

DESCRIPTION

The SD05FDS is designed for applications requiring transient overvoltage protection capability. It is intended for use in voltage and ESD sensitive equipment such as Laptop Computers, Cellular Phones, Digital Cameras, Personal Digital Assistant and other applications. This device is ideal for situations where board space is at a premium.

This SD05FDS has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

FEATURES

- ✧Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Contact)
 $\pm 30\text{kV}$ (Air)
- ✧IEC61000-4-4 (EFT) 110A (5/50ns)
- ✧1350 Watts Peak Pulse Power per (tp=8/20μs)
- ✧Protects one Power or I/O line (unidirectional)
- ✧Low clamping voltage
- ✧Working voltages : 5V
- ✧Low leakage current

MACHANICAL DATA

- ✧DFN1610-2L package
- ✧Flammability Rating: UL 94V-0
- ✧Packaging: Tape and Reel
- ✧High temperature soldering guaranteed:
260°C/10s
- ✧Reel size: 7 inch

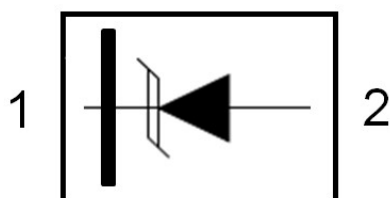
ORDERING INFORMATION

- ✧Device: SD05FDS
- ✧Package: DFN1610-2L
- ✧Marking: FS
- ✧Material: Halogen free
- ✧Packing: Tape & Reel
- ✧Quantity per reel: 3,000pcs

APPLICATIONS

- ✧Laptop Computer
- ✧Cell Phone Handset
- ✧Digital Camera
- ✧Personal Digital Assistants (PDA)
- ✧DC Power line

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)	1350	W
T_{OPT}	Operating Temperature	-55~125	$^{\circ}$ C
T_{STG}	Storage Temperature	-55~150	$^{\circ}$ C

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

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$			2	μ A
V_C	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$		6.5	7.5	V
		$I_{PP} = 10A, t_p = 8/20\mu s$		7.5	9.8	V
		$I_{PP} = 90A, t_p = 8/20\mu s$			15	V
C_J	Junction Capacitance	$V_R = 0V, f = 1MHz$		800		pF

ELECTRICAL CHARACTERISTICS CURVE

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

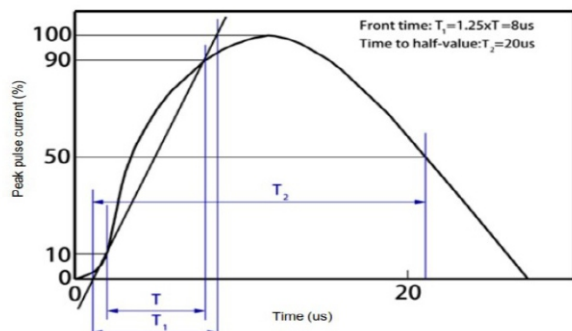


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

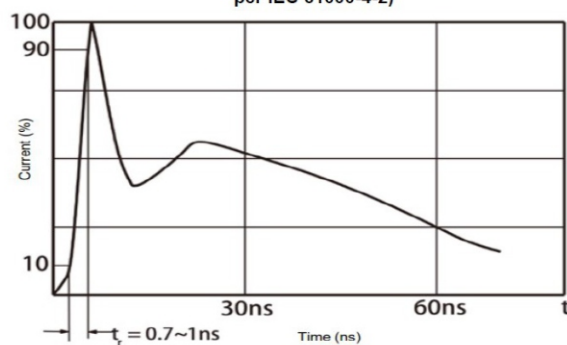


Fig 3 Power Derating Curve

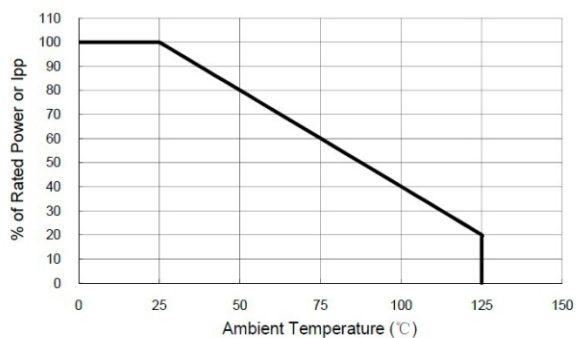
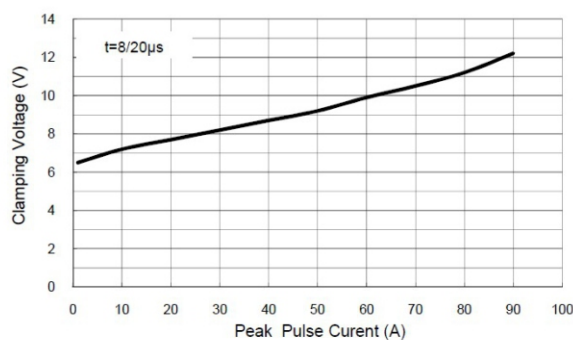
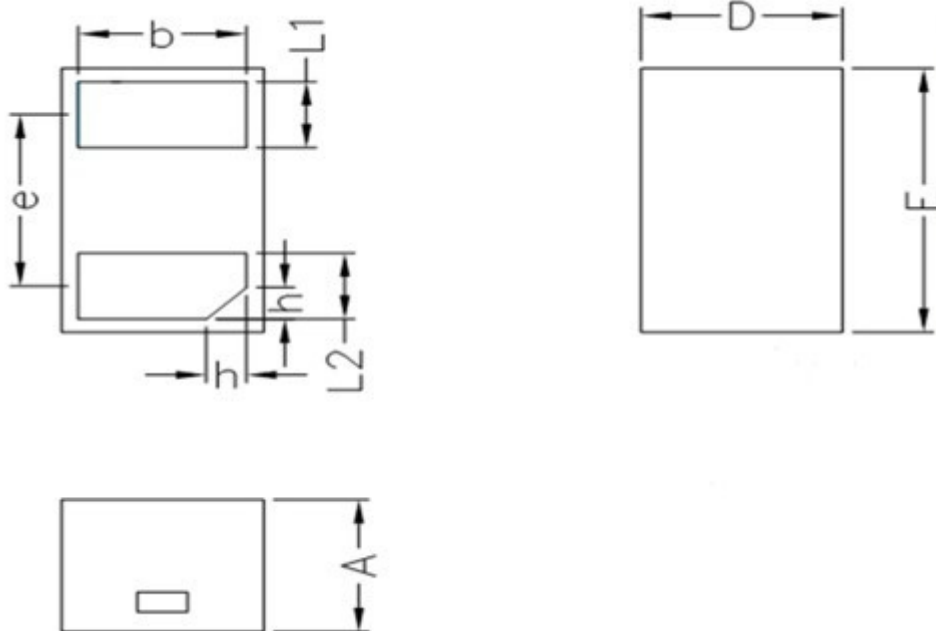


Fig 4 Clamping Voltage vs Peak Pulse Current



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