

## RF PIN Diodes - Single in QuadroMELF SOD-80



### FEATURES

- Wide frequency range 10 MHz to 1 GHz
- AEC-Q101 qualified
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### APPLICATIONS

- Current controlled HF resistance in adjustable attenuators

### 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

### PARTS TABLE

| PART   | TYPE DIFFERENTIATION      | ORDERING CODE              | TYPE MARKING | INTERNAL CONSTRUCTION | REMARKS       |
|--------|---------------------------|----------------------------|--------------|-----------------------|---------------|
| BA979  | $z_r > 5 \text{ k}\Omega$ | BA979-GS18 or BA979-GS08   | -            | Single diode          | Tape and reel |
| BA979S | $z_r > 9 \text{ k}\Omega$ | BA979S-GS18 or BA979S-GS08 | -            | Single diode          | Tape and reel |

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

| PART                       | TEST CONDITION | SYMBOL | VALUE | UNIT |
|----------------------------|----------------|--------|-------|------|
| Reverse voltage            |                | $V_R$  | 30    | V    |
| Forward continuous current |                | $I_F$  | 50    | mA   |

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

| PARAMETER                                  | TEST CONDITION                        | SYMBOL     | VALUE         | UNIT             |
|--------------------------------------------|---------------------------------------|------------|---------------|------------------|
| Thermal resistance junction to ambient air | on PC board<br>50 mm x 50 mm x 1.6 mm | $R_{thJA}$ | 500           | K/W              |
| Junction temperature                       |                                       | $T_j$      | 125           | $^\circ\text{C}$ |
| Storage temperature range                  |                                       | $T_{stg}$  | - 55 to + 150 | $^\circ\text{C}$ |

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

| PARAMETER                       | TEST CONDITION                                 | PART   | SYMBOL | MIN. | TYP. | MAX. | UNIT             |
|---------------------------------|------------------------------------------------|--------|--------|------|------|------|------------------|
| Forward voltage                 | $I_F = 20 \text{ mA}$                          |        | $V_F$  |      |      | 1    | V                |
| Reverse current                 | $V_R = 30 \text{ V}$                           |        | $I_R$  |      |      | 0.05 | $\mu\text{A}$    |
| Diode capacitance               | $f = 100 \text{ MHz}$ , $V_R = 0 \text{ V}$    |        | $C_D$  |      |      | 0.5  | pF               |
| Differential forward resistance | $f = 100 \text{ MHz}$ , $I_F = 1.5 \text{ mA}$ |        | $r_f$  |      |      | 50   | $\Omega$         |
| Reverse impedance               | $f = 100 \text{ MHz}$ , $V_R = 0 \text{ V}$    | BA979  | $z_r$  | 5    |      |      | $\text{k}\Omega$ |
|                                 |                                                | BA979S | $z_r$  | 9    |      |      | $\text{k}\Omega$ |
| Minority carrier lifetime       | $I_F = 10 \text{ mA}$ , $I_R = 10 \text{ mA}$  |        | $\tau$ |      | 4    |      | $\mu\text{s}$    |

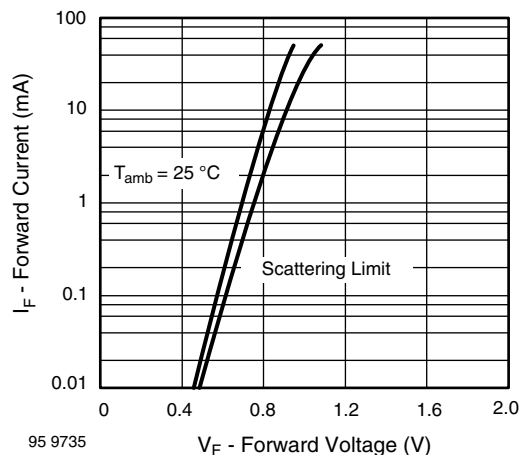
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Forward Current vs. Forward Voltage

