

LM113 reference diode general description

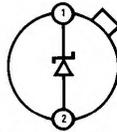
The LM113 is a temperature-compensated, low-voltage reference diode. It features extremely-tight regulation over a wide range of operating currents in addition to an unusually-low breakdown voltage and good temperature stability.

The diode is synthesized using transistors and resistors in a monolithic integrated circuit. As such, it has the same low noise and long term stability as modern IC op amps. Further, output voltage of the reference depends only on highly-predictable properties of components in the IC; so it can be manufactured and supplied to tight tolerances. Outstanding features include:

- Low breakdown voltage: 1.230V
- Dynamic impedance of 0.3Ω from $500\mu\text{A}$ to 20 mA
- Temperature stability typically 1% over -55°C to 125°C range
- Tight tolerance: $\pm 5\%$ standard, $\pm 2\%$ and $\pm 1\%$ on special order.

The characteristics of this reference recommend it for use in bias-regulation circuitry, in low-voltage power supplies or in battery powered equipment. The fact that the breakdown voltage is equal to a physical property of silicon—the energy-band-gap voltage—makes it useful for many temperature-compensation and temperature-measurement functions.

connection diagram



NOTE: Pin 2 connected to case.
TOP VIEW