

Small Signal Schottky Diodes



FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Very low switching time
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: MiniMELF (SOD-80)

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

APPLICATIONS

- HF-detector
- Protection circuit
- Diode for low currents with a low supply voltage
- Small battery charger
- Power supplies
- DC/DC converter for notebooks

PARTS TABLE

| PART | TYPE DIFFERENTIATION | ORDERING CODE | CIRCUIT CONFIGURATION | REMARKS |
|-------|----------------------|--------------------------|-----------------------|---------------|
| BAS81 | $V_R = 40\text{ V}$ | BAS81-GS18 or BAS81-GS08 | Single | Tape and reel |
| BAS82 | $V_R = 50\text{ V}$ | BAS82-GS18 or BAS82-GS08 | Single | Tape and reel |
| BAS83 | $V_R = 60\text{ V}$ | BAS83-GS18 or BAS83-GS08 | Single | Tape and reel |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
|---------------------------------|--------------------|-------|-----------|-------|------|
| Reverse voltage | | BAS81 | V_R | 40 | V |
| | | BAS82 | V_R | 50 | V |
| | | BAS83 | V_R | 60 | V |
| Peak forward surge current | $t_p = 1\text{ s}$ | | I_{FSM} | 500 | mA |
| Repetitive peak forward current | | | I_{FRM} | 150 | mA |
| Forward continuous current | | | I_F | 30 | mA |

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--------------------------------------------|---------------------------------------|------------|-------------|------------------|
| Thermal resistance junction to ambient air | On PC board 50 mm x 50 mm x 1.6 mm | R_{thJA} | 320 | K/W |
| Junction temperature | | T_j | 125 | $^\circ\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +150 | $^\circ\text{C}$ |



| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|---------------------------------------------------------------------------------------------------|--------------------------------------|--------|------|------|------|------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 0.1\text{ mA}$ | V_F | | | 330 | mV |
| | $I_F = 1\text{ mA}$ | V_F | | | 410 | mV |
| | $I_F = 15\text{ mA}$ | V_F | | | 1000 | mV |
| Reverse current | $V_R = V_{Rmax.}$ | I_R | | | 200 | nA |
| Diode capacitance | $V_R = 1\text{ V}, f = 1\text{ MHz}$ | C_D | | | 1.6 | pF |

