

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



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	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	$^{\circ}\text{C}$



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
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)

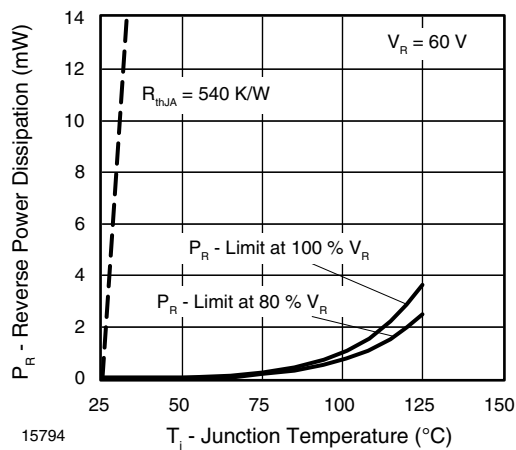


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

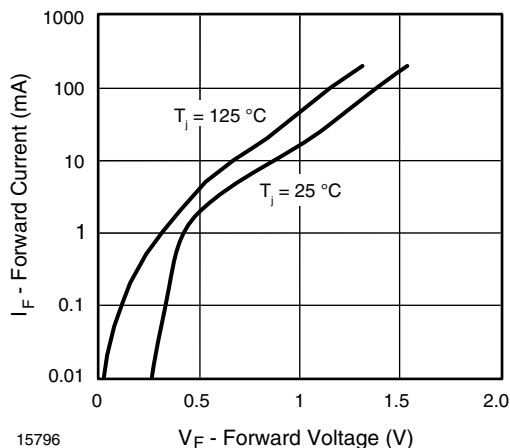


Fig. 3 - Forward Current vs. Forward Voltage

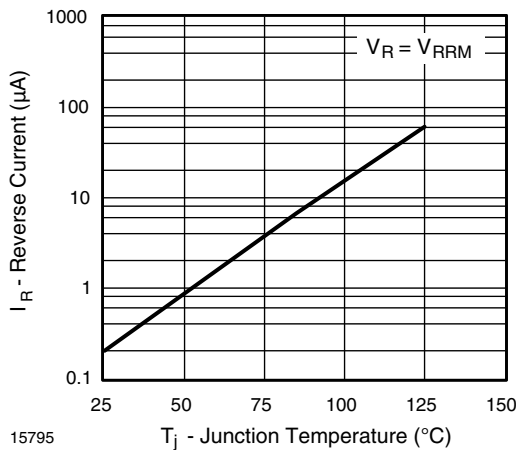


Fig. 2 - Reverse Current vs. Junction Temperature

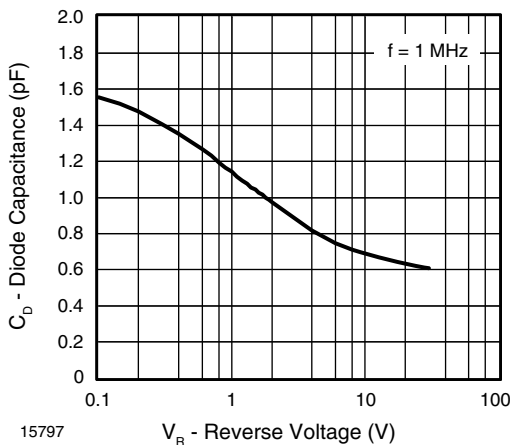


Fig. 4 - Diode Capacitance vs. Reverse Voltage

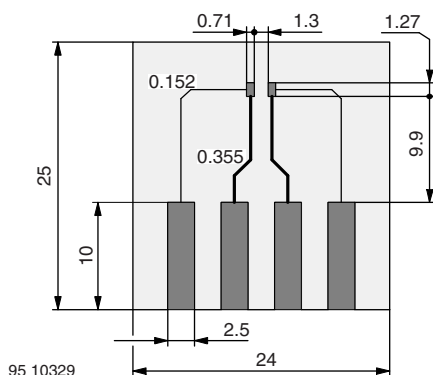
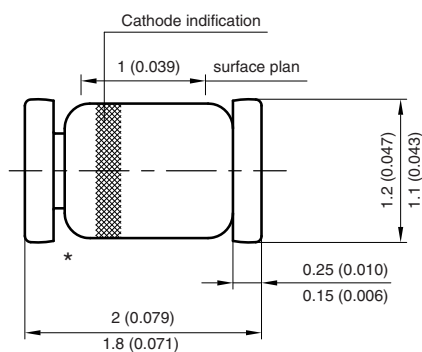
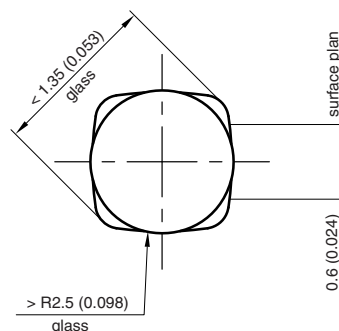


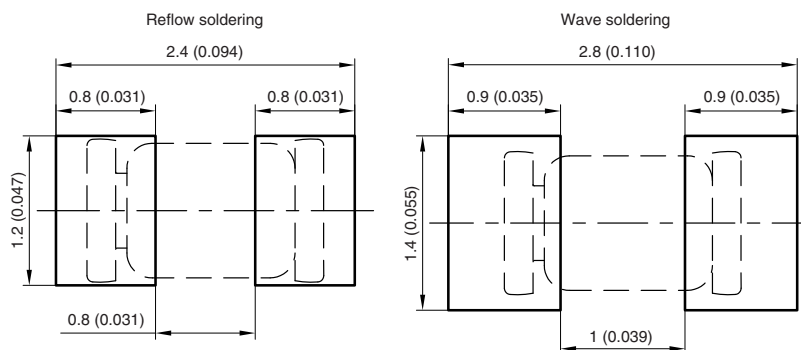
Fig. 5 - Board for $R_{th,JA}$ Definition (in mm)

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
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Document no.:6.560-5007.01-4
96 12072



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