

MBR0520L

SCHOTTKY BARRIER RECTIFIERS

0.5AMPERES 20 VOLTS

Surface Mount Schottky Power Rectifier

Description

This Schottky Power Rectifier employs the Schottky Barrier principle with a barrier metal that produces optimal forward voltage drop – reverse current tradeoff. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes in surface mount applications where compact size and weight are critical to the system.

Features

- Guarding for stress protection
- Very low forward voltage (0.38V Max @ 0.5A, 25°)
- 125° Operating junction temperature
- Package designed for optimal automated board assembly

Mechanical Characteristics

- Polarity designator: cathode band
- Case: epoxy, molded
- Finish: all external surfaces corrosion resistant and terminal leads are readily solderable
- Lead and mounting surface temperature for soldering purposes: 260° Max. for 10 seconds

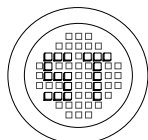
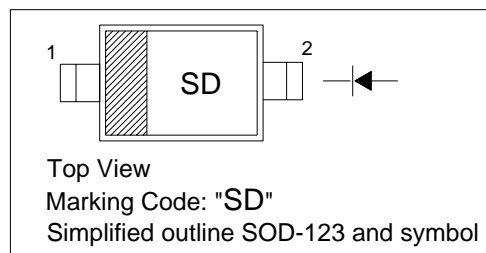
Absolute Maximum Ratings (Ta = 25 °C)

| Parameter | Symbol | Limits | Unit |
|---|-----------------|-------------|------|
| DC Blocking Voltage | V_R | 20 | V |
| Peak Repetitive Reverse Voltage | V_{RRM} | 20 | V |
| Working Peak Reverse Voltage | V_{RWM} | 20 | V |
| Average Rectified Forward Current @ Rated V_R , $T_L = 90^\circ$ | $I_{F(AV)}$ | 0.5 | A |
| Non-Repetitive Peak Surge Current. (Surge applied at rated load conditions halfwave, single phase, 60Hz) | I_{FSM} | 5.5 | A |
| Thermal Resistance Junction to Lead | $R_{\theta JL}$ | 150 | ? /W |
| Thermal Resistance Junction to Ambient (Note 1) | $R_{\theta JA}$ | 206 | ? /W |
| Operating Junction Temperature | T_J | -65 to +125 | ° |
| Storage Temperature | T_{stg} | -65 to +125 | ° |

1) 1 inch square pad size (1x 0.5 inch for each lead) on FR4 board

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



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РАДИОТЕХ

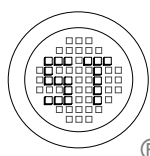
Тел.: (495) 795-0805
Факс: (495) 234-1603
Эл. почта: info@rct.ru
Веб: www.rct.ru

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Electrical Characteristics (Ta = 25°C)

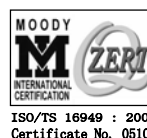
| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|--|---------------------------------|-----|-----|-------|------|--|
| Instantaneous Forward Voltage (Note 2.) | V _F | - | - | 0.300 | V | I _F = 0.1A, T _J = 25°C |
| | | - | - | 0.385 | V | I _F = 0.5A, T _J = 25°C |
| | | - | - | 0.220 | V | I _F = 0.1A, T _J = 100°C |
| | | - | - | 0.330 | V | I _F = 0.5A, T _J = 100°C |
| Instantaneous Reverse Current (Note 2) | I _R | - | - | 250 | uA | Rated DC voltage = 20V, T _J = 25°C |
| | | - | - | 8 | mA | Rated DC voltage = 20V, T _J = 100°C |
| | | - | - | 75 | uA | V _R = 10V, T _J = 25°C |
| | | - | - | 5 | mA | V _R = 10V, T _J = 100°C |
| Voltage Rate of Change (Rated V _R) | d _v / d _t | - | - | 1000 | V/us | - |

1) Pulse test: pulse width < 300us, duty cycle ≤ 2%.



