

Features

- 7000 watts peak power ($t_p = 8/20 \mu s$)
- Excellent clamping capability
- Low profile package
- Solid-state silicon technology

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computer & consumer electronics
- Industrial electronics
- Microcontroller input protection

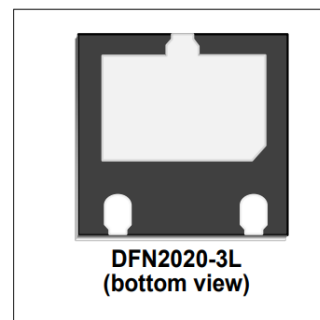
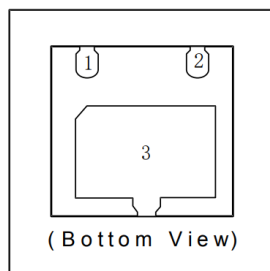
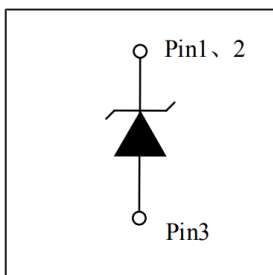
Mechanical Characteristics

- DFN2020-3L package
- Marking : marking code
- Packaging : tape and reel per EIA 481
- RoHS compliant & HF
- Device meets MSL1 requirement

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 200A (8/20 μs)

Pin Configuration

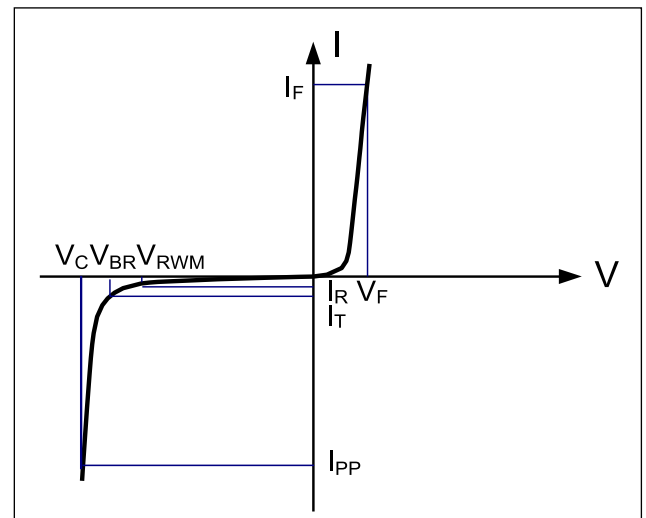


Absolute Maximum Ratings(Ta=25°C)

Rating	Symbol	Value	Units
Peak Pulse Power (tp=8/20μs)	P _{PP}	7000	Watts
Peak Pulse Current (tp=8/20μs)	I _{PP}	200	A
Operating Temperature	T _J	-55 to + 125	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Electrical Parameters (Ta=25°C)

Symbol	Parameter
I _{PP}	Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Reverse Stand-Off 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}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	25			V
Forward Voltage	V_F	$I_F=10mA$	0.5	0.7	1.0	V
Reverse Leakage Current	I_R	$V_{RWM}=24V$			500	nA
Clamping Voltage ¹	V_C	$I_{PP}=200A, t_p=8/20\mu s$		32	35	V
Dynamic Resistance ^{2,3}	R_{DYN}	$TLP=0.2/100ns$		0.17		Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		800	1000	pF

Note: 1. Measured from pin 1 & pin 2 to pin 3;

