

CODI SEMICONDUCTOR
Division of COMPUTER DIODE CORPORATION

LOW NOISE
AVALANCHE DIODES
LNA-328 thru LNA3100

LOW NOISE LOW VOLTAGE AVALANCHE DIODES

600 mw - 2.8 to 10.0 volts

noise : $1 \mu\text{v}/\sqrt{\text{Hz}}$

CODI's proprietary BiTaxial™ process has permitted a major breakthrough in the design of low voltage avalanche zener diodes.

For designers requiring a combination of

- Low Noise
- Sharp Breakdown
- Controlled Voltage Regulation
- Low Dynamic Impedance
- Low Leakage
- High Temperature

low voltage avalanche zener diodes are now available. Zener voltages compatible with integrated circuit power supplies, IC OP Amps, etc. give the circuit and systems designer performance characteristics only talked of prior to these new CODI low voltage avalanche diodes.

MECHANICAL CHARACTERISTICS: DO-7 Package

MAXIMUM RATINGS

Symbol	Parameter	Maximum	Unit
P	Continuous Power Dissipation. See Note 1	600	mw
Ta(OPR)	Operating (Free Air) Temperature Range—See Note 2	-65 to +175	°C
Tstg	Storage Temperature Range	-65 to +200	°C
	Lead Temperature 1/16 inch from case for 10 seconds	260	°C

Note 1: Derate linearly at the rate of 4 mw per °C. above Ta of 25°C.

Note 2: The device is lead conduction cooled. The lead temperature 1/8 inch from the case must be no more than 8°C greater than the free air temperature for these ratings to apply.

APPLICATIONS

- High Stability Regulators
- Wave Shaping
- Comparator References
- Low Ripple Series Regulators
- OP Amp Regulators
- Feedback Clamps

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ELECTRICAL CHARACTERISTICS:

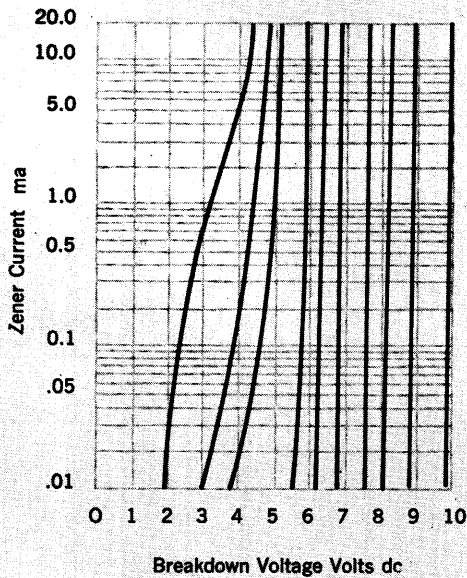
CODI TYPE NUMBER (Note 1)	ZENER VOLTAGE (Note 2)	TEST CURRENT	DYNAMIC IMPEDANCE (Note 3)	NOISE DENSITY @ 250 μ A	REGULATION from I_{zt} to I_{zl}		REVERSE CURRENT		REVERSE CURRENT	
							@ 25° C		@ 150° C	
					Nom. $V_z @ I_{zt}$	I_{zt}	Max. $Z_z @ I_{zt}$	Max.	Max. ΔV	I_{zl}
Vdc	mA	Ω	$\mu V / \sqrt{Hz}$	Vdc	mA	μA	Vdc	μA	Vdc	
LNA 328	2.8	20	50	1	0.75	2.0	5.0	1.0	80.0	1.0
LNA 331	3.1	20	30	1	0.75	2.0	2.5	1.0	60.0	1.0
LNA 335	3.5	20	20	1	0.75	2.0	2.0	1.0	40.0	1.0
LNA 339	3.9	20	15	1	0.75	2.0	2.0	1.0	30.0	1.0
LNA 343	4.3	20	12	1	0.75	2.0	2.0	1.5	25.0	1.5
LNA 347	4.7	10	10	1	0.5	1.0	2.0	2.0	10.0	2.0
LNA 351	5.1	5	10	1	0.3	0.25	2.0	3.0	5.0	2.0
LNA 356	5.6	1	40	1	0.1	0.05	2.0	4.5	1.0	3.0
LNA 362	6.2	1	40	1	0.1	0.01	0.5	5.6	1.0	4.0
LNA 368	6.8	1	50	1	0.1	0.01	0.05	6.2	1.0	5.0
LNA 375	7.5	1	50	1	0.1	0.01	0.01	6.8	1.0	6.0
LNA 382	8.2	1	75	1	0.1	0.01	0.01	7.5	1.0	6.5
LNA 391	9.1	1	75	1	0.1	0.01	0.01	8.2	1.0	8.0
LNA 3100	10.0	1	75	1	0.1	0.01	0.01	9.1	1.0	9.0

Notes:

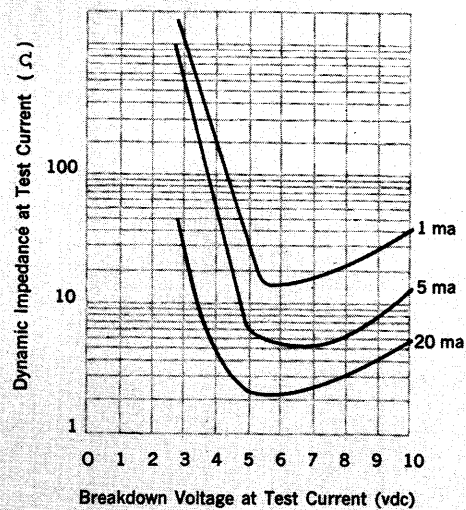
- (1) **CASE TYPE** - These devices are also available in a micro package. To specify the micro package, insert the prefix letter M before the part number.
- (2) **TOLERANCE** - Tolerance is specified by the type number suffix letter.
No suffix letter $\pm 10\%$ Suffix letter A $\pm 5\%$ Suffix letter B $\pm 2\%$
- (3) **DYNAMIC IMPEDANCE** - Dynamic impedance is measured at I_{zt} with 10% ac superimposed (60 Hz RMS).

TYPICAL CHARACTERISTICS

**TYPICAL BREAKDOWN CHARACTERISTICS
OF LNA SERIES AVALANCHE DIODES**



TYPICAL DYNAMIC IMPEDANCES



CODI welcomes your inquiries concerning other avalanche zener diodes and T.C. voltage reference diodes and is ready to assist you in your specific applications problems.