

Features

- Uni-Directional ESD Protection of Eight Lines
- Low Capacitance
- Low Clamping Voltage
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

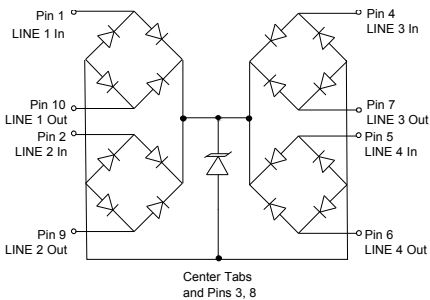
Maximum Ratings

IEC61000-4-2 (ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Current (8/20µs)	I _{PP}	40A
Peak Pulse Power (8/20µs) ^(Note2)	P _{PK}	1000W
Operating Junction Temperature Range	T _J	-55°C to +125°C
Storage Temperature Range	T _{STG}	-55°C to +150°C

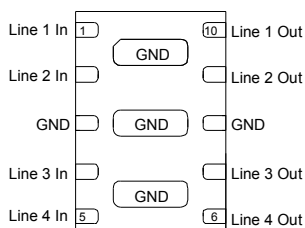
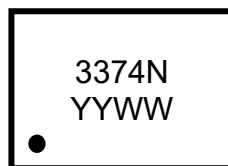
Note :

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Non-repetitive current pulse 8/20 µs exponential decay waveform according to IEC61000-4-5.

Internal Structure

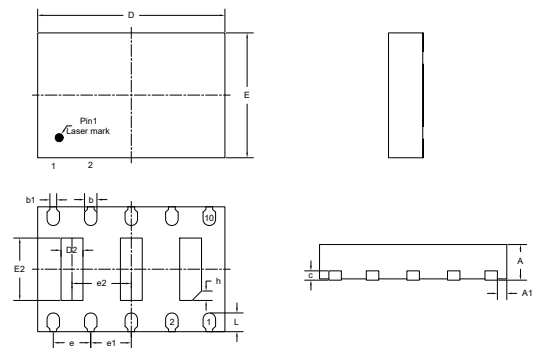


Marking Code



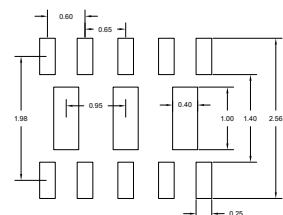
ESD Protection Device

DFN3020-10



	INCH		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.020	0.024	0.500	0.600	
A1	0.000	0.002	0.000	0.050	
b	0.006	0.010	0.150	0.250	
b1	0.006		0.140		TYP
c	0.006		0.150		TYP
D	0.114	0.122	2.900	3.100	
D2	0.012	0.016	0.300	0.400	
e	0.024		0.600		TYP
e1	0.026		0.650		TYP
e2	0.037		0.950		TYP
E	0.075	0.083	1.900	2.100	
E2	0.037	0.041	0.950	1.050	
L	0.010	0.014	0.250	0.350	
h	0.004	0.008	0.100	0.200	

SUGGESTED SOLDER PAD LAYOUT (mm)



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				3.3	V
Punch-Through Voltage	V_{PT}	$I_T=2\mu A$	3.5			V
Snap-Back Voltage	V_{SB}	$I_{SB}=50mA$	2.8			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$			0.5	μA
Clamping Voltage	V_C	$I_{PP}=1A$, $t_p=8/20\mu s$, Any I/O Pin to Ground			5.5	V
Clamping Voltage	V_C	$I_{PP}=10A$, $t_p=8/20\mu s$, Any I/O Pin to Ground			10.5	V
Clamping Voltage	V_C	$I_{PP}=25A$, $t_p=8/20\mu s$, Any I/O Pin to Ground			18	V
Clamping Voltage	V_C	$I_{PP}=40A$, $t_p=8/20\mu s$, Line to Line (Two I/O Pins Connected Together on Each Line)			25	V
Junction Capacitance	C_J	$V_R=0V$, $f=1MHz$, Between I/O Pins		1.7	2.5	pF
Junction Capacitance	C_J	$V_R=0V$, $f=1MHz$, Any I/O Pin to Ground		3.8	5	pF

