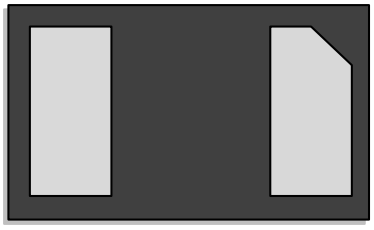
UE05DRF-B

Transient Voltage Suppressor

Features

- Small Body Outline Dimensions:
  0.039″ x 0.024″ (1.0 mm x 0.60 mm)
- Protects one I/O or power line
- Low Clamping Voltage
- Ultra Low Capacitance:0.3pF
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



DFN-2L

IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-2 (ESD) ±18kV (air), ±12kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**
- **IEC 61000-4-5 (Lightning) 4A (8/20μs)**

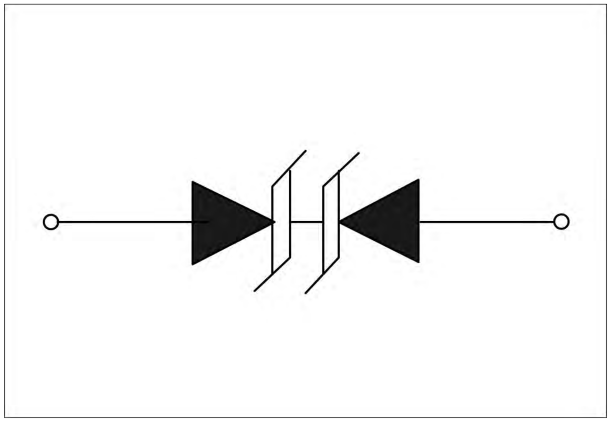
Mechanical Characteristics

- DFN-2L package
- Molding compound flammability rating:
  UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

Schematic & PIN Configuration

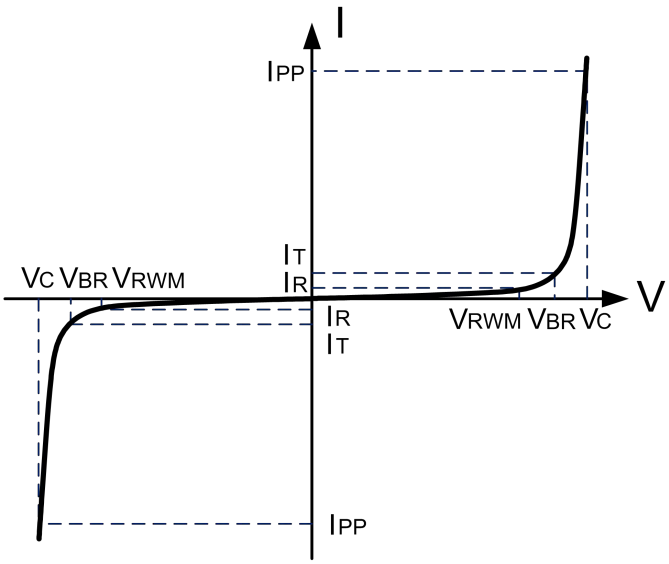


Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	80	W
Peak Pulse Current (t_p =8/20μs)	I_{pp}	4	A
Electrostatic discharge Voltage (See Note1 ,2)	V_{ESD}	12KV (contact)	Volts
		18KV (air)	
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25℃)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

UE05DRF-B						
Parameter	**Symbol**	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25°C			200	nA
Clamping Voltage	V_C	I_{PP}=4A, t_p=8/20μs		17	20	V
Junction Capacitance	C_j	V_R = 0V, f= 1MHz		0.30	0.5	pF

Note1: ESD Pulse Waveform according to IEC 61000-4-2. see Table1 and Figure4.

Note2: ESD tests Setup see Figure 5.

