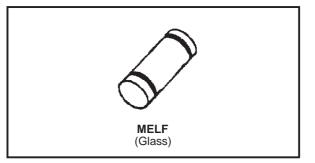


# **TMBAT 49**

## SMALL SIGNAL SCHOTTKY DIODE

#### DESCRIPTION

General purpose metal to silicon diode featuring very low turn-on voltage and fast switching. This device has integrated protection against excessive voltage such as electrostatic discharges.



#### ABSOLUTE MAXIMUM RATINGS (limiting values)

Symbol	Parameter	Value	Unit	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	80	V	
١ <sub>F</sub>	Forward Continuous Current	500	mA	
I <sub>FRM</sub>	Repetitive Peak Forward Current	3	A	
I <sub>FSM</sub>	Surge non Repetitive Forward Current	10	A	
T <sub>stg</sub> Tj	Storage and Junction Temperature Range	- 65 to + 150 - 65 to + 125	°C ℃	
TL	Maximum Temperature for Soldering during	260	°C	

#### THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
R <sub>th(j-l)</sub>	Junction-leads	110	°C/W

### **ELECTRICAL CHARACTERISTICS**

#### STATIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Тур.	Max.	Unit
I <sub>R</sub> *	$T_j = 25^{\circ}C$ $V_R = 80V$			200	μA
V <sub>F</sub> *	$T_j = 25^{\circ}C$ $I_F = 10mA$			0.32	V
	$T_j = 25^{\circ}C$ $I_F = 100mA$			0.42	
	$T_j = 25^{\circ}C$ $I_F = 1A$			1	

#### DYNAMIC CHARACTERISTICS

Symbol	Test Conditions				Тур.	Max.	Unit
С	T <sub>j</sub> = 25°C	f = 1MHz	$V_R = 0V$		120		pF
			V <sub>R</sub> = 5V		35		

\* Pulse test:  $t_p {\leq} \ 300 \mu s \ \delta {<} 2 \text{\%}\text{.}$ 

I<sub>f</sub>- (mA)  $10^{3}$ 10<sup>2</sup> 10 = 100 °C Тj i 25 °C = Ŧj -55 °C i 10-1 (V) ۷F 10<sup>-2</sup> 0 0.2 0.4 0.6 0.8

Figure 1. Forward current versus forward voltage at low level (typical values).

Figure 3. Reverse current versus junction temperature.

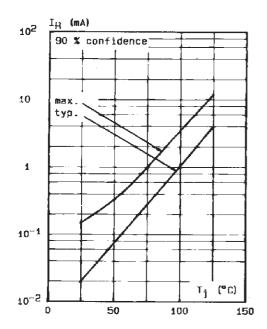


Figure 2. Forward current versus forward voltage at high level (typical values).

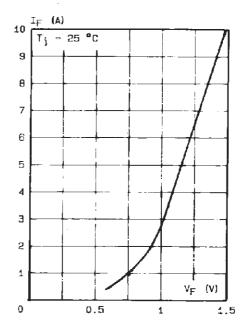
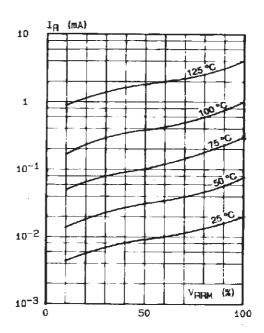


Figure 4. Reverse current versus  $V_{\mbox{\scriptsize RRM}}$  in per cent.



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Figure 5. Capacitance C versus reverse applied voltage  $V_R$  (typical values).

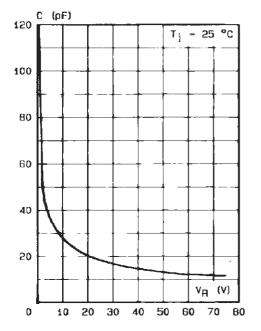


Figure 6. Surge non repetitive forward current for a rectangular pulse with t  $\leq$  10 ms.

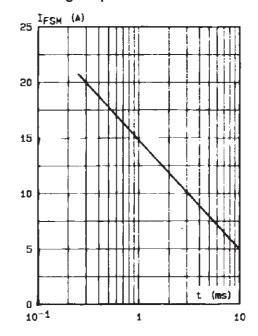
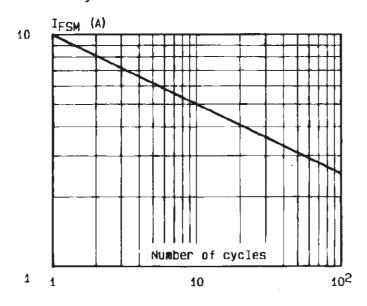
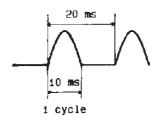


Figure 7. - Surge non repetitive forward current versus number of cycles.

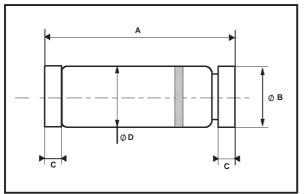




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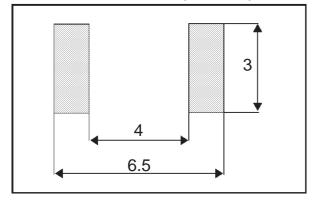
#### PACKAGE MECHANICAL DATA

#### **MELF Glass**



	DIMENSIONS						
REF.	Millimeters			Inches			
	Min.	Тур.	Max.	Min.	Тур.	Max.	
А	4.80		5.20	0.189		0.205	
ØB	2.50		2.65	0.098		0.104	
С	0.45		0.60	0.018		0.024	
ØD		2.50			0.098		

#### FOOT PRINT DIMENSIONS (Millimeter)



Marking: ring at cathode end. Weight: 0.15g

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