



## Small Signal Schottky Diodes



**DESIGN SUPPORT TOOLS** click logo to get started



### 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)



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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	CIRCUIT CONFIGURATION	REMARKS
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

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

THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , 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	$R_{thJA}$	320	K/W	
Junction temperature		$T_j$	125	$^\circ\text{C}$	
Storage temperature range		$T_{stg}$	-65 to +150	$^\circ\text{C}$	



<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)

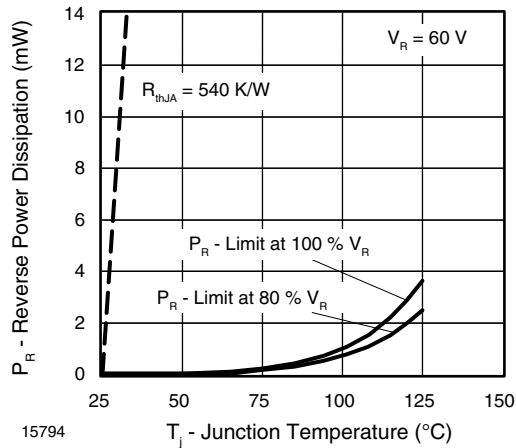


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

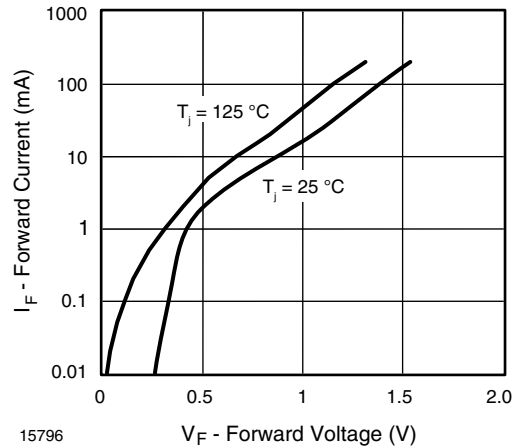


Fig. 3 - Forward Current vs. Forward Voltage

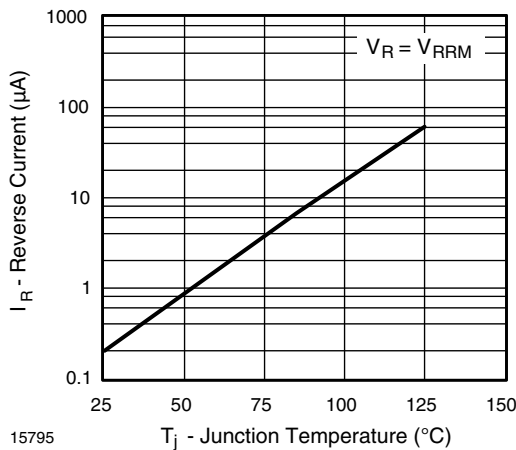


Fig. 2 - Reverse Current vs. Junction Temperature

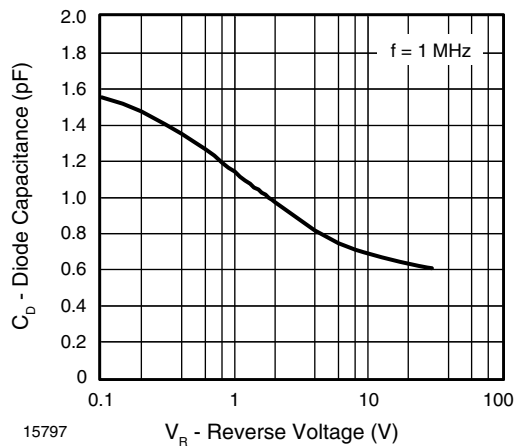


Fig. 4 - Diode Capacitance vs. Reverse Voltage

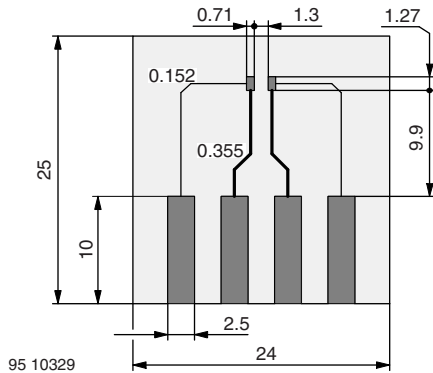
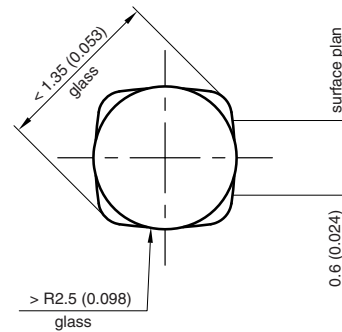
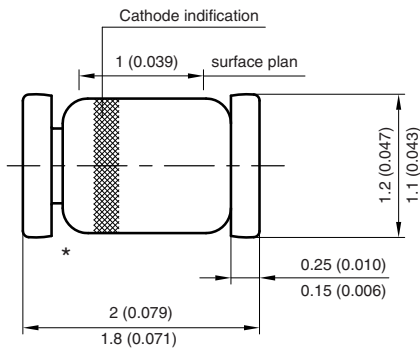


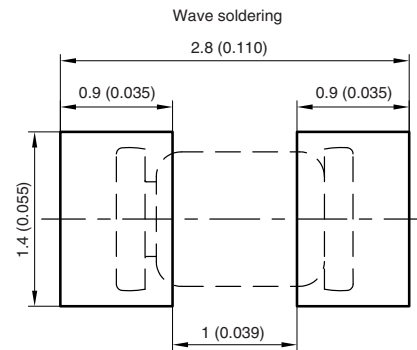
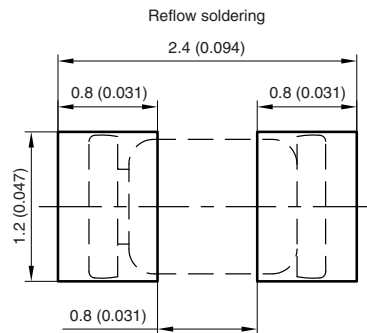
Fig. 5 - Board for  $R_{thJA}$  Definition (in mm)

**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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