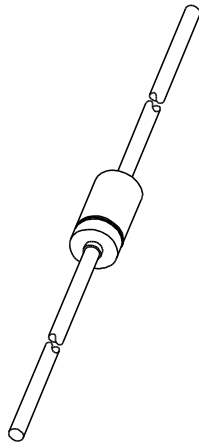


DATA SHEET



BA481 UHF mixer diode

Product specification
File under Discrete Semiconductors, SC01

1996 Mar 19

UHF mixer diode

BA481

FEATURES

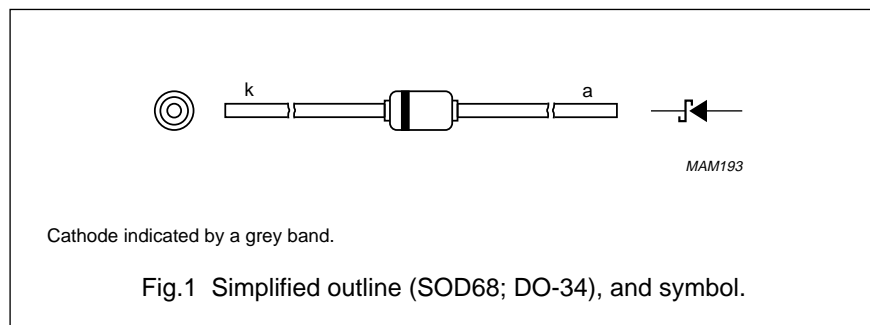
- Low forward voltage
- Hermetically-sealed leaded glass package
- Low diode capacitance.

APPLICATIONS

- UHF mixer
- Sampling circuits
- Modulators
- Phase detection.

DESCRIPTION

Planar Schottky barrier diode encapsulated in a hermetically-sealed subminiature SOD68 (DO-34) glass package. The diode is suitable for mounting on a 2 E (5.08 mm) pitch.



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

| SYMBOL | PARAMETER | MIN. | MAX. | UNIT |
|-----------|----------------------------|------|------|------|
| V_R | continuous reverse voltage | – | 4 | V |
| I_F | continuous forward current | – | 30 | mA |
| T_{stg} | storage temperature | –65 | +125 | °C |
| T_j | junction temperature | – | 100 | °C |

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ELECTRICAL CHARACTERISTICS $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MAX. | UNIT |
|--------|-------------------|---|------|---------------|
| V_F | forward voltage | see Fig.2 $I_F = 1\text{ mA}$ | 450 | mV |
| | | $I_F = 10\text{ mA}$ | 600 | mV |
| I_R | reverse current | $V_R = 4\text{ V}$; see Fig.3 | 10 | μA |
| | | $V_R = 4\text{ V}$; $T_{amb} = 60\text{ }^{\circ}\text{C}$; see Fig.3 | 100 | μA |
| r_s | series resistance | $f = 1\text{ kHz}$; $I_F = 5\text{ mA}$ | 13 | Ω |
| F | noise figure | $f = 900\text{ MHz}$; note 1 | 8 | dB |
| C_d | diode capacitance | $f = 1\text{ MHz}$; $V_R = 0\text{ V}$; see Fig.4 | 1.1 | pF |

Note

- The local oscillator is adjusted for a diode current of 2 mA.
IF amplifier noise $F_{if} = 1.5\text{ dB}$; $f = 35\text{ MHz}$.

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------|---|------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1 | 320 | KW |

