

Transient Voltage Suppressor

Features

- 5500 Watts Peak Power (tp = 8/20μs)
- Fast Response time: Typically < 1ns
- Excellent Clamping Capability
- Low Inductance
- Low profile package

IEC COMPATIBILITY (EN61000-4)

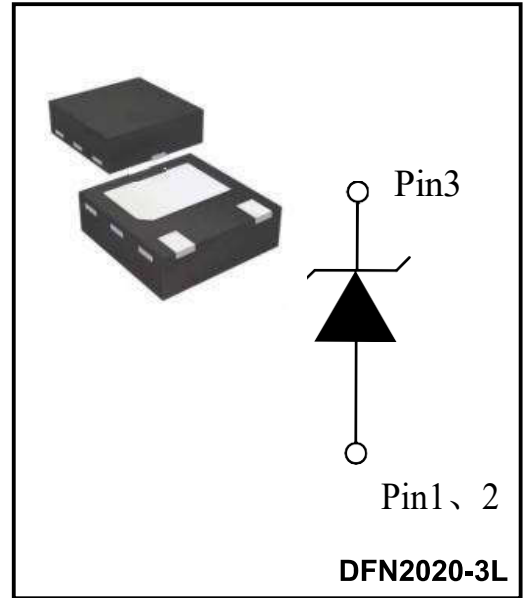
- IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 250A (8/20μs)

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computer & Consumer Electronics
- Industrial Electronics
- Microcontroller Input Protection

Mechanical Characteristics

- DFN2020-3L package
- Molding compound flammability rating: UL 94V-0
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant



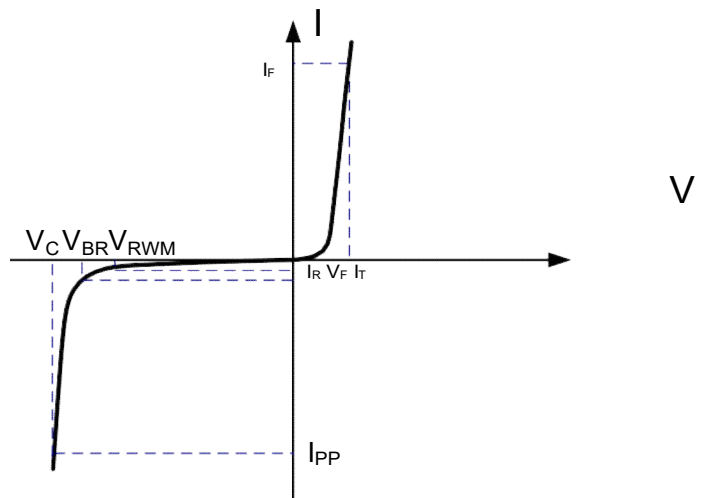
Marking Code	
ESD2020D4V5	T04**

Absolute Maximum Rating

Rating	Symbol	Value	Units
Lead Soldering Temperature	T_L	260(10sec)	°C
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	5500	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	250	A

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	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

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				4.5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5		7	V
Reverse Leakage Current	I_R	$V_{RWM}=4.5V, T=25^\circ C$			1	uA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$			250	A
Clamping Voltage ¹	V_C	$I_{PP}=50A, t_p=8/20\mu s$		9.6	12	V
Clamping Voltage ¹	V_C	$I_{PP}=150A, t_p=8/20\mu s$		13.6	15	V
Clamping Voltage ¹	V_C	$I_{PP}=200A, t_p=8/20\mu s$		18.6	20	V
Clamping Voltage ¹	V_C	$I_{PP}=250A, t_p=8/20\mu s$		19.6	22	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		3000		pF

Note1: V_S : Surge Test Voltage ($t_p=8/20\mu s$).

