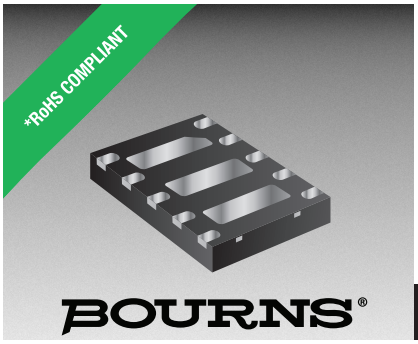


Features

- IEC 61000-4-2 (ESD) ±30 kV (Air/Contact)
  IEC 61000-4-5 (Lightning) 45 A (8/20 µs)
- ESD protection to IEC 61000-4-2 (Level 4)
- RoHS compliant*

Applications

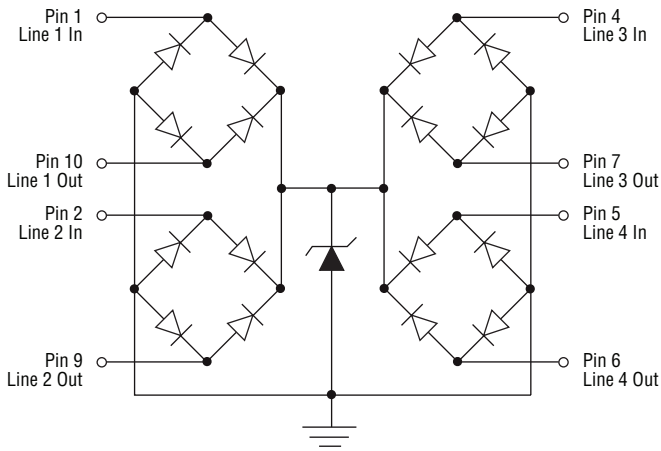
- WAN/LAN devices
- 10/100/1000 Ethernet

CDDFN10-2574N - Surface Mount TVS Diode Array

General Information

The Model CDDFN10-2574N device provides Electrostatic Discharge (ESD), Electrical Fast Transients (EFT), Lightning, and Cable Discharge Event (CDE) protection for high-speed data ports, meeting IEC 61000-4-2 (ESD) requirements. The Transient Voltage Suppressor array, protecting up to four data lines, offers a Working Peak Reverse Voltage of 2.5 V and a Minimum Breakdown Voltage of 3 V.

The DFN10 packaged device has a low typical capacitance of only 1.7 pF between I/O lines. This allows it to be used for protecting sensitive components used on high-speed interfaces. The small footprint of the device allows for flow-through routing on the PCB, helping to maintain matched impedances of the high-speed data lines.



Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CDDFN10-2574N	Unit
Peak Pulse Current (t_p = 8/20 µS)	I_{pp}	45	A
Operating Temperature	T_{OP}	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Working Peak Reverse Voltage	V_{WM}			2.5	V
Breakdown Voltage @ 1 mA	V_{BR}	3		7	V
Leakage Current @ V_{WM}	I_R			1	µA
Capacitance @ 1.25 V, f = 1 MHz (Between I/O Pins)	C_{IN}		1.7	2.5	pF
Clamping Voltage @ 8/20 µs @ I_{PP}	V_C			11	V
ESD Protection per IEC 6-1000-4-2 Contact Discharge Air Discharge				 ±30 ±30	kV

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

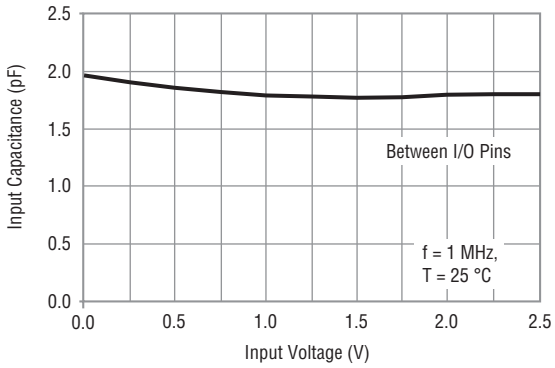
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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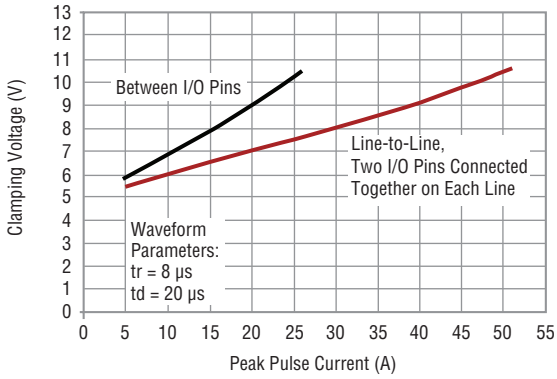
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Rating & Characteristic Curves