Curve Characteristics

Fig. 1 - 8 X 20µs Pulse Waveform

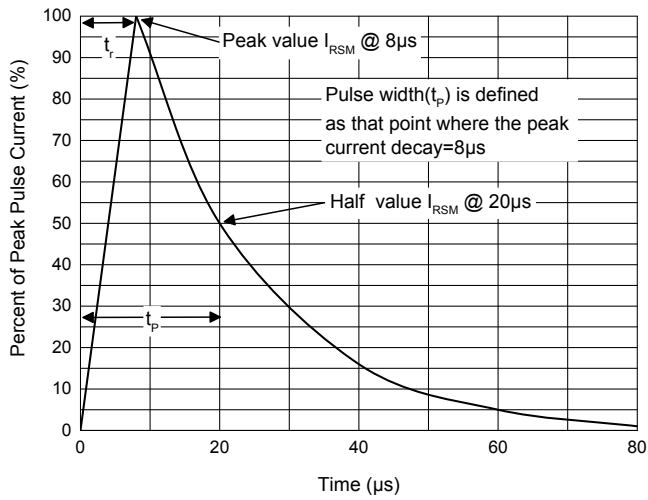


Fig. 2 - Non-Repetitive Peak Pulse Power

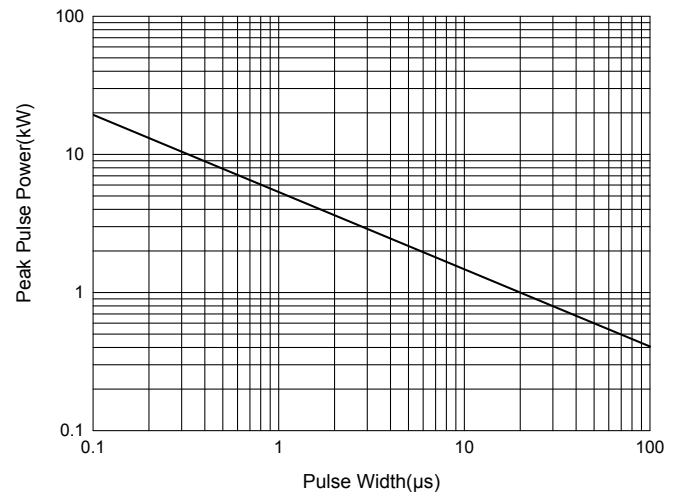


Fig. 3 - Capacitance Characteristics

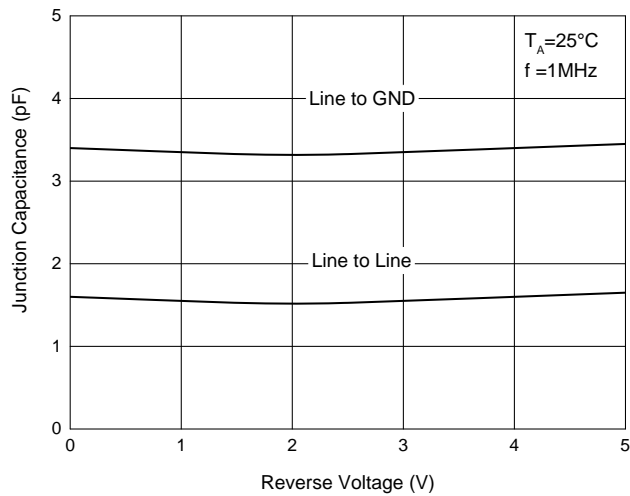


Fig. 4 - Clamping Voltage Characteristics

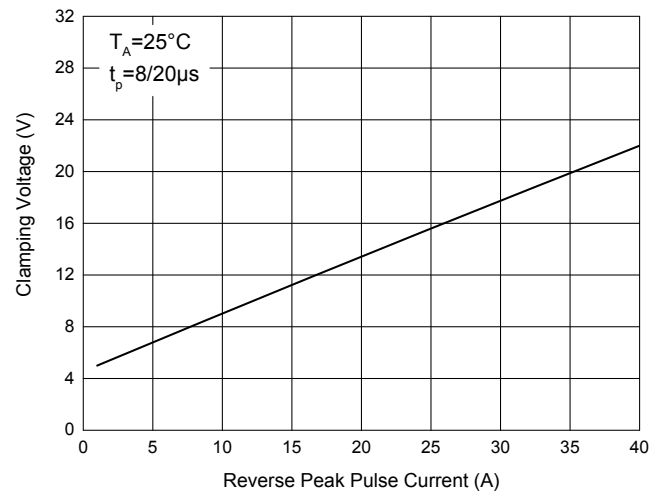
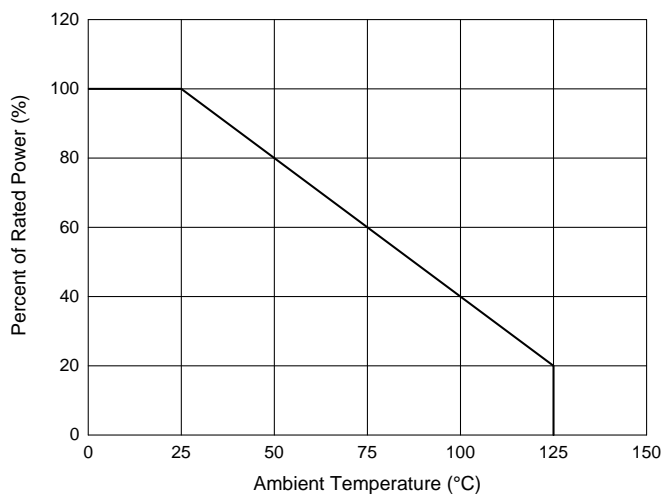


Fig. 5 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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