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

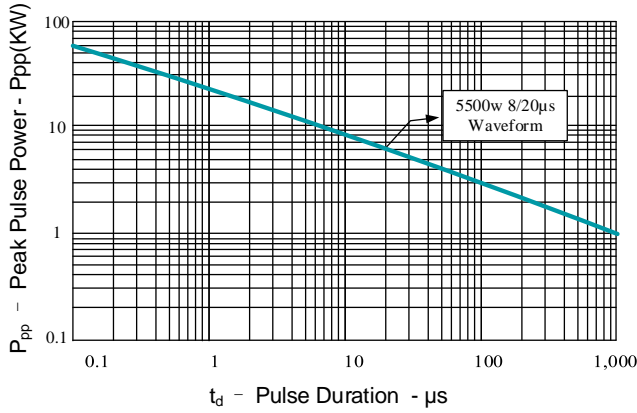


Figure 2: Power Derating Curve

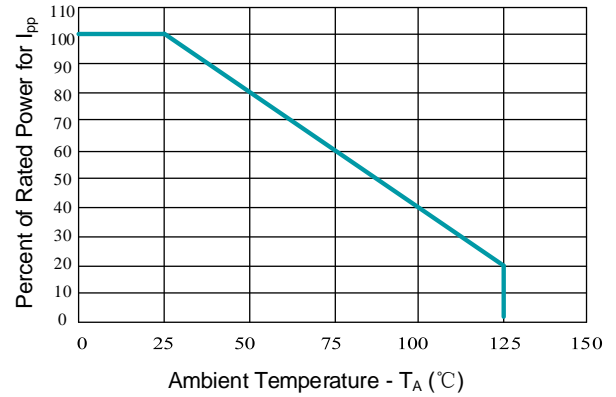


Figure 3: Clamping Voltage vs. Peak Pulse Current

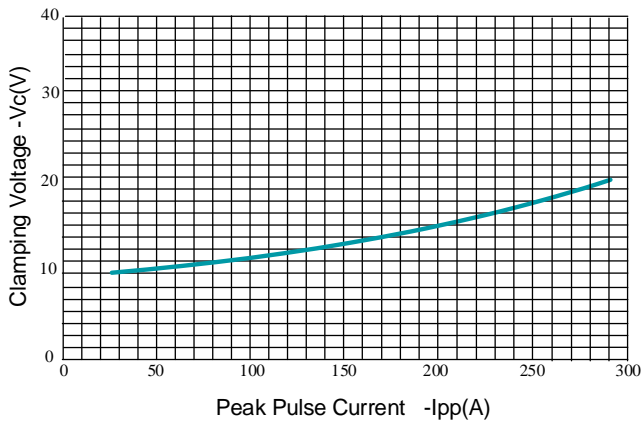


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

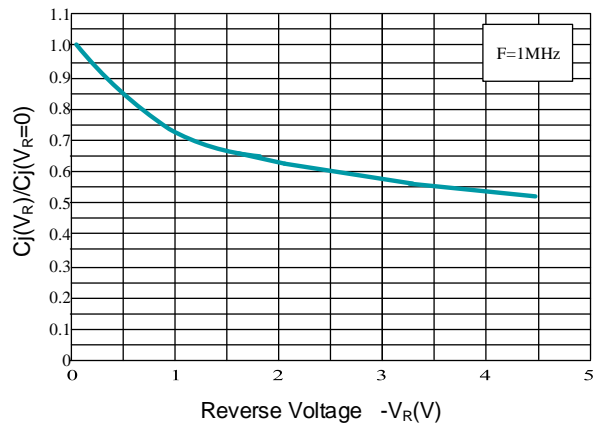
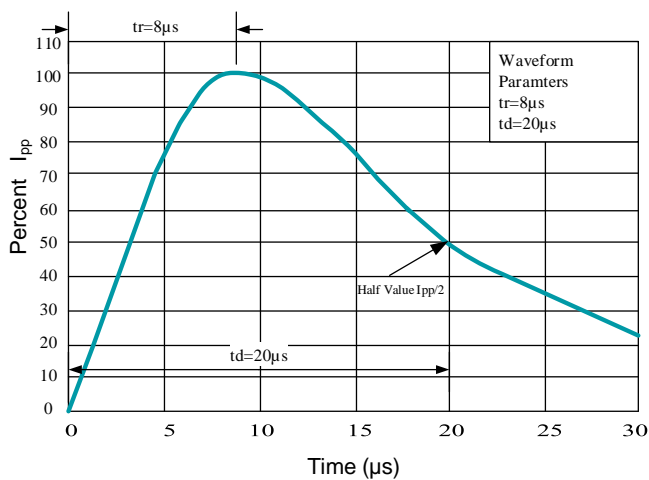


Figure 5: 8/20μs Pulse Waveform



Ordering information

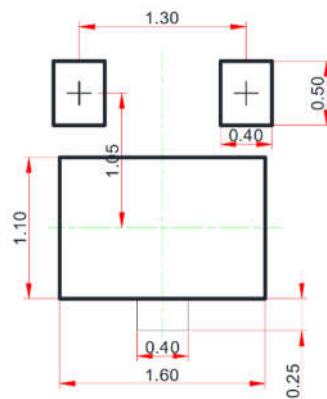
Package	Packing Description	Packing Quantity
DFN2020-3L	Tape/Reel,13"reel	3000PCS/Reel 30000PCS/Carton

Package Dimensions

DFN2020-3L

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.45	0.65	18	26
A1	0.00	0.05	-	2
A3	0.15 REF			
b	0.25	0.30	10	12
D	1.90	2.00	75	79
E	1.90	2.00	75	79
D2	0.85	1.00	35	040
E2	1.35	1.50	53	59
e	1.20	1.30	47	51
H	0.20	0.25	8	10
K	0.20	0.30	8	12
L	0.35	0.40	14	16
R	0.15	-	6	-

The recommended mounting pad size



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