2. TLP Setting: $t_p=100ns, t_r=0.2ns$, ITLP and VTLP sample window: $t_1=70ns$ to $t_2=90ns$.

3. Dynamic resistance calculated from $I_{PP}=4A$ to $I_{PP}=16A$ using "Best Fit"

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

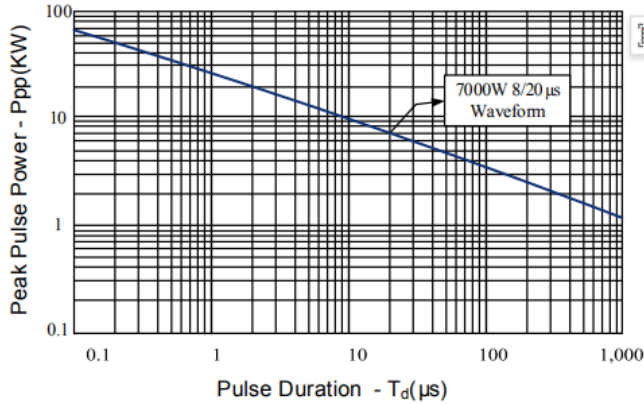


Figure 2: Power Derating Curve

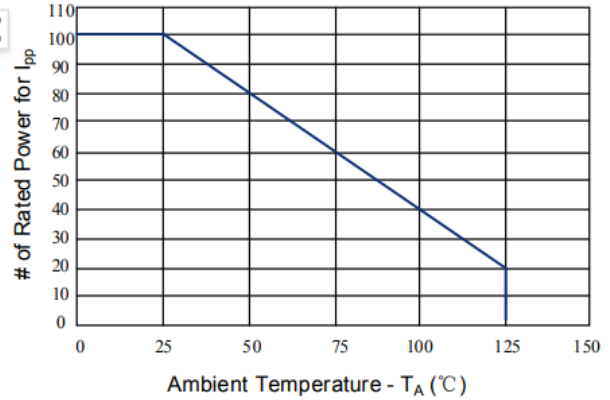


Figure 3: Clamping Voltage vs. Peak Pulse Current

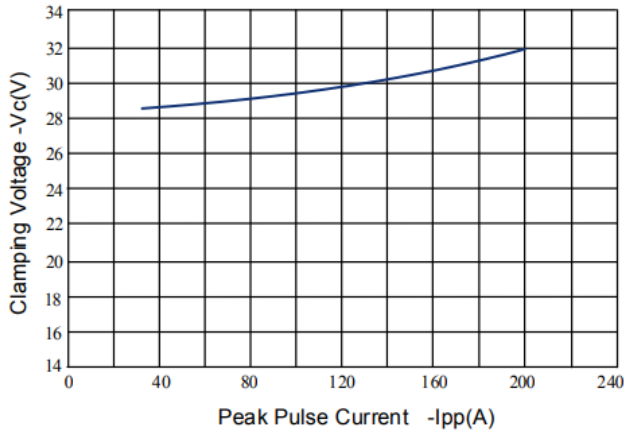


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

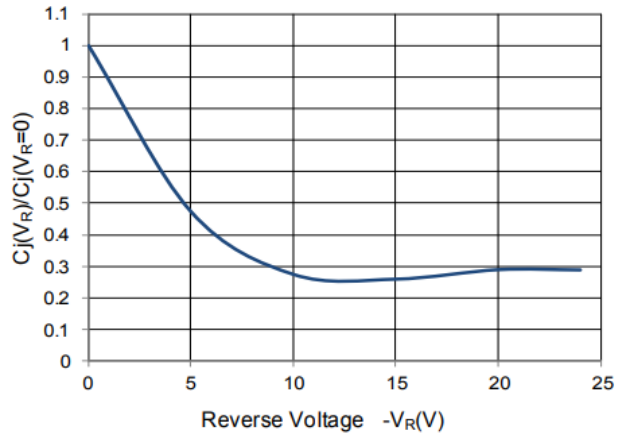


Figure 5: 8/20µs Pulse Waveform

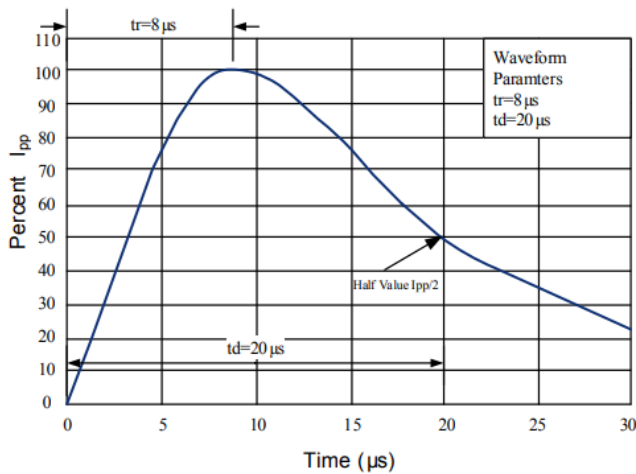
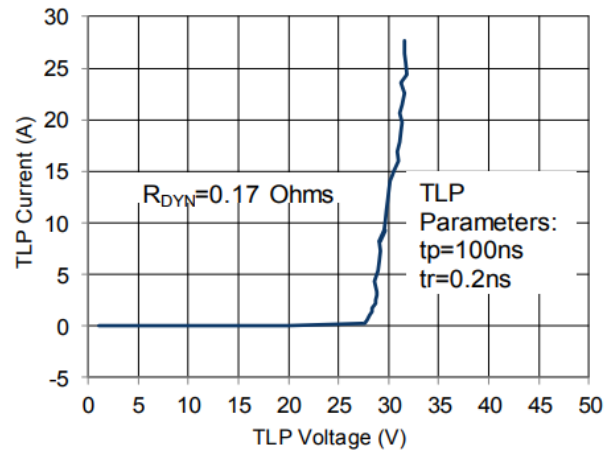
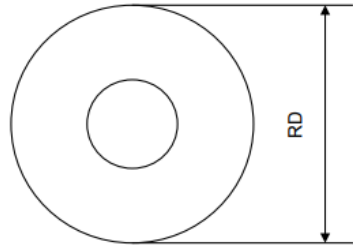


Figure 6: TLP I-V Curve

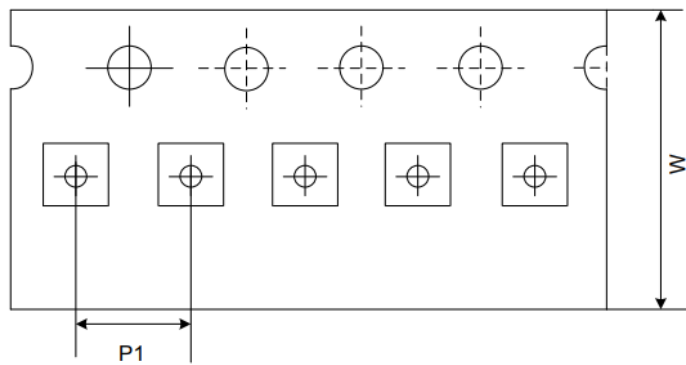