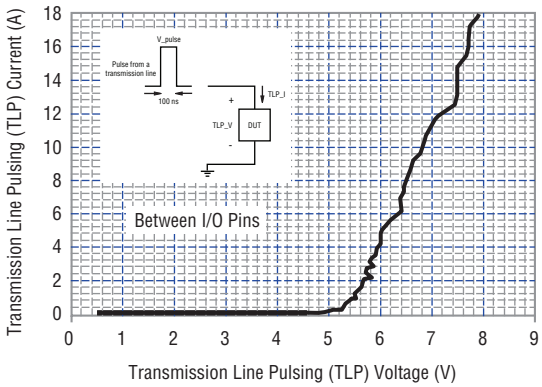
Typical Capacitance vs. Voltage



Typical Clamping Voltage vs. Peak Pulse Current



Typical Transmission Line Pulsing (TLP)



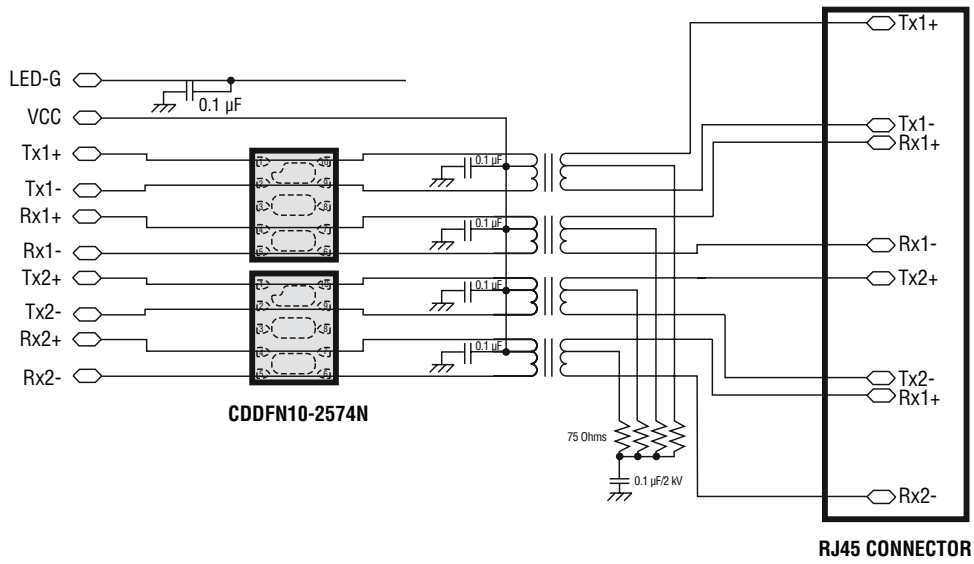
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Reference Application

The Bourns® Model CDDFN10-2574N is designed to protect four high-speed data lines operating at 2.5 volts from system ESD/EFT/Lightning pulses. The use of a DFN10 package using a "feed-through" layout provides minimal impedance change on the high-speed data line, while the low capacitance performance of the device limits signal degradation on each channel.

