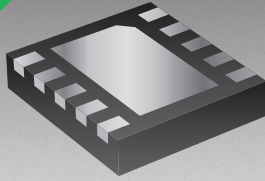


*RoHS COMPLIANT



BOURNS®

Features

- Working voltage 3.3 V
- SMT - DFN package
- Low capacitance - 4 pF
- IEC 61000-4-2 (ESD)
- IEC 61000-4-4 (EFT)
- IEC 61000-4-5 (Surge)

Applications

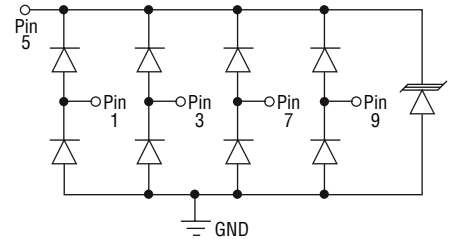
- FireWire, T1/E1, T3/E3 chip side protection
- Digital Visual Interface (DVI)
- Ethernet 10/100/1000 Base T
- High speed port protection
- Portable electronics

CDDFN10-3304NA - TVS/Steering Diode Array

General Information

The CDDFN10-3304NA device provides ESD, EFT and Surge protection for high speed data ports, assisting compliance with IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements. The Transient Voltage Suppressor array, protecting up to 4 data lines, offers a Working Peak Voltage of 3.3 V.

The DFN-10 packaged device will mount directly onto the industry standard DFN-10 footprint. Bourns® Chip Diodes are easy to handle with standard pick and place equipment.



Absolute Maximum Ratings, $T_A = 25\text{ }^\circ\text{C}$ (Unless Otherwise Noted)

Parameter	Symbol	CDDFN10-3304NA	Unit
Peak Pulse Current ($t_p = 8/20\ \mu\text{s}$) per IEC 61000-4-5	I_{PP}	25	A
ESD Protection per IEC 61000-4-2	Contact Discharge	± 30	kV
	Air Discharge	± 30	kV
EFT Protection per IEC 61000-4-4 @ 5/50 ns		40	A
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$
Operating Temperature	T_{OPR}	-55 to +125	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = 25\text{ }^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Breakdown Voltage @ 1 mA	V_{BR}	3.9			V
Reverse Working Peak Voltage	V_{RWM}			3.3	V
Leakage Current ¹ @ V_{RWM}	I_D			1	μA
Clamping Voltage ² @ $I_P = 5\ \text{A}$ 8/20 μs	V_C			12	V
Clamping Voltage ² @ $I_P = 15\ \text{A}$ 8/20 μs	V_C			15	V
Clamping Voltage ² @ $I_P = 25\ \text{A}$ 8/20 μs	V_C			18	V
Junction Capacitance ² @ 0 V 1 MHz	C_D		4.0	4.6	pF
Junction Capacitance ³ @ 0 V 1 MHz	C_{IO}		1.5	2.3	pF

Note 1: Pin 5 to ground.

Note 2: Pin 1,3,7 or 9 to ground.

Note 3: Between Pin 1,3,7 and 9.

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

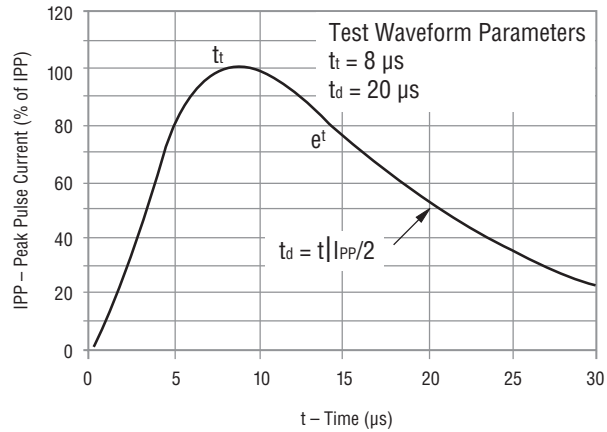
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

