

## 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** QuadroMELF (SOD-80)

**Weight:** approx. 34 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

- General purpose and switching Schottky barrier diode
- 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       |
|--------|----------------------|----------------------------|-----------------------|---------------|
| BAS281 | $V_R = 40\text{ V}$  | BAS281-GS18 or BAS281-GS08 | Single                | Tape and reel |
| BAS282 | $V_R = 50\text{ V}$  | BAS282-GS18 or BAS282-GS08 | Single                | Tape and reel |
| BAS283 | $V_R = 60\text{ V}$  | BAS283-GS18 or BAS283-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                 |                    | BAS281 | $V_R$     | 40    | V    |
|                                 |                    | BAS282 | $V_R$     | 50    | V    |
|                                 |                    | BAS283 | $V_R$     | 60    | V    |
| Peak forward surge current      | $t_p = 1\text{ s}$ |        | $I_{FSM}$ | 500   | mA   |
| Repetitive peak forward current |                    |        | $I_{FRM}$ | 150   | mA   |
| Forward current                 |                    |        | $I_F$     | 30    | mA   |

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

| PARAMETER                 | TEST CONDITION                        | SYMBOL     | VALUE       | UNIT               |
|---------------------------|---------------------------------------|------------|-------------|--------------------|
| Junction to ambient air   | On PC board<br>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 | $^{\circ}\text{C}$ |



| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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   |

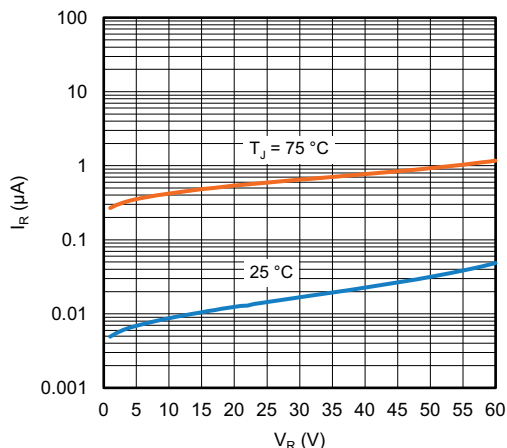
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Typical Reverse Leakage Current vs. Reverse Voltage

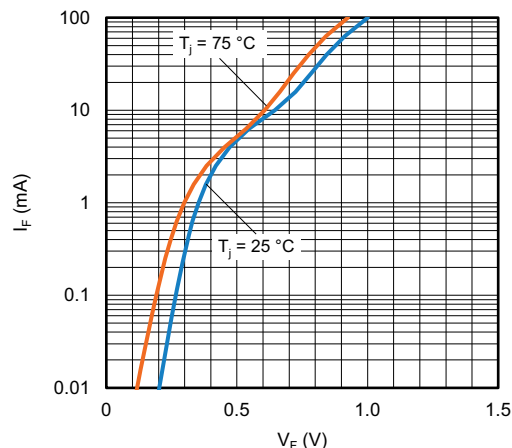


Fig. 3 - Typical Forward Current vs. Forward Voltage

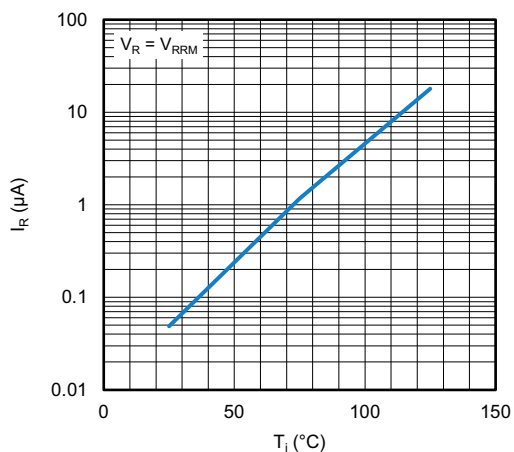


Fig. 2 - Reverse Current vs. Junction Temperature

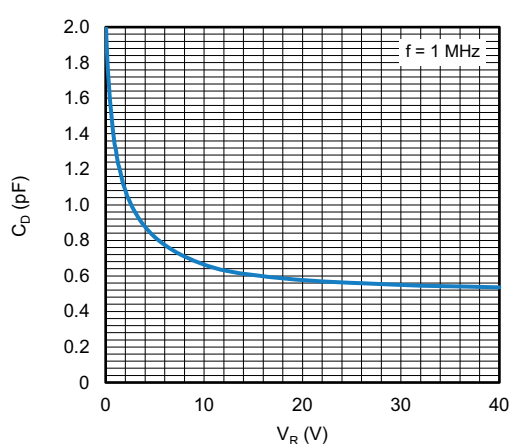
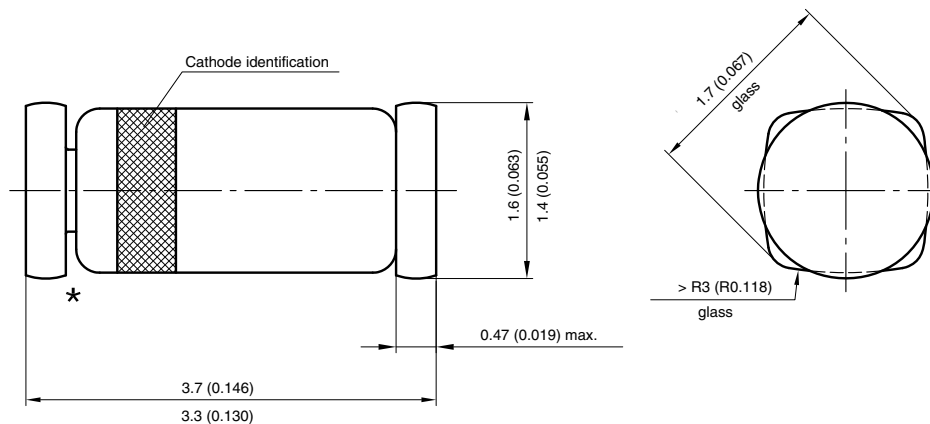


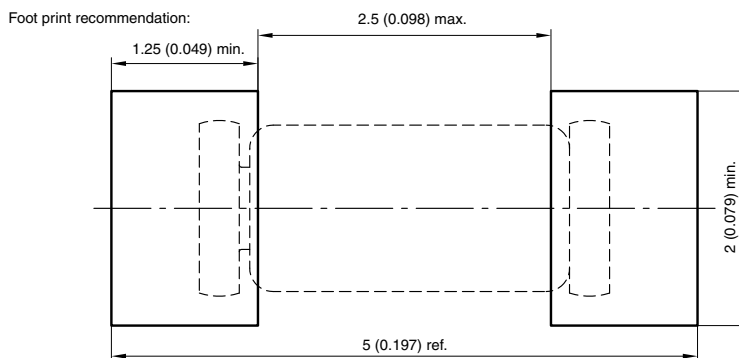
Fig. 4 - Typical Capacitance vs. Reverse Voltage



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



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



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