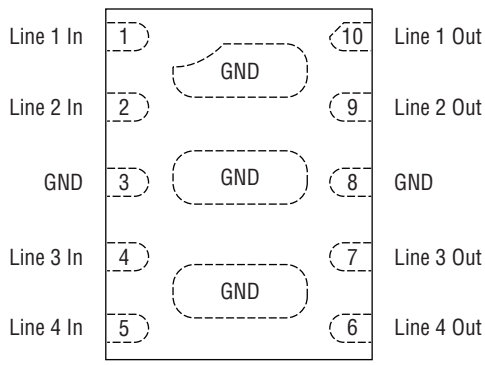
Gigabit Ethernet LAN Port



Typical Part Marking

CDDFN10-2574N 2574

Device Pinout



How to Order

CD DFN10 - 2574 N

Common Code
Chip Diode

Package
DFN10 = DFN-10 Package

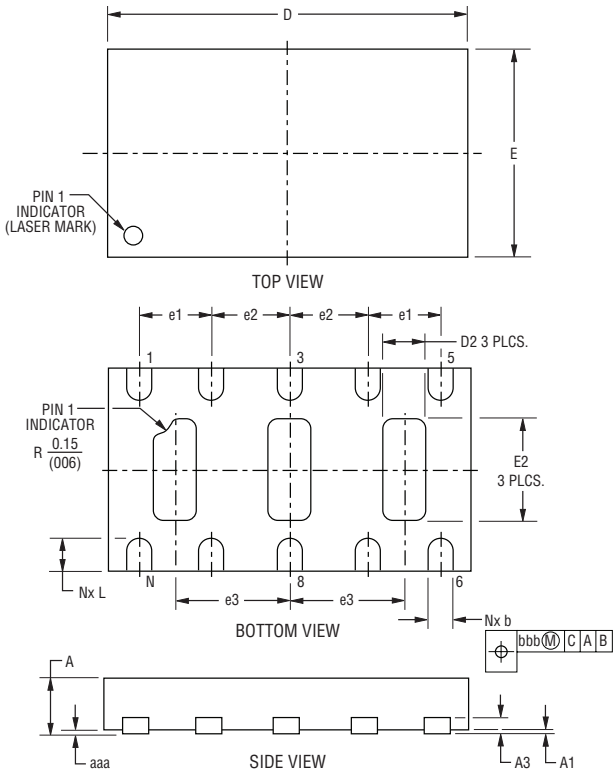
Model Designator
2574 = 2.5 V_{RWM} (Volts)

Suffix
N = Low Capacitance

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Product Dimensions



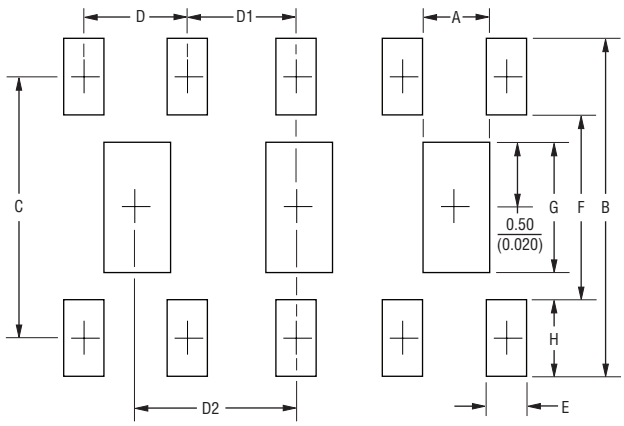
Symbol	Dimension		
	Min.	Nom.	Max.
A	0.51 (0.020)	0.55 (0.022)	0.60 (0.024)
A1	0.00 (0.000)	0.02 (0.001)	0.05 (0.002)
A3		0.153 (0.006) REF.	
b	0.15 (0.006)	0.20 (0.008)	0.25 (0.010)
D	2.90 (0.114)	3.00 (0.118)	3.10 (0.122)
E	1.90 (0.075)	2.00 (0.079)	2.10 (0.083)
e1		0.6 (0.024) BSC	
e2		0.65 (0.026) BSC	
e3		0.95 (0.037) BSC	
D2	0.25 (0.010)	0.35 (0.014)	0.45 (0.018)
E2	0.95 (0.037)	1.00 (0.039)	1.05 (0.041)
L	0.25 (0.010)	0.30 (0.012)	0.35 (0.014)
aaa		0.08 (0.003)	
bbb		0.10 (0.004)	

DIMENSIONS: MM / (INCHES)