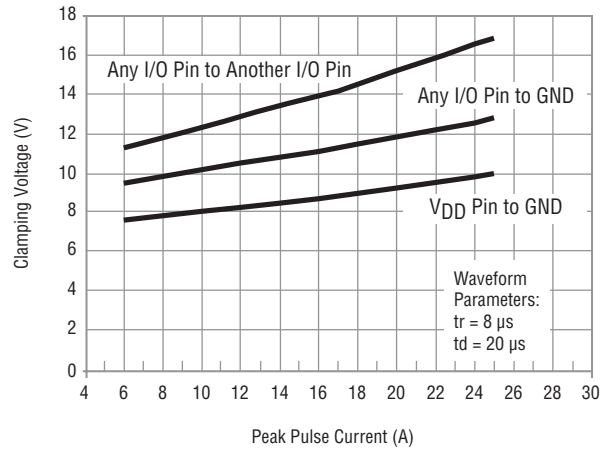
The products described herein and this document are subject to specific legal disclaimers set forth on the last page of this document.

Rating & Characteristic Curves

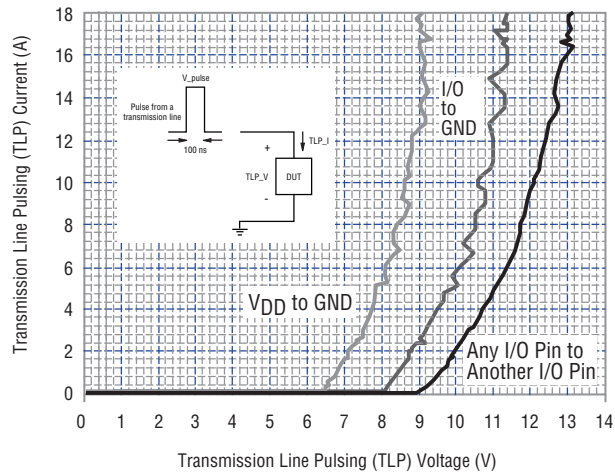
Pulse Waveform



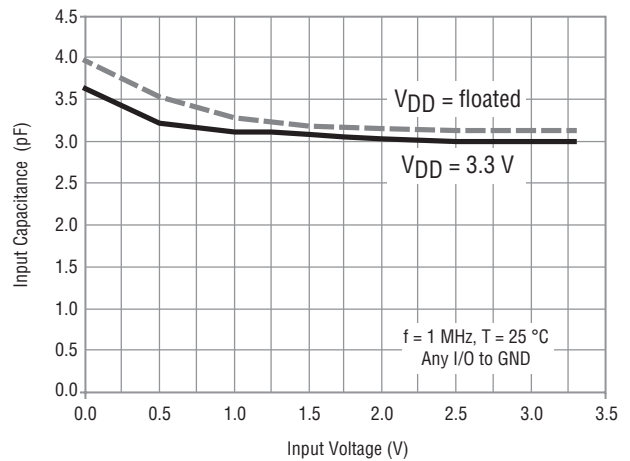
Typical Clamping Voltage vs Peak Pulse Current



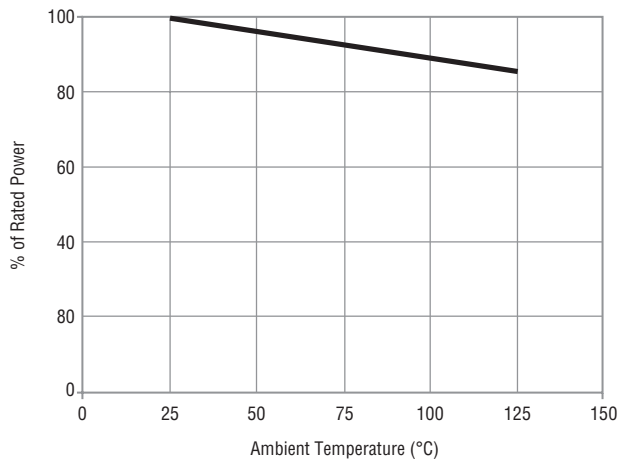
Typical Transmission Line Pulsing (TLP) Measurement



