Single Line Bi-directional Transient Voltage Suppressor

DESCRIPTION

The SD4V5HHNC TVS diode is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebooks, and PDA's. It offers superior electrical characteristics such as low clamping voltage, low leakage current and high surge capability. It is designed to protect sensitive electronic components which are connected to power lines, from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lighting.

The SD4V5HHNC is in a DFN2020- 3L package and will protect one bi-directional line. Standard products are Pb-free and Halogen-free.

FEATURES

✧Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) ±30kV (Contact)
±30kV (Air)
✧Peak power dissipation: 4800W (8/20μs)
✧Working voltages : 4.5V
✧Low leakage current
✧Low clamping voltage
✧Ultra-small package (2.0mm×2.0mm×0.5mm)
✧Solid-state silicon-avalanche technology

MACHANICAL DATA

✧DFN2020-3L package
✧Flammability Rating: UL 94V-0
✧High temperature soldering guaranteed: 260℃/10s
✧Packaging: Tape and Reel
✧Reel size: 7 inch

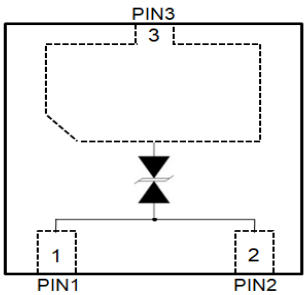
ORDERING INFORMATION

✧Device: SD4V5HHNC
✧Package: DFN2020-3L
✧Marking: T45 008
✧Material: Halogen free and RoHS compliant
✧Packing: Tape & Reel
✧Quantity per reel: 3,000pcs

APPLICATIONS

✧Power supply protection
✧Personal digital assistants (PDA's)
✧Microprocessors based equipment
✧Power Management
✧Cell phone Handsets and Accessories
✧Portable Electronics
✧Peripherals

PIN CONFIGURATION

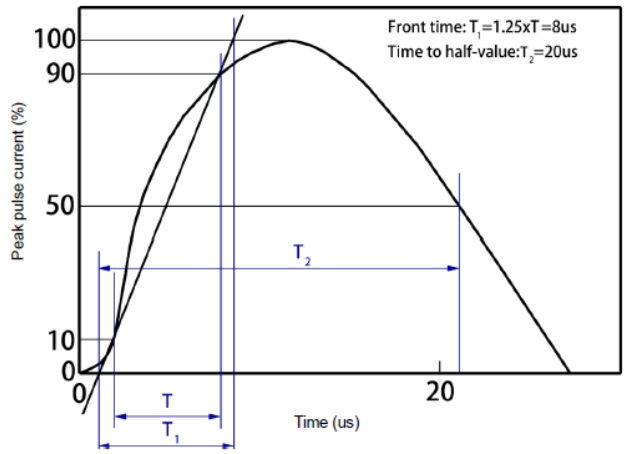


PACKAGE OUTLINE

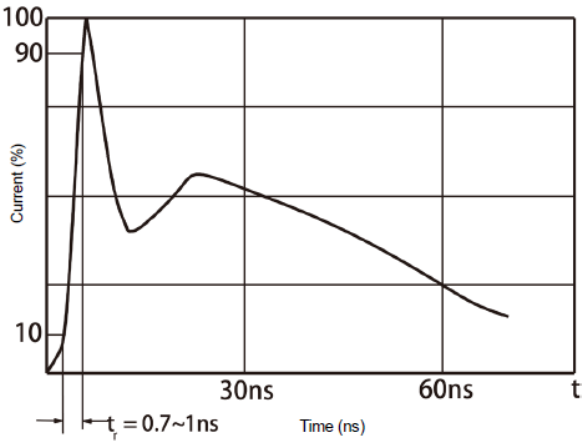
ABSOLUTE MAXIMUM RATING			
Symbol	**Parameter**	**Value**	**Units**
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±30 ±30	kV
P_{PP}	Peak Pulse Power (8/20μs)	4800	W
T_{OPT}	Operating Temperature	-55~125	°C
T_{STG}	Storage Temperature	-55~150	°C
T_L	Lead Soldering Temperature	260(10sec)	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C)						
Symbol	**Parameter**	**Test Condition**	**Min**	**Typ**	**Max**	**Units**
V_{RWM}	Reverse Working Voltage				4.5	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	4.6	5.2	6.1	V
I_R	Reverse Leakage Current	V_{RWM} = 4.5V			1	uA
I_{PP}	Peak Pulse Current	t_p = 8/20μs			240	A
V_C	Clamping Voltage	I_{PP} = 150A, t_p = 8/20μs			16	V
		I_{PP} =200A, t_p = 8/20μs			18	V
		I_{PP} =240A, t_p = 8/20μs			20	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz	200	400	600	pF

