

MC285-2.5/MC385-2.5

General Description

The LM185-2.5/MC285-2.5/MC385-2.5 are micropower 2-terminal band-gap voltage regulator diodes. Operating over a 20 μ A to 20 mA current range, they feature exceptionally low dynamic impedance and good temperature stability. On-chip trimming is used to provide tight voltage tolerance. Since the LM-185-2.5 band-gap reference uses only transistors and resistors, low noise and good long term stability result.

Careful design of the LM185-2.5 has made the device exceptionally tolerant of capacitive loading, making it easy to use in almost any reference application. The wide dynamic operating range allows its use with widely varying supplies with excellent regulation.

The extremely low power drain of the LM185-2.5 makes it useful for micropower circuitry. This voltage reference can be used to make portable meters, regulators or general purpose analog circuitry with battery life approaching shelf life. Further, the wide operating current allows it to replace older references with a tighter tolerance part. For applications requiring 1.2V see LM185-1.2.

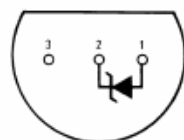
The LM185-2.5 is rated for operation over a -55°C to 125°C temperature range while the MC285-2.5 is rated -40°C to 85°C and the MC385-2.5 0°C to 70°C . The LM185-2.5/MC285-2.5 are available in a hermetic TO-46 package and the MC285-2.5/MC385-2.5 are also available in a low-cost TO-92 molded package, as well as S.O. and SOT-23. The LM185-2.5 is also available in a hermetic leadless chip carrier package.

Features

- ± 20 mV ($\pm 0.8\%$) max. initial tolerance (A grade)
- Operating current of 20 μ A to 20 mA
- 0.6Ω dynamic impedance (A grade)
- Low temperature coefficient
- Low voltage reference—2.5V
- 1.2V device and adjustable device also available—LM185-1.2 series and LM185 series, respectively

Connection Diagrams

TO-92
Plastic Package

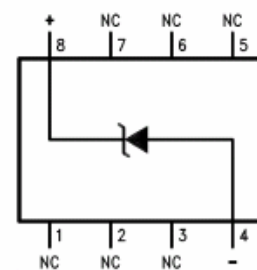


00551908

Bottom View

Order Number MC285Z-2.5,
MC285BXZ-2.5, MC285BYZ-2.5
MC385Z-2.5, MC385AXZ-2.5
MC385AYZ-2.5, MC385BZ-2.5,
MC385BXZ-2.5 or MC385BYZ-2.5
See NS Package Number Z03A

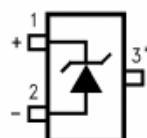
SO Package



00551911

Order Number MC285M-2.5,
MC285BXM-2.5, MC285BYM-2.5
MC385M-2.5, MC385BM-2.5
MC385BXM-2.5 or MC385BYM-2.5
See NS Package Number M08A

SOT-23



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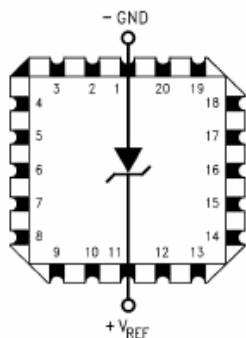
* Pin 3 is attached to the Die Attach Pad (DAP) and should be connected to Pin 2 or left floating.

Order Number LM385M3-2.5
See NS Package Number MA03B

MC285-2.5/MC385-2.5

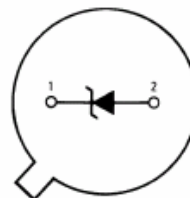
Connection Diagrams (Continued)

LCC
Leadless Chip Carrier



00651914
Order Number LM185E-2.5/883
See NS Package Number E20A

TO-46
Metal Can Package



00651913
Bottom View
Order Number LM185H-2.5,
LM185H-2.5/883, LM185BXH-2.5,
LM185BXH-2.5/883, LM185BYH-2.5,
LM185BYH2.5/883, MC285H-2.5,
or LM285BYH-2.5
See NS Package Number H02A

MICROCELL