Typical Voltage vs. Capacitance



Typical Power Derating Curve



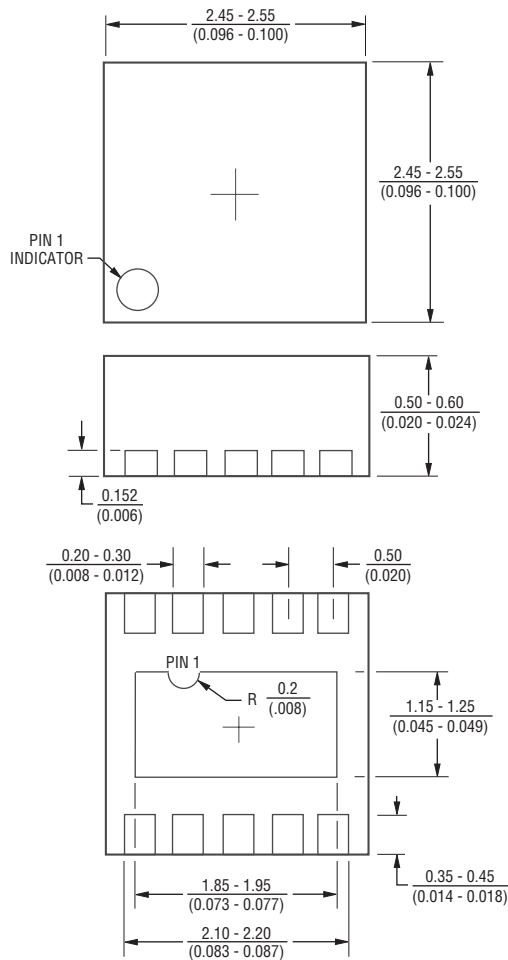
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers set forth on the last page of this document.

CDDFN10-3304NA - TVS/Steering Diode Array

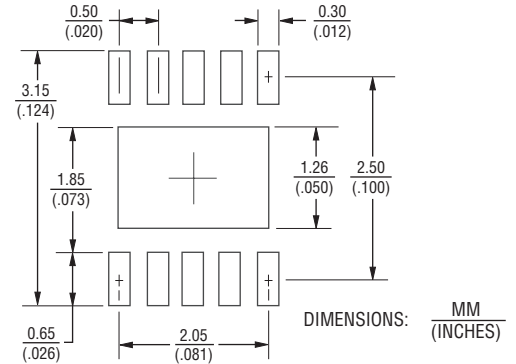


Product Dimensions

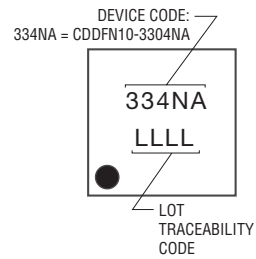
This is a molded DFN10 package with lead free Nickel-Paladium-Gold (Ni/Pd/Au) on the lead frame. It has a flammability rating of UL 94V-0.



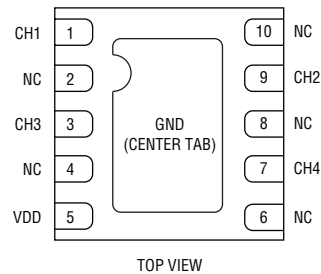
Recommended Footprint



Typical Part Marking



Pin Out



Pin	Function
1	I/O
2	N.C.
3	I/O
4	N.C.
5	V _{DD}
6	N.C.
7	I/O
8	N.C.
9	I/O
10	N.C.
CENTER TAB	GROUND

How to Order

CD DFN10 - 33 04 NA

Common Diode _____
 Chip Diode _____
 Package _____
 DFN10 = DFN-10 Package _____
 Reverse Working Peak Voltage _____
 33 = 3.3 V_{RWM} (Volts) _____
 Number of Lines _____
 04 = 4 Data Lines _____
 Suffix _____
 NA = Low Capacitance _____