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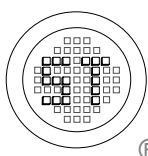
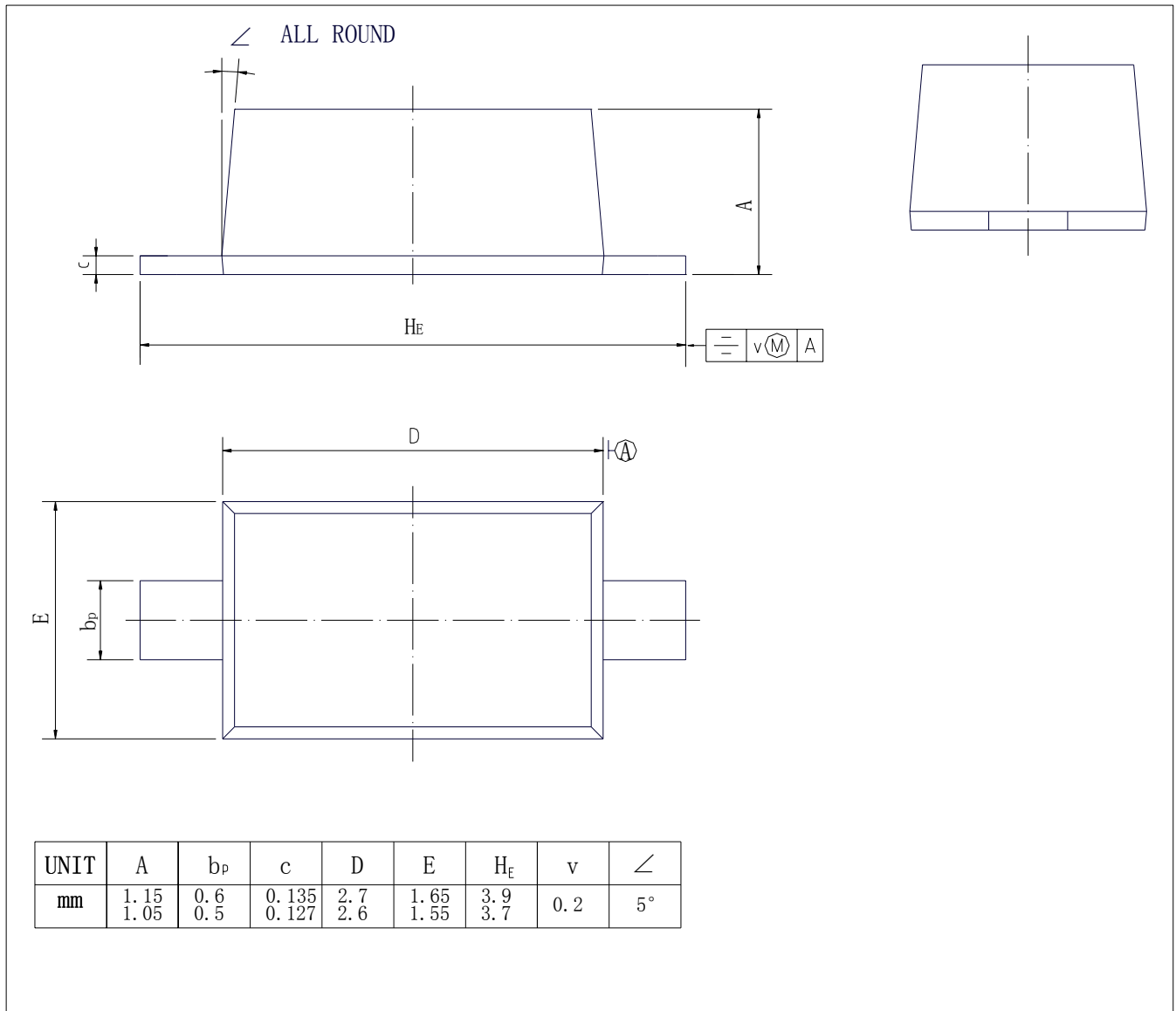
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123



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ISO/TS 16949 : 2002
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ISO 9001 : 2000
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