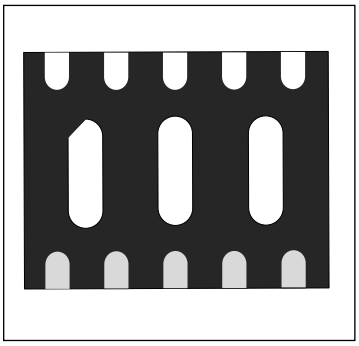
DW2.5-4R7N-S

Features



- Array of surge rated diodes with internal TVS Diode
- Small package saves board space
- Protects up to four I/O lines
- Low capacitance (<5pF) for high-speed interfaces
- Low leakage current and clamping voltage
- Low operating voltage: 2.5V
- Solid-state silicon-avalanche technology

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) 40A (8/20μs)

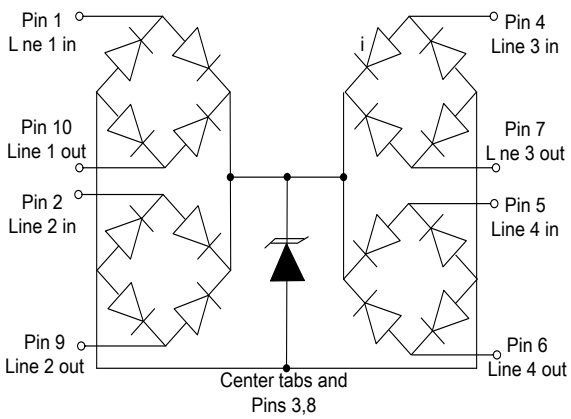
Mechanical Characteristics

- DFN-10L package (3.0×2.0×0.60mm)
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS Compliant

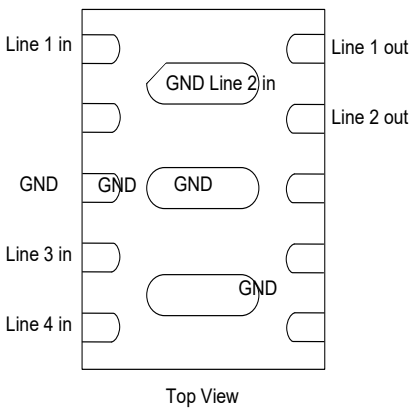
Applications

- 10/100/1000 Ethernet
- Digital Visual Interface (DVI)
- Analog Video

Circuit Diagram



Package Configuration



Top View

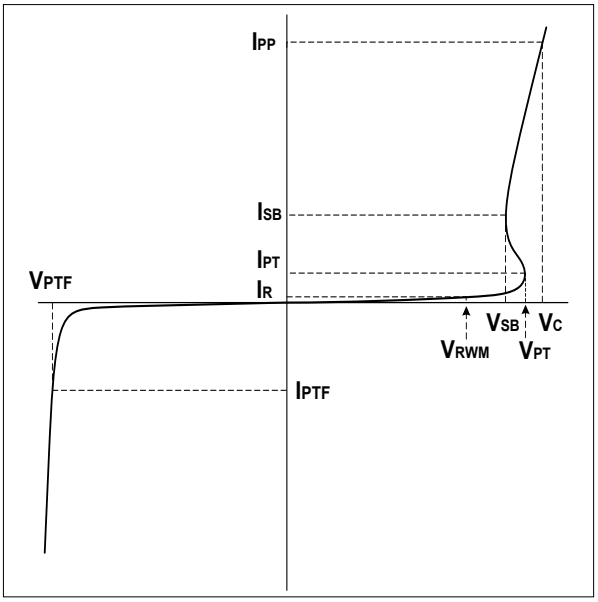
Ver.: A1 2019-02-22 WA

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p = 8/20μs)	P_{PP}	1000	Watts
Peak Pulse Current (t_p = 8/20μs)	I_{pp}	40	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(contact)	V_{ESD}	±30 ±30	kV
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

