

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


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	$V_{RRM} = 40\text{ V}$	BAQ133-GS18 or BAQ133-GS08	-	Single diode	Tape and reel
BAQ134	$V_{RRM} = 70\text{ V}$	BAQ134-GS18 or BAQ134-GS08	-	Single diode	Tape and reel
BAQ135	$V_{RRM} = 140\text{ V}$	BAQ135-GS18 or BAQ135-GS08	-	Single diode	Tape and reel

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

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		BAQ133	V_{RRM}	40	V
		BAQ134	V_{RRM}	70	V
		BAQ135	V_{RRM}	140	V
Reverse voltage		BAQ133	V_R	30	V
		BAQ134	V_R	60	V
		BAQ135	V_R	125	V
Peak forward surge current	$t_p = 1\text{ }\mu\text{s}$		I_{FSM}	2	A
Forward continuous current			I_F	200	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}	500	K/W
Junction temperature		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 175	$^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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	μA
	$E \leq 300\text{ lx}$, $V_R = 15\text{ V}$	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

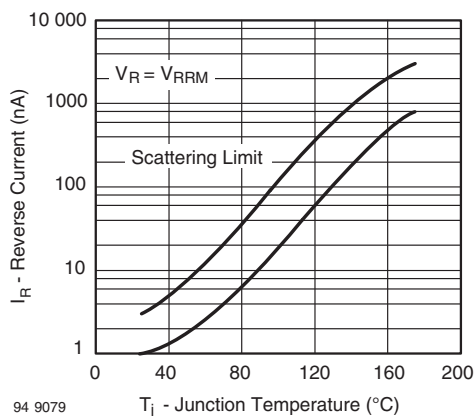
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

Fig. 1 - Reverse Current vs. Junction Temperature

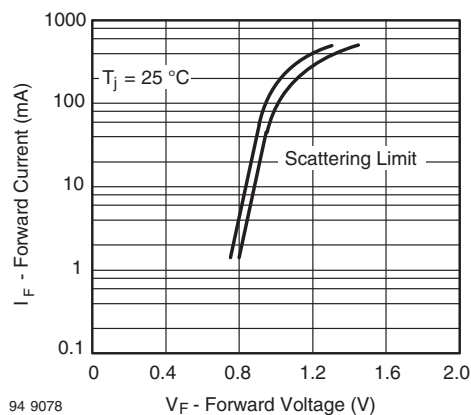
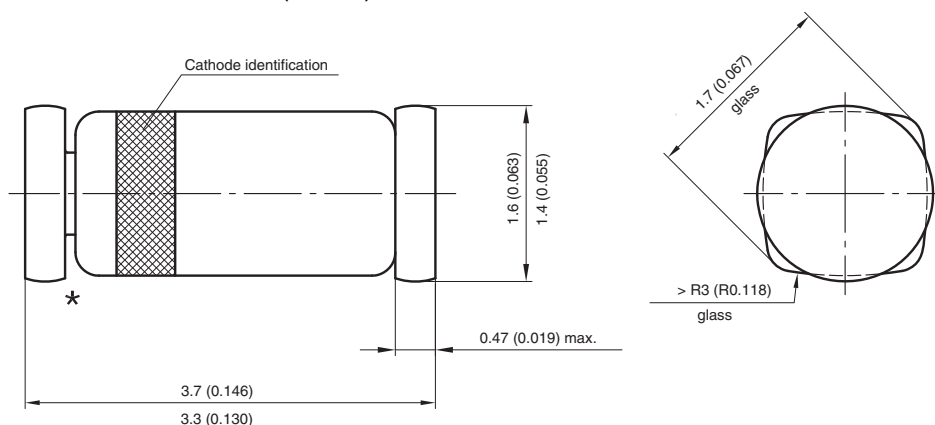


Fig. 2 - Forward Current vs. Forward Voltage

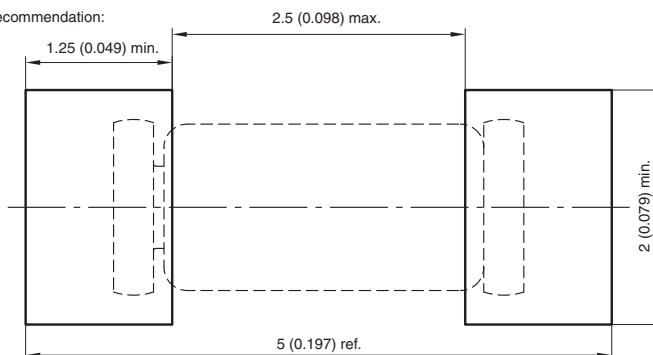


PACKAGE DIMENSIONS in millimeters (inches): QuadroMELF SOD-80



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

Foot print recommendation:



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