Moisture Sensitivity Level (MSL) 3

ESD Classification (HBM).....3B

Recommended Footprint



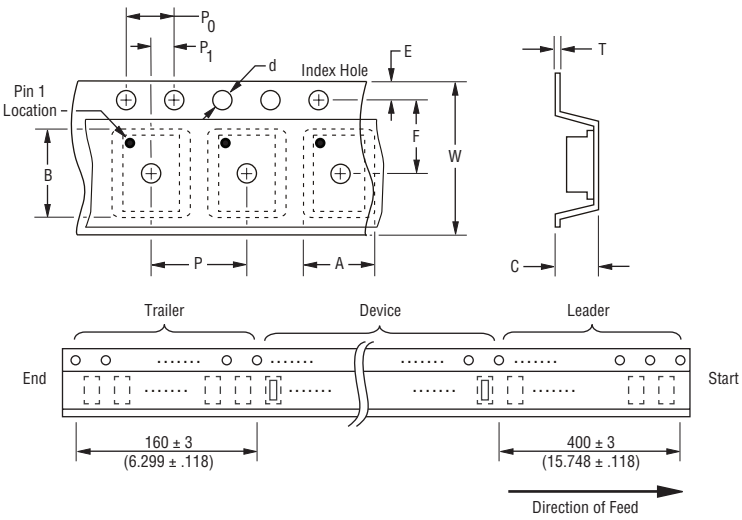
Symbol	Dimension
A	0.40 (0.016)
B	2.56 (0.101)
C	1.98 (0.078)
D	0.60 (0.024)
D1	0.65 (0.026)
D2	0.95 (0.037)
E	0.25 (0.010)
F	1.40 (0.055)
G	1.00 (0.039)
H	0.58 (0.023)

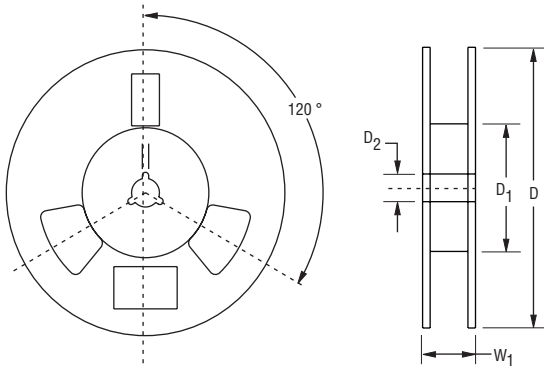
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Packaging Information

The product is packaged in a 12 mm x 4 mm tape and reel format per EIA-481-D standard.





DIMENSIONS: MM / (INCHES)

Item	Symbol	Dimension
Carrier Width	A	2.3 ± 0.1 (0.091 ± 0.004)
Carrier Length	B	3.3 ± 0.1 (0.13 ± 0.004)
Carrier Depth	C	0.7 ± 0.1 (0.028 ± 0.004)
Sprocket Hole	d	1.5 ± 0.1 (0.059 ± 0.004)
Reel Outside Diameter	D	178 (7.008)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.5 (0.512 ± 0.02)
Sprocket Hole Position	E	1.75 ± 0.1 (0.069 ± 0.004)
Punch Hole Position	F	5.5 ± 0.1 (0.217 ± 0.004)
Punch Hole Pitch	P	4.0 ± 0.1 (0.157 ± 0.004)
Sprocket Hole Pitch	P_0	4.0 ± 0.1 (0.157 ± 0.004)
Embossment Center	P_1	2.0 ± 0.05 (0.079 ± 0.002)
Overall Tape Thickness	T	0.3 ± 0.05 (0.012 ± 0.002)
Tape Width	W	12.00 ± 0.3 (0.472 ± 0.012)
Reel Width	W_1	15.8 (0.622) MAX.
Quantity per Reel	--	3000

BOURNS®

Asia-Pacific:
Tel: +886-2 2562-4117
Email: asiacus@bourns.com

Europe:
Tel: +36 88 885 877
Email: eurocus@bourns.com

Mexico:
Tel: +52 614 478 0400
Email: mexicus@bourns.com

The Americas:
Tel: +1-951 781-5500
Email: americus@bourns.com

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