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

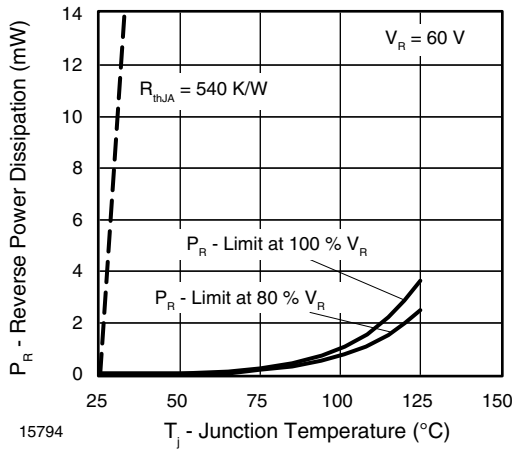


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

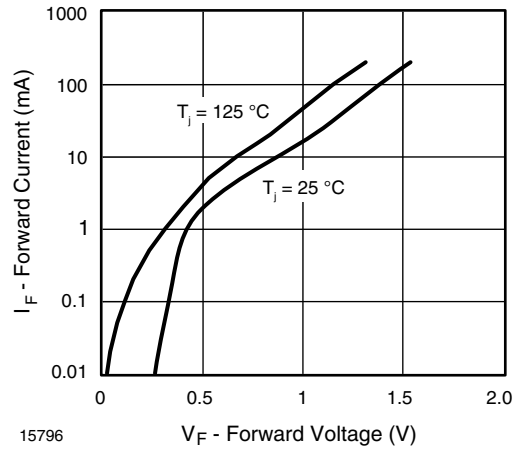


Fig. 3 - Forward Current vs. Forward Voltage

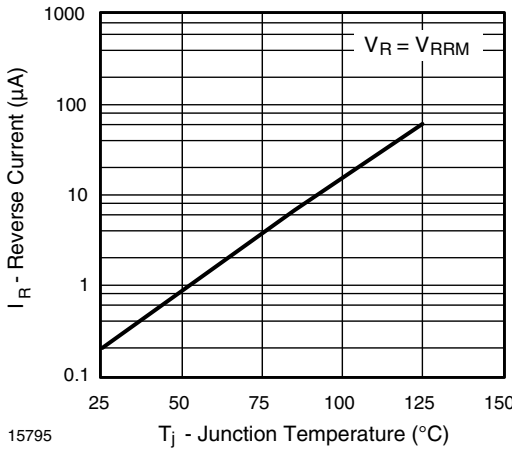


Fig. 2 - Reverse Current vs. Junction Temperature

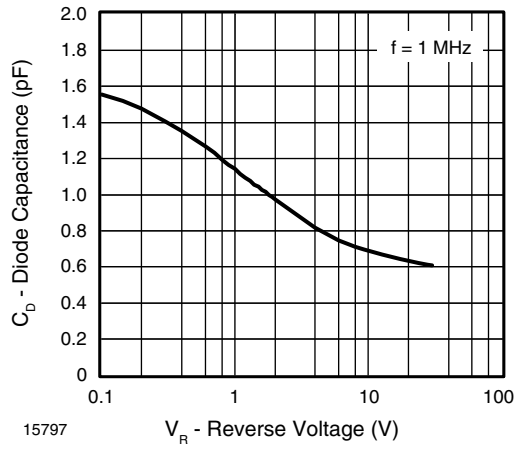
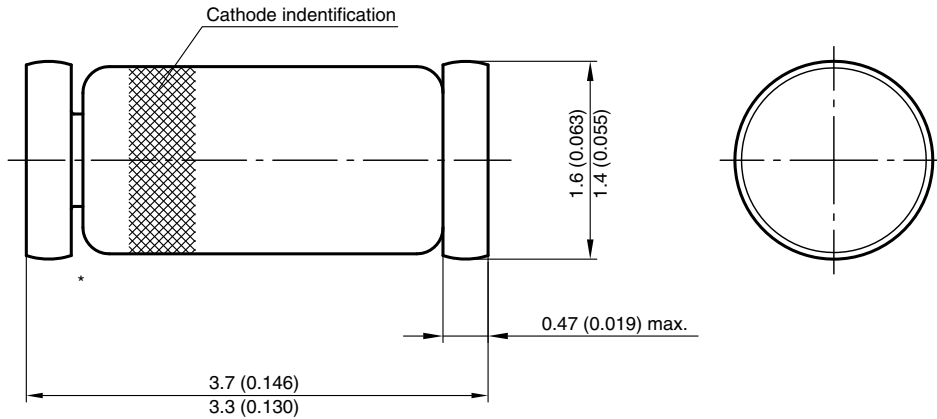


Fig. 4 - Diode Capacitance vs. Reverse Voltage

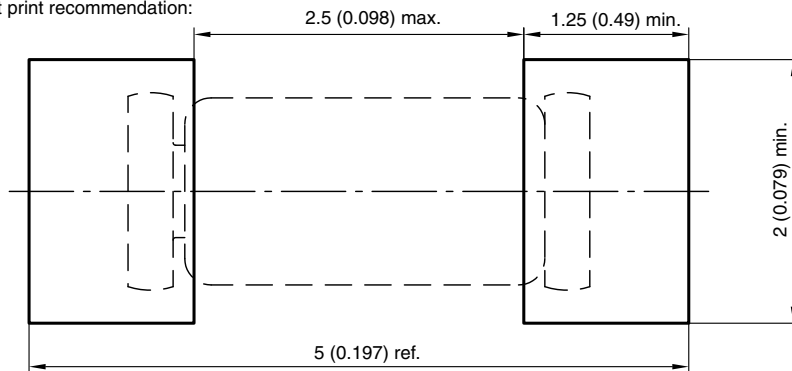


PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF (SOD-80)**



* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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