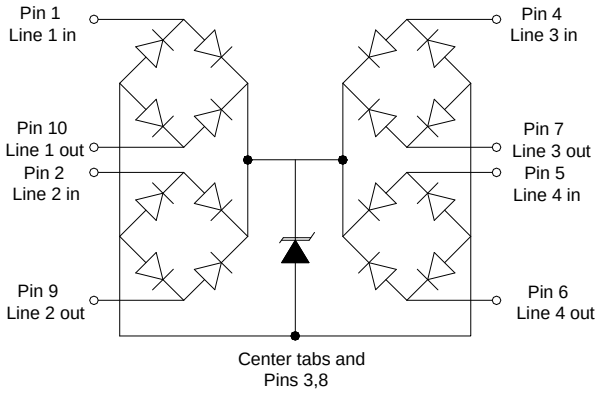
JEU2574N TVS Diode array for ESD Protection **Rev.1.1**

FEATURES

- ✧ Solid-state silicon-avalanche technology
- ✧ Array of surge rated diodes with internal TVS diode
- ✧ Low capacitance for high-speed interfaces
- ✧ Low leakage current and clamping voltage
- ✧ Low operating voltage
- ✧ RoHS compliant

DFN3020-10L



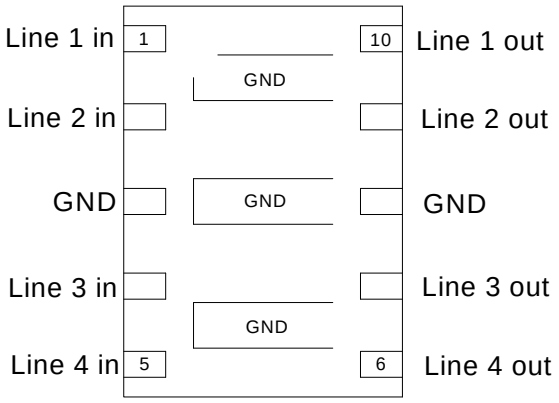
MAIN APPLICATIONS

- ✧ 10/100/1000 ethernet
- ✧ Digital visual interface
- ✧ Analog video

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 40A (8/20μs)(Line to line)

Circuit Diagram



MECHANICAL CHARACTERISTICS

- ✧ DFN3020-10L package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 3,000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: 220425+Data code

ABSOLUTE MAXIMUM RATINGS (T_A=25 , RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 s waveform	P_{PP}	1000	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/-30 +/-30	kV
Lead soldering temperature	T_L	260 (10 sec.)	
Operating junction temperature range	T_J	-55 to +125	
Storage temperature range	T_{STG}	-55 to +150	

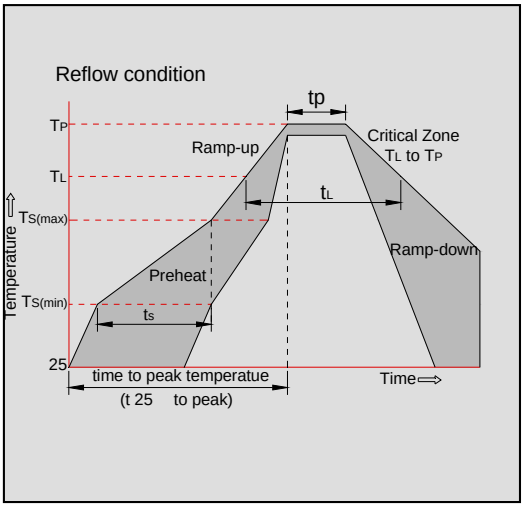
ELECTRICAL CHARACTERISTICS (T_A=25)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}	I/O to GND			2.5	V
Reverse leakage current	I_R	I/O to GND @ V_{RWM}=2.5V		0.1	1.0	A
Trigger voltage	V_{t1}	I_{t1}=1 A	3.0			V
Holding voltage	V_h	I_h=1mA	3.0			V
Clamping voltage	V_C	I_{PP}=1A,t_P=8/20 s I/O to GND		6	8	V
		I_{PP}=10A,t_P=8/20 s I/O to GND		9	11	V
		I_{PP}=25A,t_P=8/20 s I/O to GND		13	15	V
		I_{PP}=40A,t_P=8/20 s Line to line, two I/O pins connected together on each line(Note 1)		20	22	V
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz I/O pin to GND		3.5	4.0	pF
		V_{RWM}=0V, f=1MHz Between I/O pins		1.5	2.0	pF

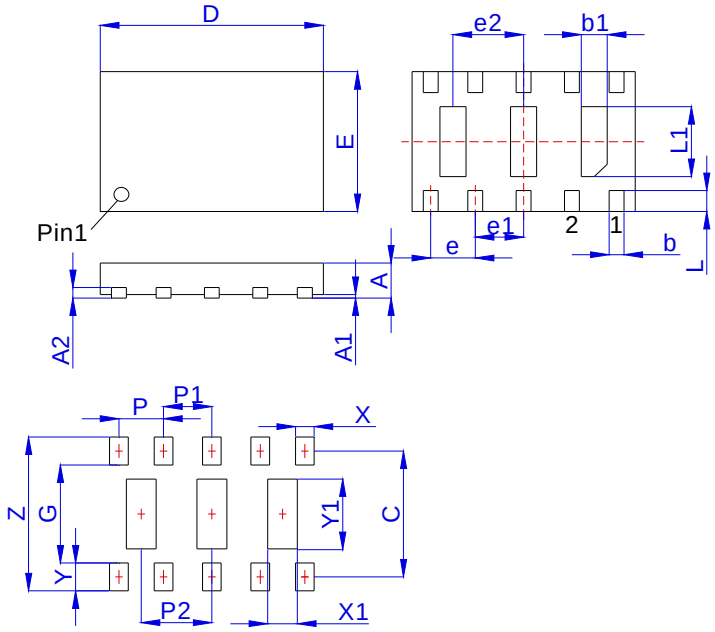
1) Ratings with 2 pins connected together per recommended configuration(ie pin 1 connected to pin 10, pin 2 connected to pin 9, pin 4 connected to pin 7, and pin 5 connected to pin 6.)

SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150
	-Temperature Max($T_{s(max)}$)	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L)to peak)		3 /sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 /sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)
Time within 5 of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6 /sec. Max
Time 25 to Peak Temp (T_P)		8 min. Max
Do not exceed		+260



PACKAGE MECHANICAL DATA



Land Pattern

Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D	2.95	3.00	3.05	0.116	0.118	0.120
E	1.95	2.00	2.05	0.077	0.079	0.081

ORDERING INFORMATION

Part Number	Package	Quantity Per Reel (PCS)	Reel Size
JEU2574N	DFN3020-10L	3,000	7 Inch

APPLICATION INFORMATION

Electronic equipment is susceptible to damage caused by a variety of sources, including electrostatic discharge (ESD),electrical fast transients (EFT) and lightning strikes. The JEU2574N was designed to protect the sensitive equipment from damage which may be induced by such transient events. This product can be configured in different connections to meet the requies. The JEU257to meet t9(t)1.4mmon-mod.0057 h

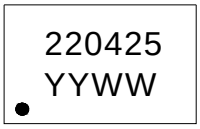
Gigabit ethernet protection(Cont.)

Schematic diagram for gigabit ethernet ESD/surge protection using JEU2574N

NOTE:

Please connect pin3, Pin8 and all GND tabs of JEU2574N to the ground plane of the systems.

MARKING CODE

Part Number	Marking Code
JEU2574N	

220425:Marking Code

YYWW: Date Code

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