



### Small Signal Schottky Diodes



#### 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

#### FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Very low switching time
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT HALOGEN FREE

#### 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	INTERNAL CONSTRUCTION	REMARKS
BAS381	V <sub>R</sub> = 40 V	BAS381-TR3 or BAS381-TR	Single diode	Tape and reel
BAS382	V <sub>R</sub> = 50 V	BAS382-TR3 or BAS382-TR	Single diode	Tape and reel
BAS383	V <sub>R</sub> = 60V	BAS383-TR3 or BAS383-TR	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage		BAS381	V <sub>R</sub>	40	V
		BAS382	V <sub>R</sub>	50	V
		BAS383	V <sub>R</sub>	60	V
Peak forward surge current	t <sub>p</sub> = 1 s		I <sub>FSM</sub>	500	mA
Repetitive peak forward current			I <sub>FRM</sub>	150	mA
Forward continuous current			I <sub>F</sub>	30	mA

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R <sub>thJA</sub>	320	K/W	
Junction temperature		T <sub>j</sub>	125	°C	
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°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

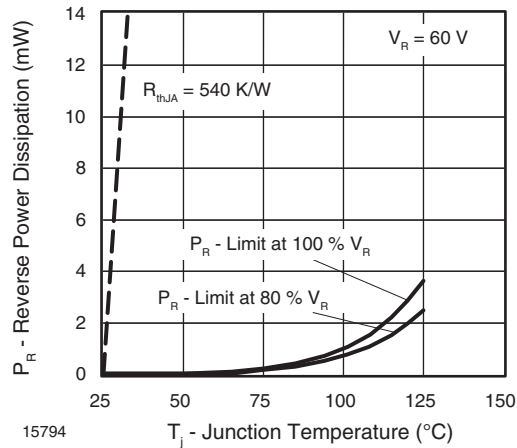
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

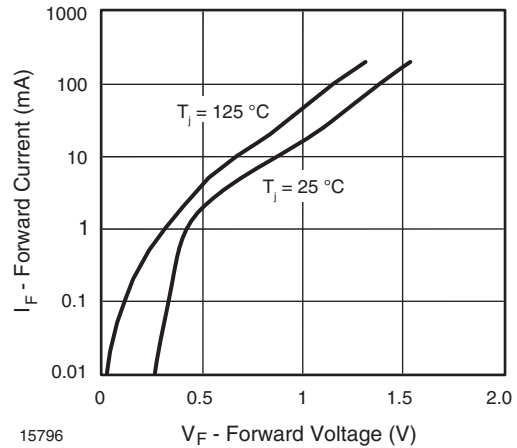


Fig. 3 - Forward Current vs. Forward Voltage

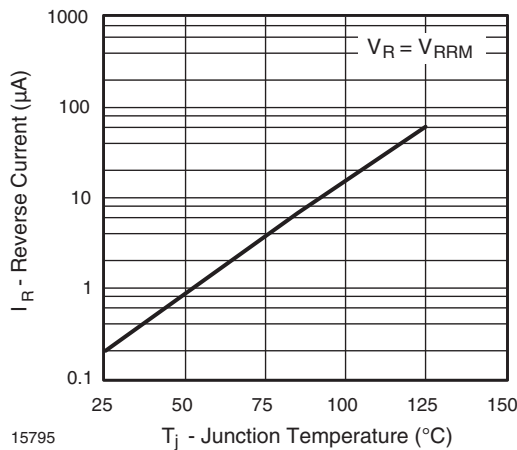


Fig. 2 - Reverse Current vs. Junction Temperature

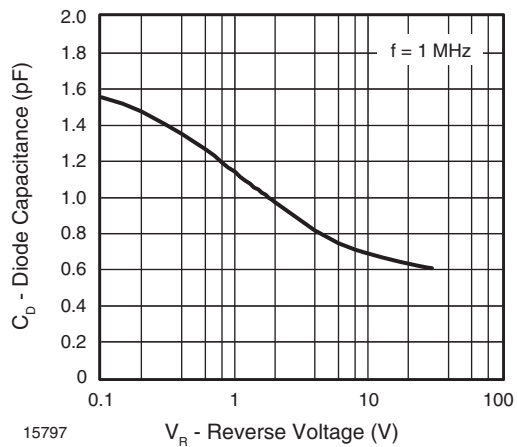


Fig. 4 - Diode Capacitance vs. Reverse Voltage

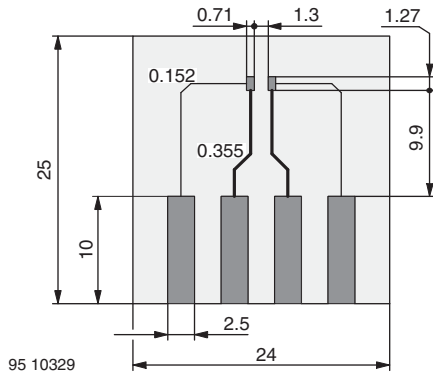
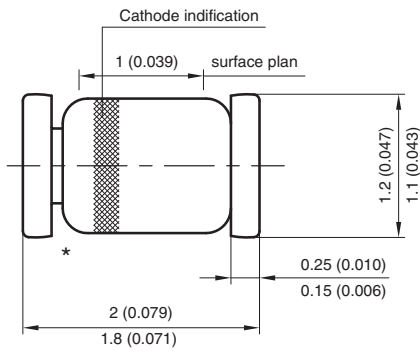
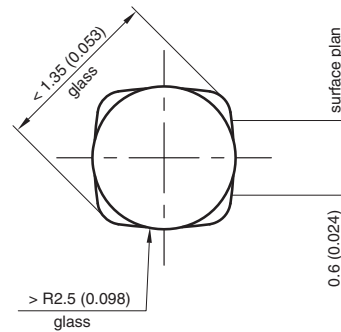


Fig. 5 - Board for  $R_{thJA}$  Definition (in mm)

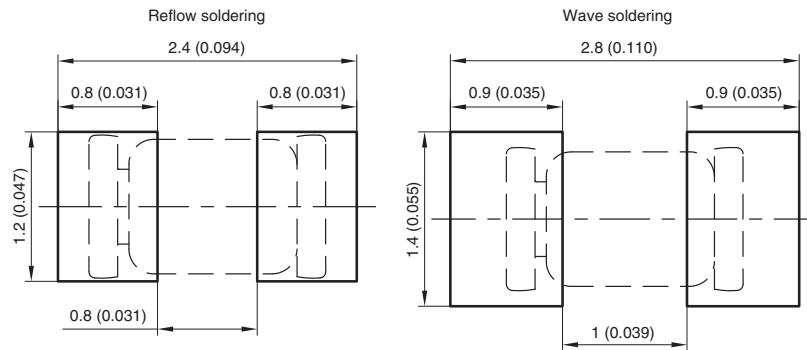
**PACKAGE DIMENSIONS** in millimeters (inches): **MicromELF**



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



Foot print recommendation:



Created - Date: 26.July.1996  
 Rev. 13 - Date: 07.June.2006  
 Document no.:6.560-5007.01-4  
 96 12072



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