed to protect power interfaces. It is suitable to replace multiple discrete components in portable electronics.

The SD12FDT is specifically designed to protect power lines.

The SD12FDT is available in DFN1610-2L package. Standard products are Pb-free and Halogen-free.

FEATURES

- ✧ Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Contact)
 $\pm 30\text{kV}$ (Air)
- ✧ Peak power dissipation: 2275W ($8/20\mu\text{s}$)
- ✧ Working voltages : 12V
- ✧ Ultra-small package ($1.6\text{mm} \times 1.0\text{mm} \times 0.5\text{mm}$)
- ✧ Solid-state silicon technology
- ✧ Low clamping voltage

MACHANICAL DATA

- ✧ DFN1610-2L package
- ✧ Flammability Rating: UL 94V-0
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed:
 $260^\circ\text{C}/10\text{s}$
- ✧ Reel size: 7 inch

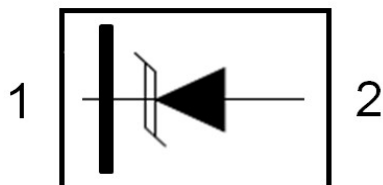
ORDERING INFORMATION

- ✧ Device: SD12FDT
- ✧ Package: DFN1610-2L
- ✧ Marking: MT
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

APPLICATIONS

- ✧ Power management
- ✧ Power supply protection

PIN CONFIGURATION



PACKAGE OUTLINE



ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact)	± 30	kV
	ESD per IEC 61000-4-2 (Air)	± 30	
P_{PP}	Peak Pulse Power (8/20 μ s)	2275	W
T_J	Junction Temperature	125	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55~150	$^{\circ}\text{C}$

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

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				12.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	12.7			V
I_R	Reverse Leakage Current	$V_{RWM} = 12\text{V}$			100	nA
V_C	Clamping Voltage	$I_{PP} = 25\text{A}, t_p = 8/20\mu\text{s}$			25	V
		$I_{PP} = 65\text{A}, t_p = 8/20\mu\text{s}$			35	V
C_J	Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$			510	pF

ELECTRICAL CHARACTERISTICS CURVE

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

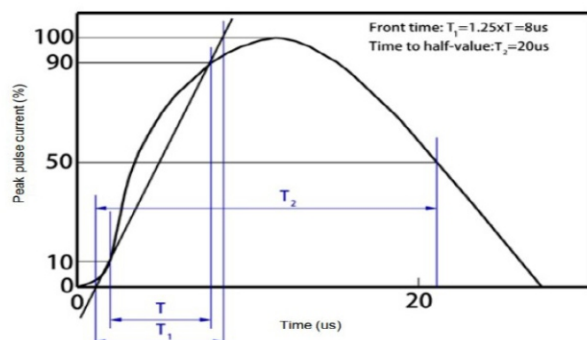


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

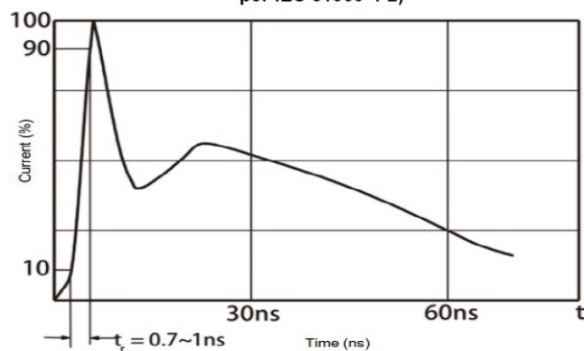


Fig 3 Voltage vs Capacitance

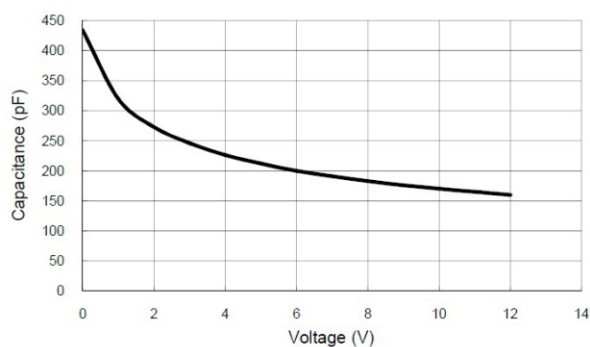
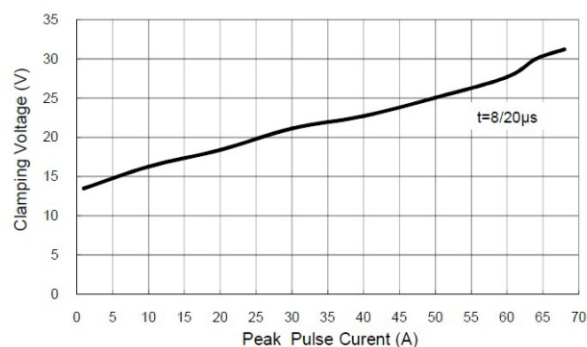
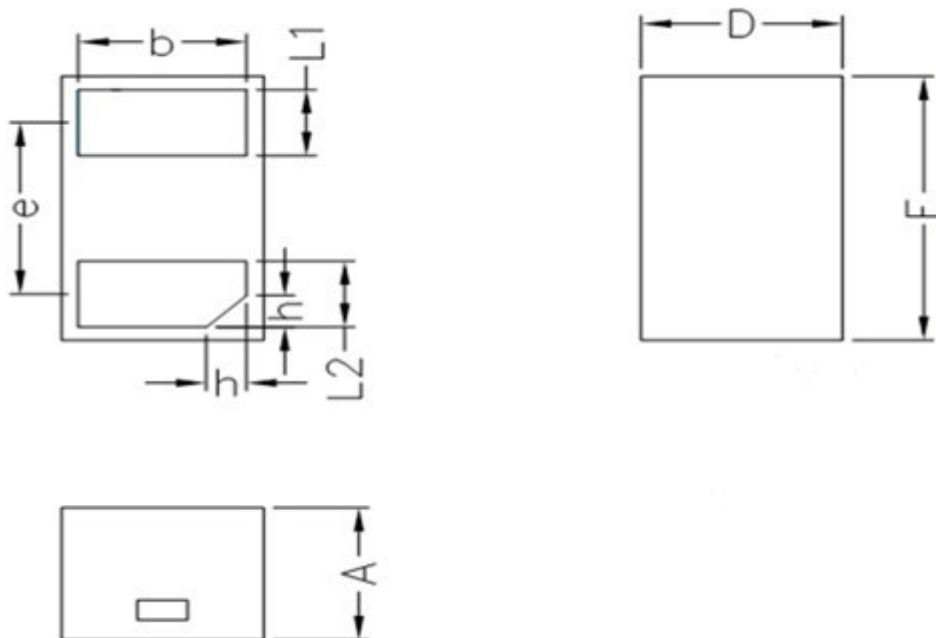


Fig 4 Clamping Voltage vs Peak Pulse Current



DFN1610-2L PACKAGE OUTLINE DIMENSIONS



COMMON DIMENSION(mm)			
REF	Min	Nom	Max
D	0.95	1.00	1.05
E	1.55	1.60	1.65
L1	0.35	0.40	0.45
L2	0.35	0.40	0.45
b	0.75	0.80	0.85
e	1.09BSC		
A	0.45	0.50	0.55
h	0.15	0.20	0.25