Environmental Specifications

Moisture Sensitivity Level.....3
 ESD Classification (HBM).....3B

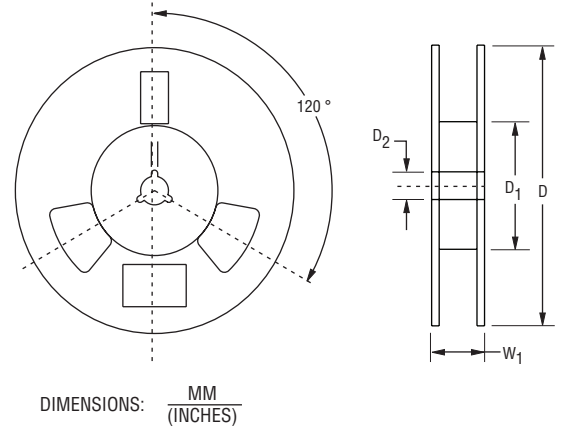
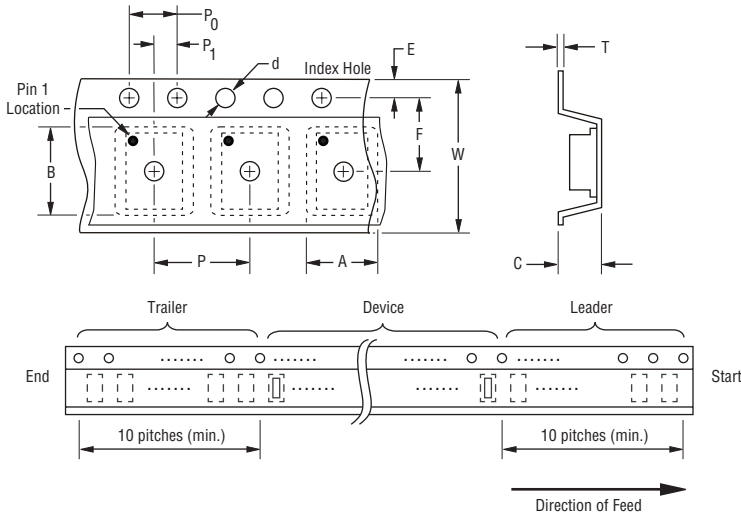
Specifications are subject to change without notice.
 Users should verify actual device performance in their specific applications.
 The products described herein and this document are subject to specific legal disclaimers set forth on the last page of this document.

CDDFN10-3304NA - TVS/Steering Diode Array

BOURNS®

Packaging Information

The product will be dispensed in tape and reel format (see diagram below).



Devices are packed in accordance with EIA standard RS-481-A.

Item	Symbol	DFN-10
Carrier Width	A	$\frac{1.2 \pm 0.05}{(0.047 \pm 0.002)}$
Carrier Length	B	$\frac{2.7 \pm 0.05}{(0.106 \pm 0.002)}$
Carrier Depth	C	$\frac{0.7 \pm 0.05}{(0.028 \pm 0.002)}$
Sprocket Hole	d	$\frac{1.5 \pm 0.05}{(0.059 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{180 \pm 3}{(7.087 \pm 0.118)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.00 \pm 0.20}{(0.512 \pm 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{0.60}{(0.024)}$ MAX.
Tape Width	W	$\frac{12.3}{(0.484)}$ MAX.
Reel Width	W ₁	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	3000

BOURNS®

Asia-Pacific:

Tel: +886-2 2562-4117

Email: asiacus@bourns.com

Europe:

Tel: +36 88 520 390

Email: eurocus@bourns.com

The Americas:

Tel: +1-951 781-5500

Email: americus@bourns.com

www.bourns.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:

Click to view products by [Bourns](#) manufacturer:

Other Similar products are found below :

[60KS200C](#) [D12V0H1U2WS-7](#) [D18V0L1B2LP-7B](#) [82356050220](#) [D5V0M5U6V-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#)
[P6KE8.2A](#) [SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ8.0A](#) [SMLJ30CA-TP](#) [ESD101-B1-02ELS E6327](#) [ESD112-B1-02EL E6327](#)
[ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#) [3.0SMCJ33CA-F](#)
[3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#) [SCM1293A-04SO](#)
[ESD200-B1-CSP0201 E6327](#) [ESD203-B1-02EL E6327](#) [SM12-7](#) [SMF8.0A-TP](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#)
[82356240030](#) [VESD12A1A-HD1-GS08](#) [CPDUR5V0R-HF](#) [CPDUR24V-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#)
[D1213A-01LP4-7B](#) [D1213A-02WL-7](#) [ESDLIN1524BJ-HQ](#) [5KP100A](#) [5KP15A](#)