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_{PT}	Punch-through Breakdown Voltage @ I_T
V_{SB}	Snap-Back Voltage @ I_{SB}
I_{SB}	Snap-Back Current
I_{PT}	Test Current
V_{PTF}	Forward Punch-through Breakdown Voltage @ I_F
I_{PTF}	Forward Test Current

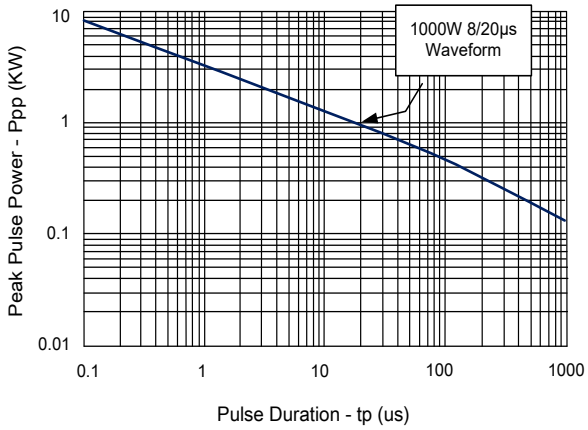


Electrical Characteristics

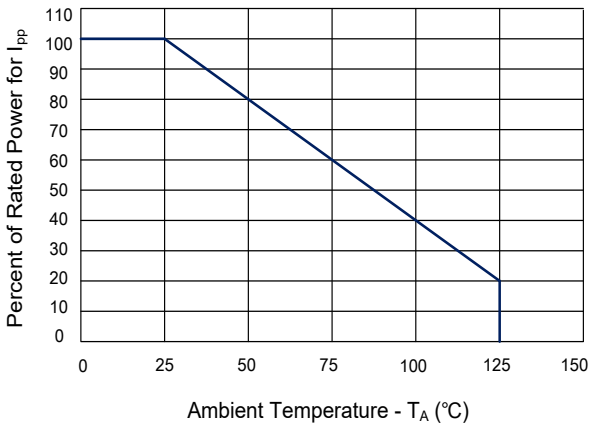
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	Any I/O pin to ground			2.5	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA Any I/O pin to ground	2.7			V
Snap-Back Voltage	V_{SB}	I_{SB} =50mA	2.0			V
Reverse Leakage Current	I_R	V_{RWM} = 2.5V,T=25℃ Any I/O pin to ground			0.5	μA
Clamping Voltage	Vc	I_{pp}=40A, t_p=8/20μs Any I/O pin to ground			20	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz I/O pin to GND		3.8	5	pF
		V_R = 0V, f = 1MHz Between I/O pins		1.7		pF

Typical Characteristics

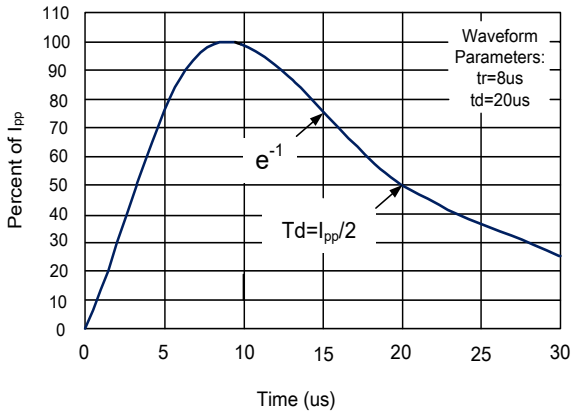
Non-Repetitive Peak Pulse Power vs. Pulse Time