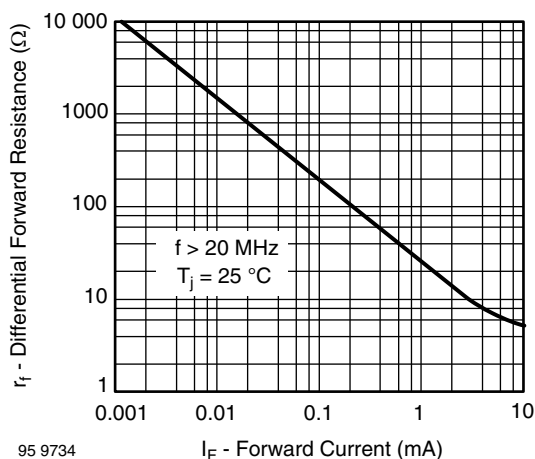
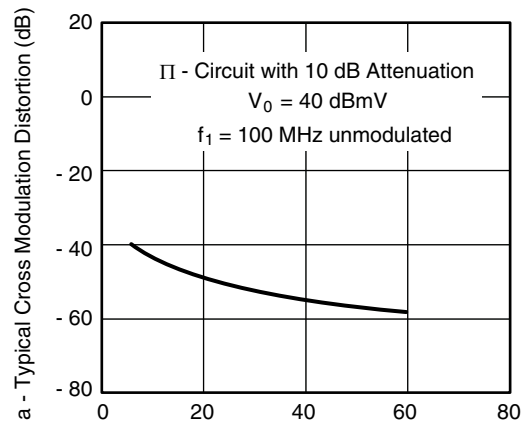
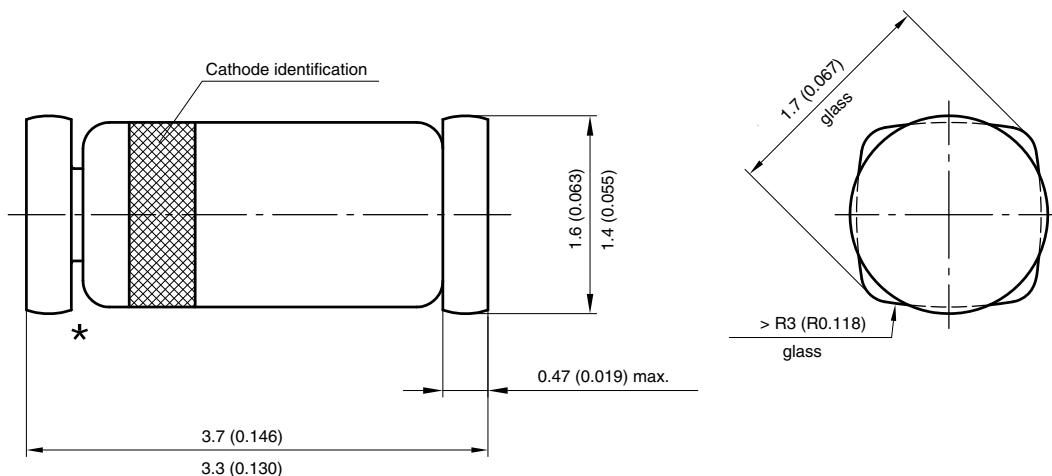


Fig. 2 - Differential Forward Resistance vs. Forward Current

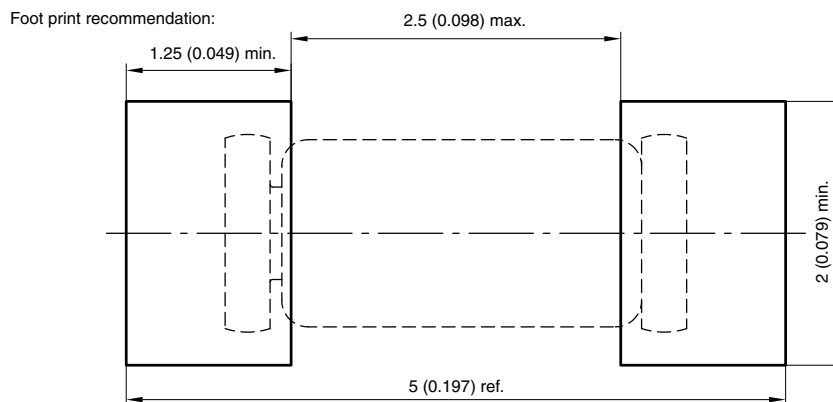

Fig. 3 - Typ. Cross Modulation Distortion vs. Frequency  $f_2$



**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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