

## Small Signal Schottky Diodes



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### 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)

### 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

### MECHANICAL DATA

**Case:** MicroMELF

**Weight:** approx. 12 mg

**Cathode band color:** black

**Packaging codes/options:**

TR3/10K per 13" reel (8 mm tape), 10K/box

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

<b>PARTS TABLE</b>				
<b>PART</b>	<b>TYPE DIFFERENTIATION</b>	<b>ORDERING CODE</b>	<b>CIRCUIT CONFIGURATION</b>	<b>REMARKS</b>
BAS381	$V_R = 40\text{ V}$	BAS381-TR3 or BAS381-TR	Single	Tape and reel
BAS382	$V_R = 50\text{ V}$	BAS382-TR3 or BAS382-TR	Single	Tape and reel
BAS383	$V_R = 60\text{ V}$	BAS383-TR3 or BAS383-TR	Single	Tape and reel

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)					
<b>PARAMETER</b>	<b>TEST CONDITION</b>	<b>PART</b>	<b>SYMBOL</b>	<b>VALUE</b>	<b>UNIT</b>
Reverse voltage		BAS381	$V_R$	40	V
		BAS382	$V_R$	50	V
		BAS383	$V_R$	60	V
Peak forward surge current	$t_p = 1\text{ s}$		$I_{\text{FSM}}$	500	mA
Repetitive peak forward current			$I_{\text{FRM}}$	150	mA
Forward continuous current			$I_F$	30	mA

<b>THERMAL CHARACTERISTICS</b> ( $T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)				
<b>PARAMETER</b>	<b>TEST CONDITION</b>	<b>SYMBOL</b>	<b>VALUE</b>	<b>UNIT</b>
Junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	$R_{\text{thJA}}$	320	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{\text{stg}}$	-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
Reserve 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

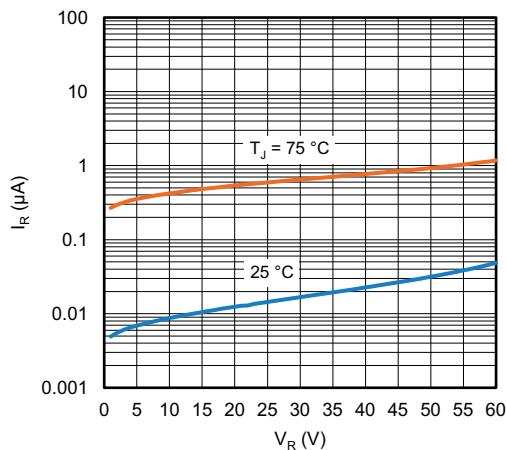
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25 \text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

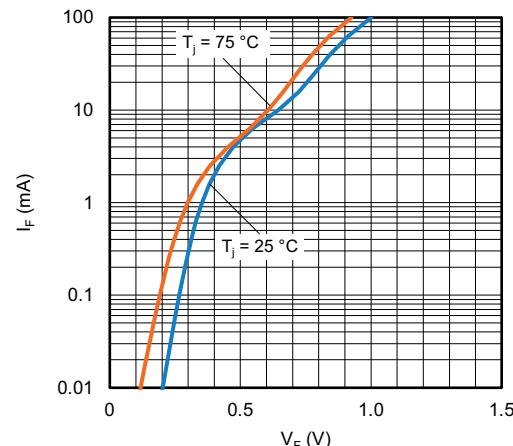


Fig. 3 - Typical Forward Current vs. Forward Voltage

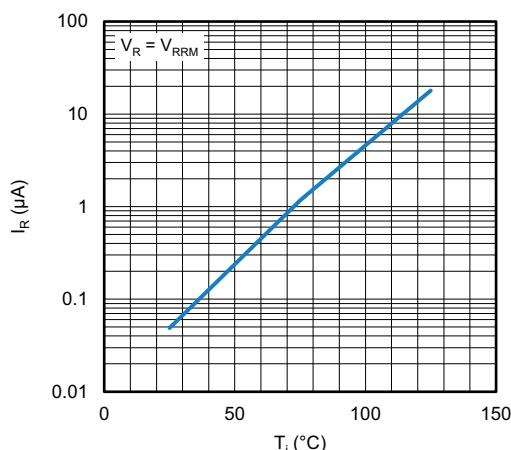


Fig. 2 - Reverse Current vs. Junction Temperature

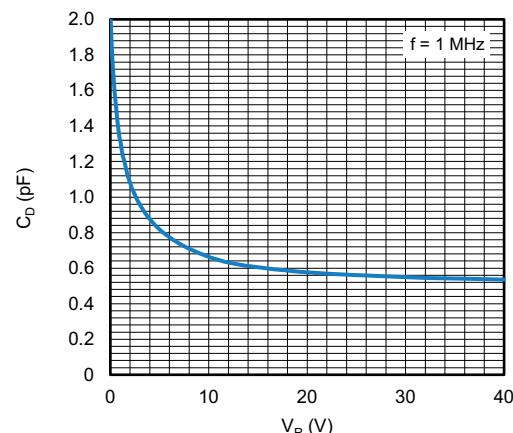
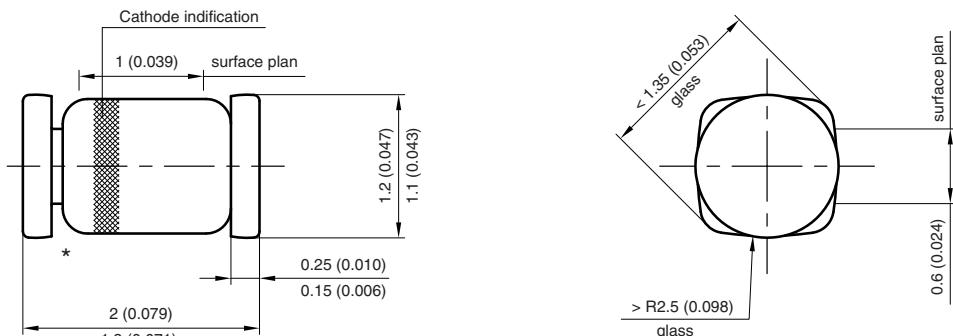
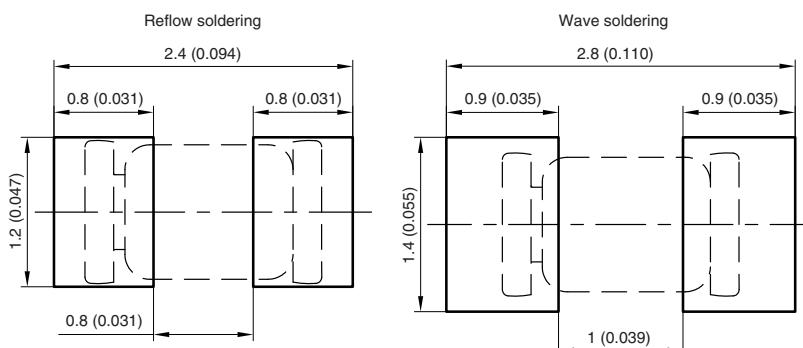


Fig. 4 - Typical Capacitance vs. Reverse Voltage

**PACKAGE DIMENSIONS** in millimeters (inches): **MicroMELF**


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

## Foot print recommendation:



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