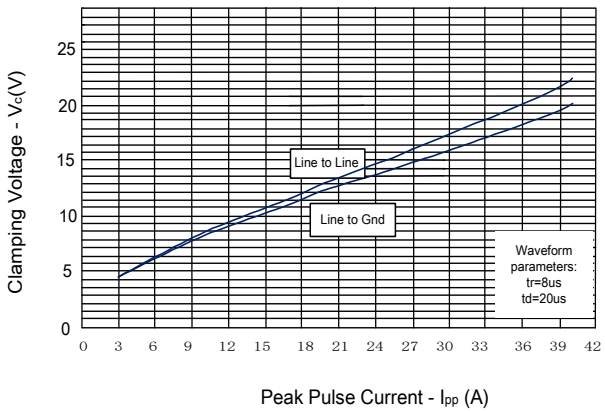
Power Derating curve



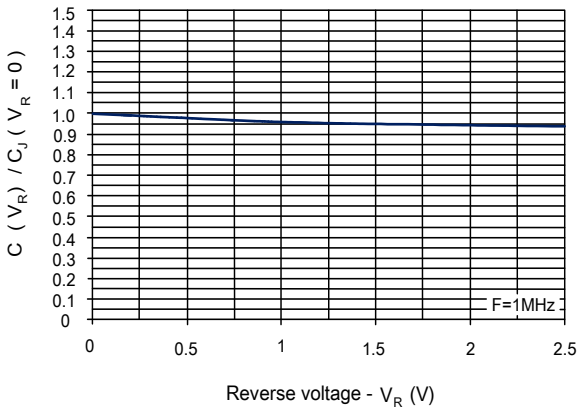
Pulse Waveform



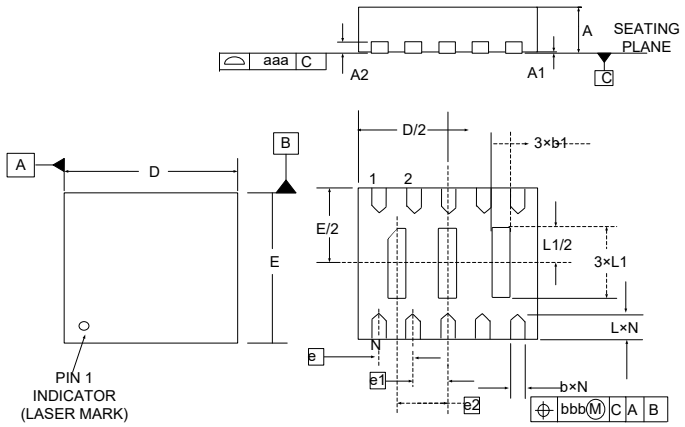
Clamping Voltage vs.Peak Pulse Current



Normalized Capacitance vs. Reverse Voltage

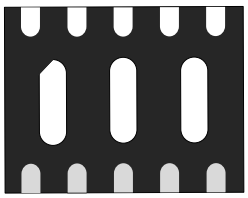


Outline Drawing –DFN-10L



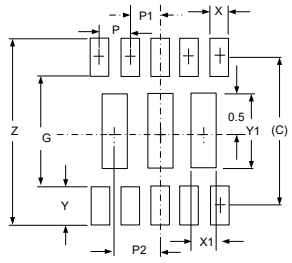
NOTES:

1. Controlling dimensions are in millimeters (angles in degrees).
2. Coplanarity applies to the exposed pad as well as the terminals.



DEMENSIONS			
SYMBOL	MILLIMETERS		
	MIN.	NOM	MAX.
A	0.500	0.600	0.650
A1	0.000	0.030	0.050
A2		(0.150)	
b	0.150	0.200	0.250
b1	0.250	0.350	0.450
D	2.900	3.000	3.100
E	1.900	2.000	2.100
e		0.60BSC	
e1		0.65BSC	
e2		0.95BSC	
L	0.250	0.300	0.350
L1	0.950	1.000	1.050
N		10	
aaa		0.080	
bbb		0.100	

Land Pattern

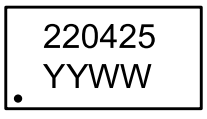


DIMENSIONS	
DIM	MILLIMETERS
C	(1.98)
G	1.40
P	0.60
P1	0.65
P2	0.95
X	0.25
X1	0.40
Y	0.58
Y1	1.00
Z	2.56

NOTES:

1. This land pattern is for reference purposes only. Consult your manufacturing to ensure your company's manufacturing guidelines are met.

Marking Codes



220425=Marking Code

YYWW=Date Code

Package Information

Qty：3k/Reel