



# Small Signal Switching Diodes, Low Leakage Current



### FEATURES

- Silicon planar diodes
- Very low reverse current
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### APPLICATIONS

Protection circuits, time delay circuits, peak follower circuits, logarithmic amplifiers

### 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
BAQ133	V <sub>RRM</sub> = 40 V	BAQ133-GS18 or BAQ133-GS08	-	Single diode	Tape and reel
BAQ134	V <sub>RRM</sub> = 70 V	BAQ134-GS18 or BAQ134-GS08	-	Single diode	Tape and reel
BAQ135	V <sub>RRM</sub> = 140 V	BAQ135-GS18 or BAQ135-GS08	-	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		BAQ133	V <sub>RRM</sub>	40	V
		BAQ134	V <sub>RRM</sub>	70	V
		BAQ135	V <sub>RRM</sub>	140	V
Reverse voltage		BAQ133	V <sub>R</sub>	30	V
		BAQ134	V <sub>R</sub>	60	V
		BAQ135	V <sub>R</sub>	125	V
Peak forward surge current	t <sub>p</sub> = 1 μs		I <sub>FSM</sub>	2	A
Forward continuous current			I <sub>F</sub>	200	mA

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °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 <sub>thJA</sub>	500	K/W	
Junction temperature		T <sub>j</sub>	175	°C	
Storage temperature range		T <sub>stg</sub>	- 65 to + 175	°C	

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 100\text{ mA}$		$V_F$			1	V
Reverse current	$E \leq 300\text{ lx}$ , rated $V_R$		$I_R$		1	3	nA
	$E \leq 300\text{ lx}$ , rated $V_R$ , $T_j = 125\text{ }^{\circ}\text{C}$		$I_R$			0.5	$\mu\text{A}$
	$E \leq 300\text{ lx}$ , $V_R = 15\text{ V}$	BAQ133	$I_R$		0.5	1	nA
	$E \leq 300\text{ lx}$ , $V_R = 30\text{ V}$	BAQ134	$I_R$		0.5	1	nA
	$E \leq 300\text{ lx}$ , $V_R = 60\text{ V}$	BAQ135	$I_R$		0.5	1	nA
Breakdown voltage	$I_R = 5\text{ }\mu\text{A}$ , $t_p/T = 0.01$ , $t_p = 0.3\text{ ms}$	BAQ133	$V_{(BR)}$	40			V
		BAQ134	$V_{(BR)}$	70			V
		BAQ135	$V_{(BR)}$	140			V
Diode capacitance	$V_R = 0$ , $f = 1\text{ MHz}$		$C_D$			3	pF

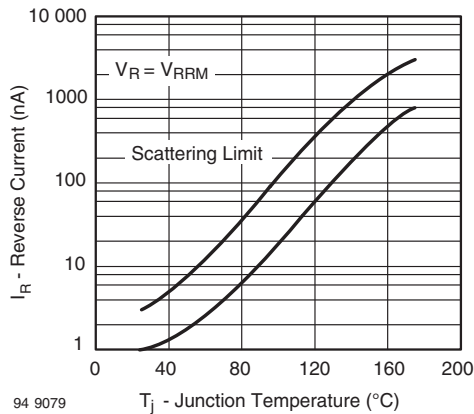
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

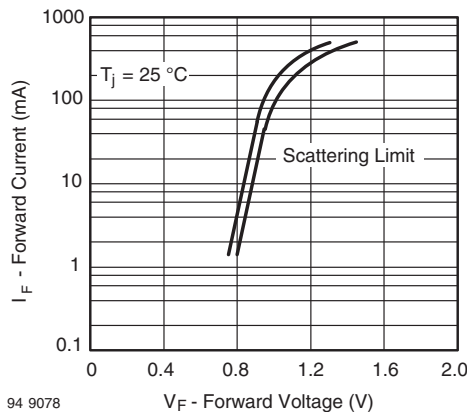
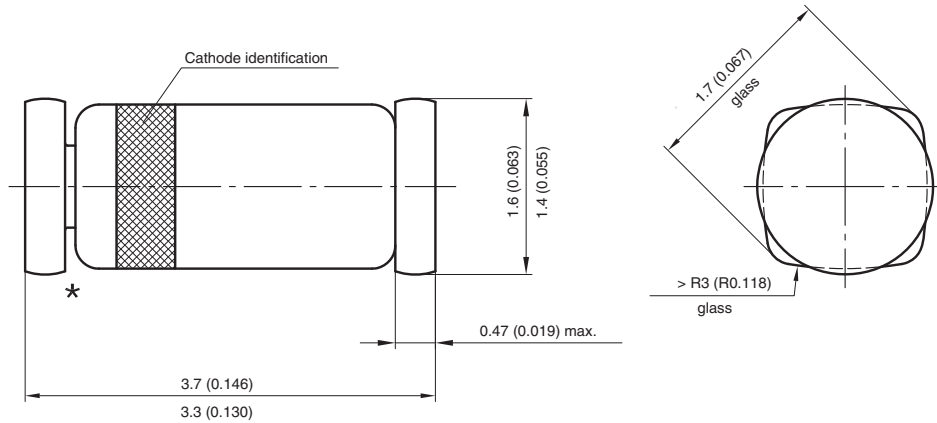
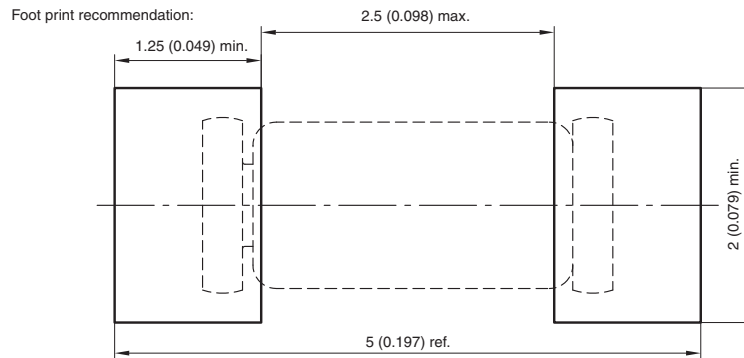


Fig. 2 - Forward Current vs. Forward Voltage

**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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