Typical Characteristics

Figure 1: Power Derating Curve

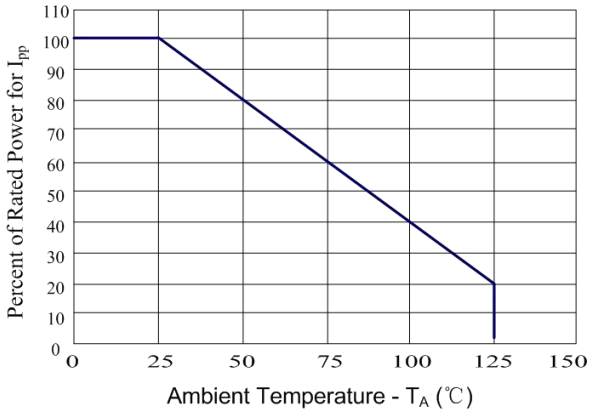


Figure 2: Insertion Loss

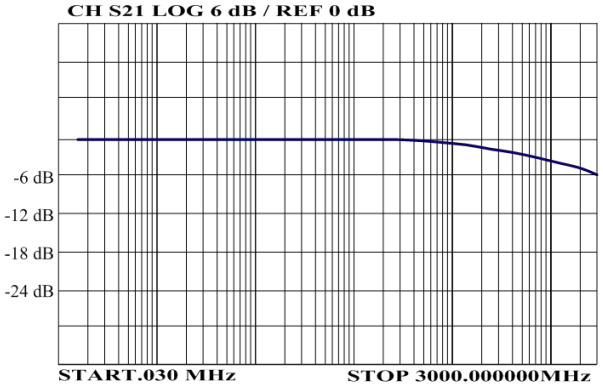


Figure 3: Normalized Junction Capacitance vs. Reverse Voltage

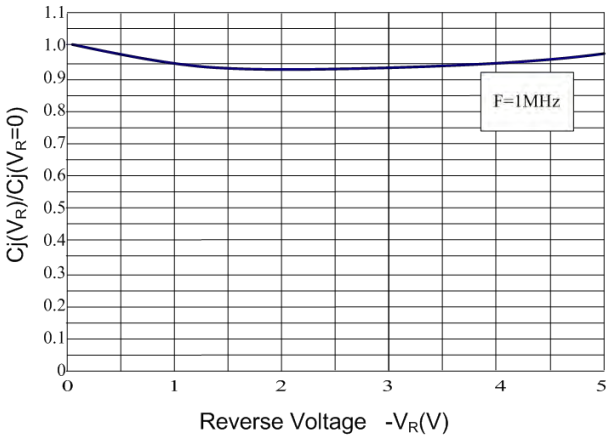


Table 1. IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

Figure 4. IEC 61000-4-2 Waveform

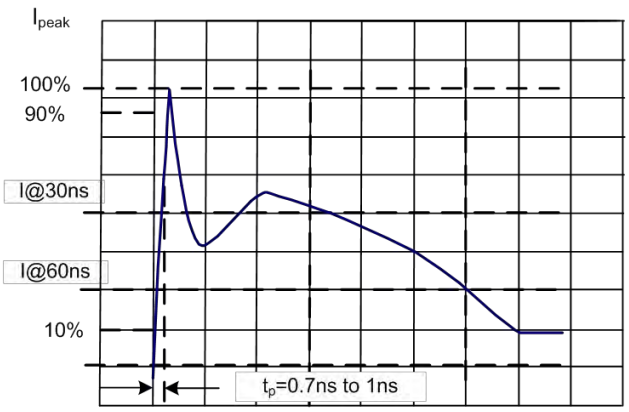
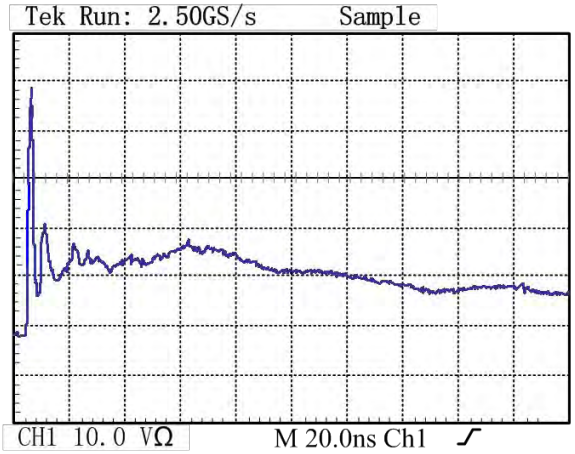
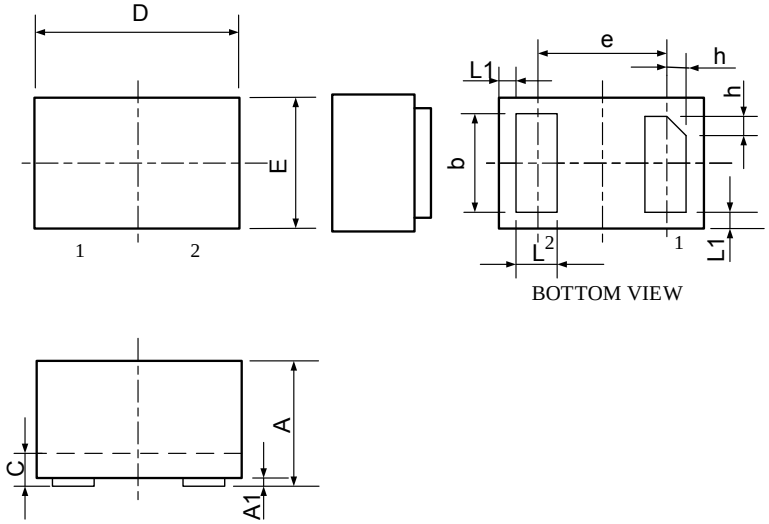


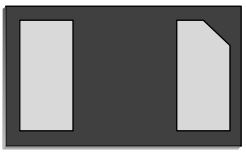
Figure 5: ESD Clamping(8kV Contact per IEC 61000-4-2)



Outline Drawing –DFN-2L

PACKAGE OUTLINE





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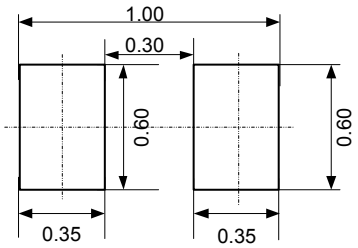
SYMBOL	MILIMETER		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.50	0.55
C	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05REF		
h	0.07	0.12	0.17

Land Pattern



Marking Codes

Part Number	Marking Code
UE05DRF-B	5 F

Package Information

Qty：10k/Reel