

1N821-1N829A

TEMPERATURE COMPENSATED ZENER REFERENCE DIODE

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Operating and storage temperature range	-65°C to +175°C
DC power dissipation	500mW @ $T_L = 25^\circ\text{C}$ and maximum current I_{ZM} OF 70mA. For optimum voltage-temperature stability, $I_Z = 7.5\text{mA}$ (less than 50 mW in dissipated power)
Solder temperatures	260°C for 10 s (max)

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Part number	Zener voltage (Note 1 and 4) $V_Z @ I_{ZT}$	Zener Test Current I_{ZT}	Maximum zener impedance (Note 2) $Z_{ZT} @ I_{ZT}$	Maximum reverse current $I_R @ 3V$	Voltage temperature stability ($\Delta V_{ZT} \text{ MAX}$) -55°C to = 100°C (Note 3 and 4)	Effective temperature coefficient α_{VZ}
	VOLTS	mA	OHMS	μA	mV	%/°C
1N821	5.9-6.5	7.5	15	2.0	96	0.01
1N821A	5.9-6.5	7.5	10	2.0	96	0.01
1N822†	5.9-6.5	7.5	15	2.0	96	0.01
1N823	5.9-6.5	7.5	15	2.0	48	0.005
1N823A	5.9-6.5	7.5	10	2.0	48	0.005
1N824†	5.9-6.5	7.5	15	2.0	48	0.005
1N825	5.9-6.5	7.5	15	2.0	19	0.002
1N825A	5.9-6.5	7.5	10	2.0	19	0.002
1N826	6.2-6.9	7.5	15	2.0	20	0.002
1N827	5.9-6.5	7.5	15	2.0	9	0.001
1N827A	5.9-6.5	7.5	10	2.0	9	0.001
1N828	6.2-6.9	7.5	15	2.0	10	0.001
1N829	5.9-6.5	7.5	15	2.0	5	0.0005
1N829A	5.9-6.5	7.5	10	2.0	5	0.0005

† Double Anode; electrical specifications apply under both bias polarities.

NOTES:

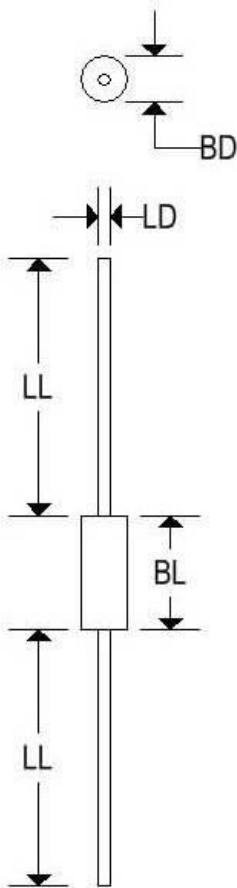
- Add a "-1" suffix for internal metallurgical bond.
- Zener impedance measured by superimposing 0.75 mA ac rms on 7.5mA dc @ 25°C.
- The maximum allowable change observed over the entire temperature range, i.e. the diode voltage will not exceed the specified mV change at discrete temperature between the established limits.
- Voltage measurements to be performed 15 seconds after application of dc current.

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MECHANICAL CHARACTERISTICS

Case	DO-35
Marking	Alpha-numeric
Polarity	Cathode Band



	DO-35			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.055	0.090	1.400	2.290
BL	0.120	0.200	3.050	5.080
LD	0.018	0.022	0.460	0.560
LL	1.000	1.500	25.400	38.100