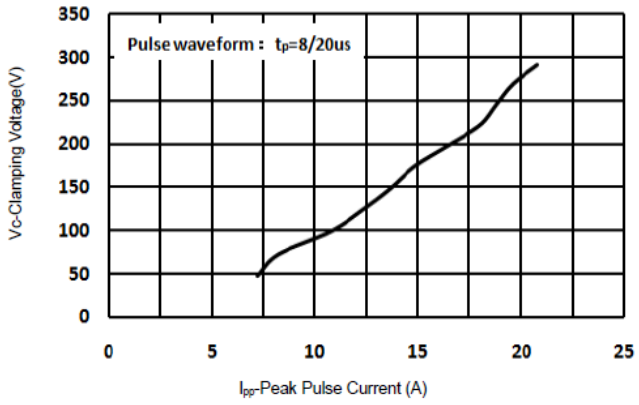
ELECTRICAL CHARACTERISTICS CURVE



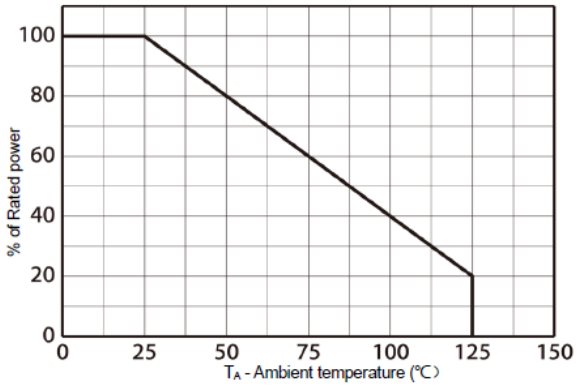
8/20 us waveform per IEC61000-4-5



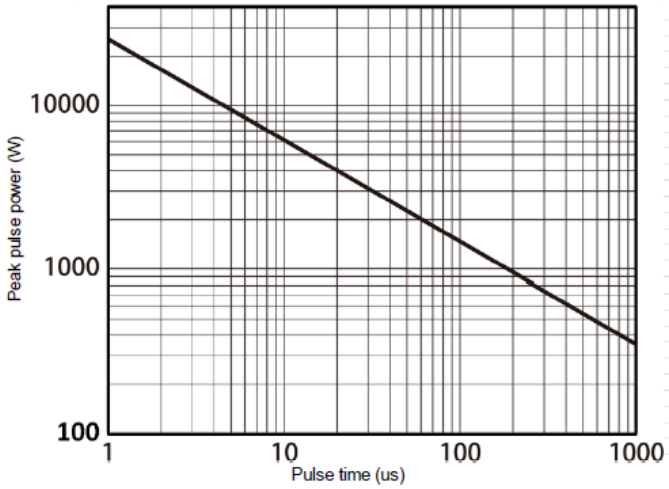
Contact discharge current waveform per IEC61000-4-2



Clamping Voltage vs. Peak pulse current

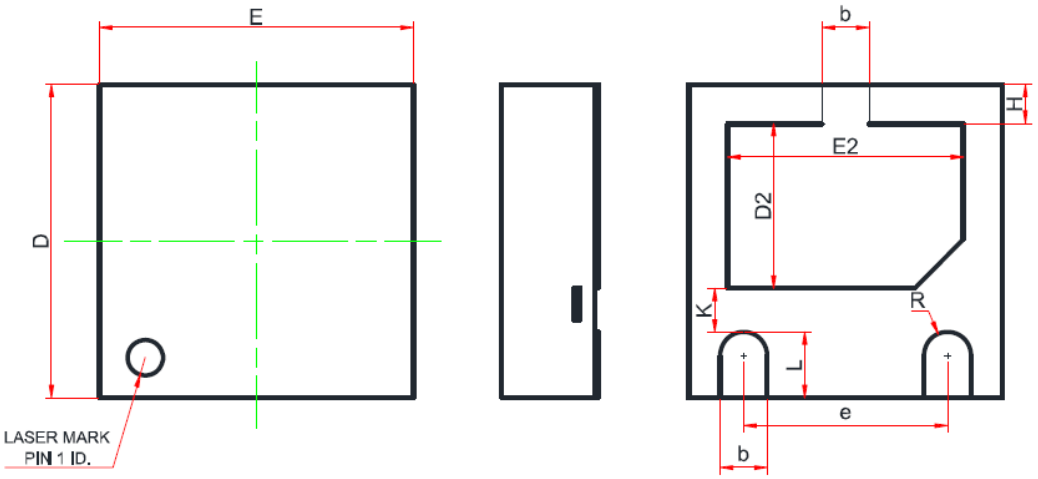


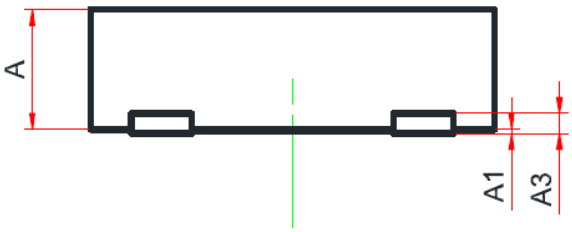
Power derating vs. Ambient temperature



Non-repetitive peak pulse power vs. Pulse time

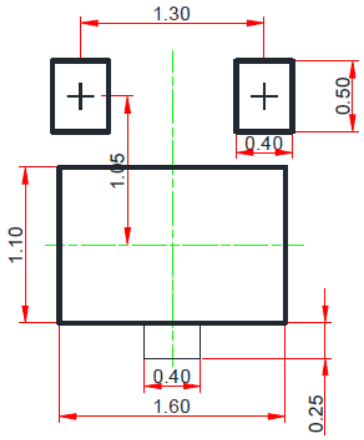
DFN2020-3L PACKAGE OUTLINE DIMENSIONS





Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.51	0.55	0.60
A1	0.00	0.02	0.05
A3	0.15 REF.		
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.85	1.00	1.10
E2	1.35	1.50	1.60
e	1.20	1.30	1.40
H	0.20	0.25	0.30
K	0.20	0.30	0.40
L	0.35	0.40	0.45
R	0.15	-	-

Recommend Land Pattern (Unit: mm)



Note:
This recommended land pattern is for reference purpose only.