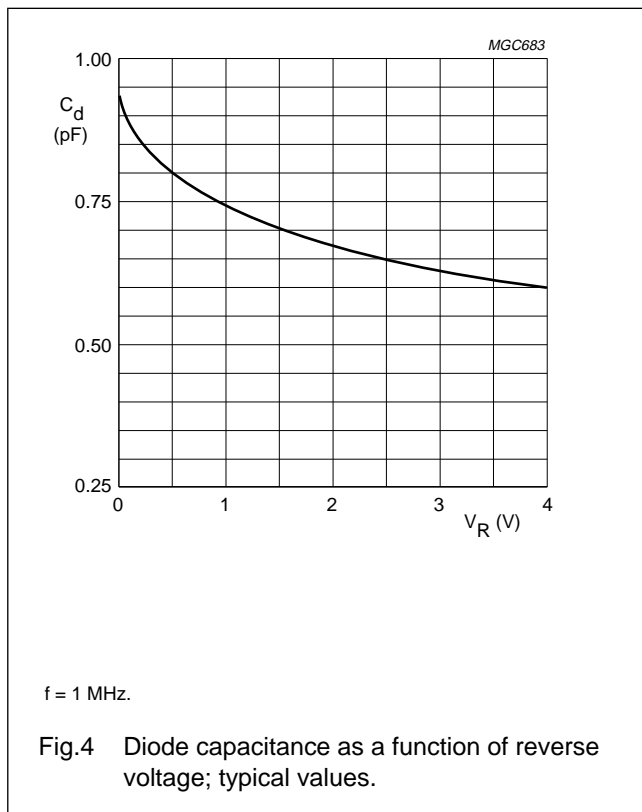
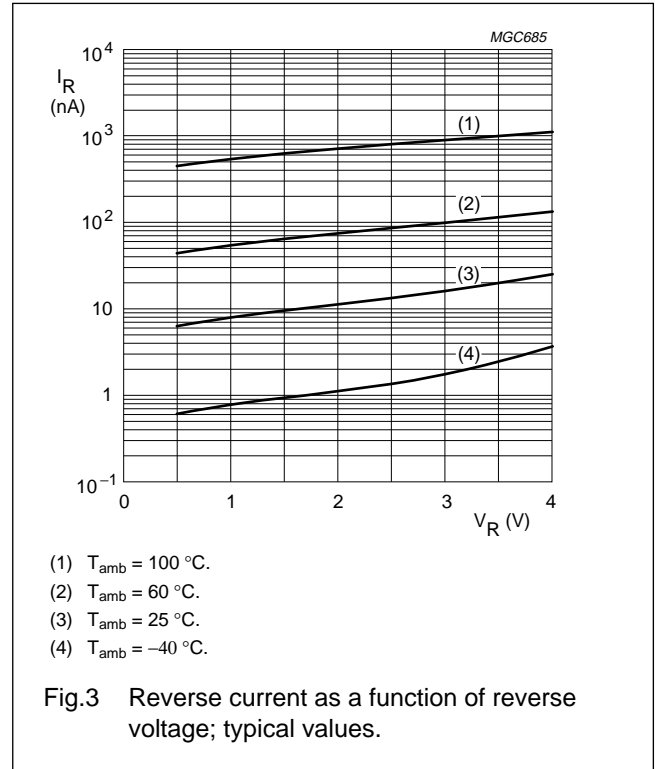
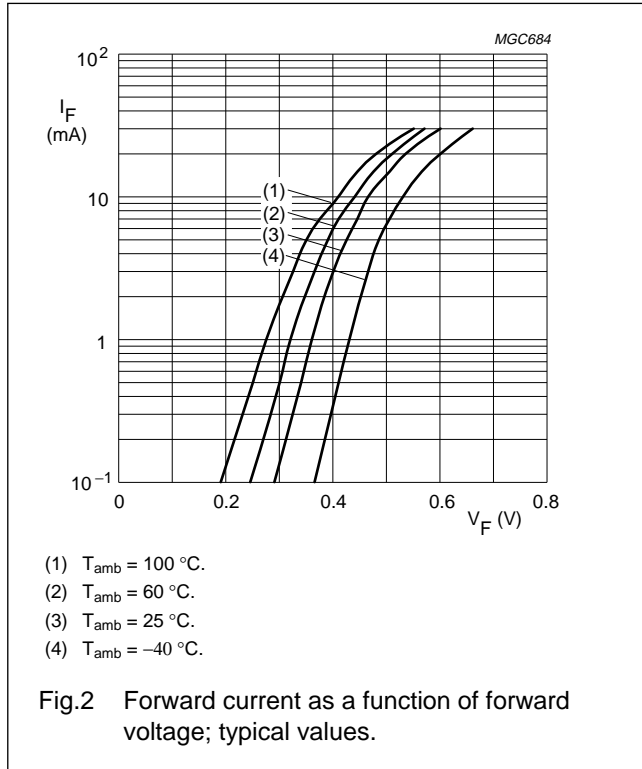
Note

- Refer to SOD68 standard mounting conditions.

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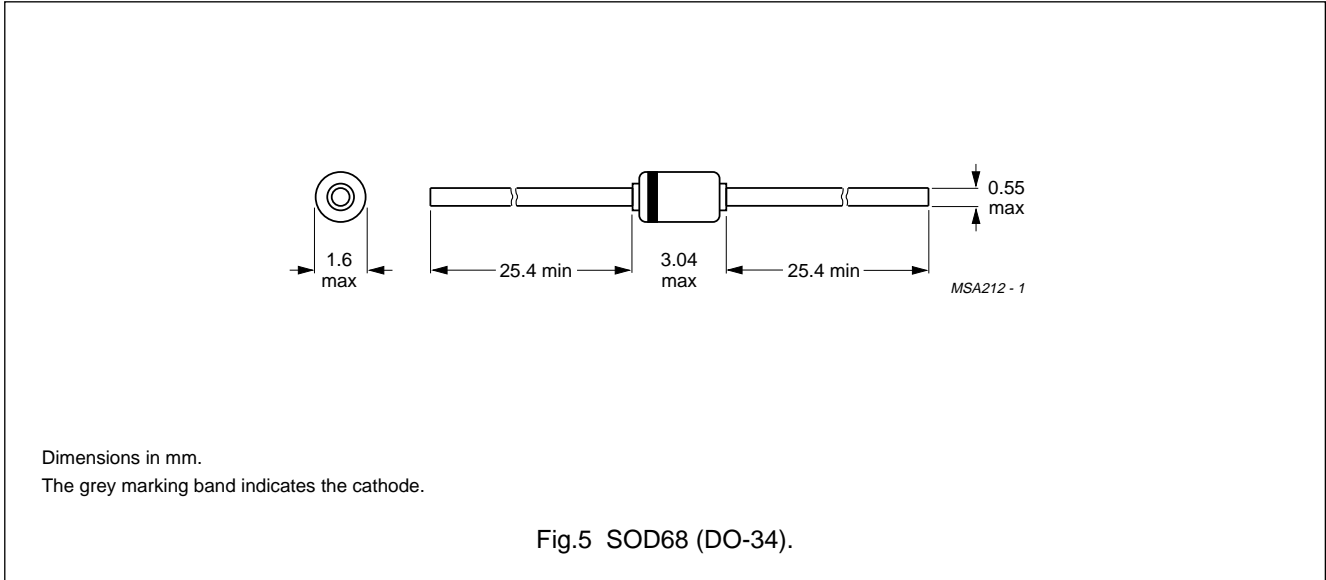
GRAPHICAL DATA



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PACKAGE OUTLINE



DEFINITIONS

| | |
|---|---|
| Data Sheet Status | |
| Objective specification | This data sheet contains target or goal specifications for product development. |
| Preliminary specification | This data sheet contains preliminary data; supplementary data may be published later. |
| Product specification | This data sheet contains final product specifications. |
| Limiting values | |
| Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability. | |
| Application information | |
| Where application information is given, it is advisory and does not form part of the specification. | |

LIFE SUPPORT APPLICATIONS

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