Tape And Reel Information

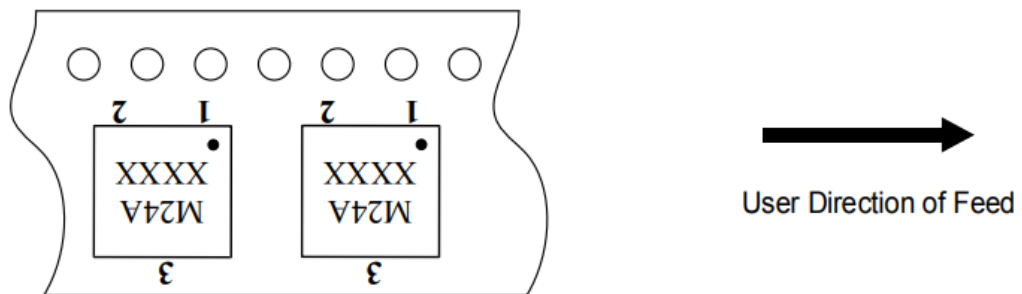
Reel Dimensions



Tape Dimensions



Quadrant Assignments For PIN1 Orientation In Tape



RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4mm

Marking Codes

Part Number	Marking Code	
CTSY24VN1 U2YD		M24A=Specific Device Code XXXX=Lot Code

Package Information

Qty: 3k/Reel

Outline Drawing - DFN2020-3L

PACKAGE OUTLINE

TOP VIEW

BOTTOM VIEW

SIDE VIEW

DFN2020-3L

SYMBOL	MILLIMETERS		
	MIN	NOM	MAX
A	0.45	0.55	0.60
A1	0.00	0.02	0.05
b	0.25	0.30	0.35
b1	0.20REF		
c	0.152REF		
D	1.90	2.00	2.10
D2	1.40	1.50	1.60
e	1.30BSC		
E	1.90	2.00	2.10
E2	0.95	1.05	1.15
E3	0.20	0.30	0.40
L	0.35	0.40	0.45
L1	0.20	0.25	0.30
h	0.20REF		
K	0.20	0.30	0.40

Land Pattern