



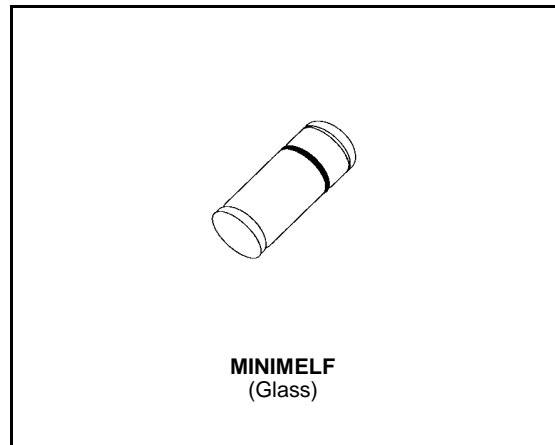
TMMBAT 47 TMMBAT 48

SMALL SIGNAL SCHOTTKY DIODES

DESCRIPTION

General purpose, metal to silicon diodes featuring very low turn-on voltage and fast switching.

These devices have integrated protection against excessive voltage such as electrostatic discharges.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	TMMBAT47	TMMBAT48	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	20	40	V
I_F	Forward Continuous Current	$T_I = 25\text{ }^\circ\text{C}$ 350		mA
I_{FRM}	Repetitive Peak Forward Current	$t_p \leq 1\text{ s}$ $\delta \leq 0.5$ 1		A
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10\text{ ms}$ 7.5		A
		$t_p = 1\text{ s}$ 1.5		
P_{tot}	Power Dissipation	$T_I = 25\text{ }^\circ\text{C}$ 330		mW
T_{stg} T_j	Storage and Junction Temperature Range	- 65 to 150		$^\circ\text{C}$
		- 65 to 125		$^\circ\text{C}$
T_L	Maximum Temperature for Soldering during 15s	260		$^\circ\text{C}$

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-l)}$	Junction-leads	300	$^\circ\text{C/W}$

TMMBAT 47/TMMBAT 48

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
V_{BR}	$T_j = 25^\circ\text{C}$	$I_R = 10\mu\text{A}$	TMMBAT47	20			V
	$T_j = 25^\circ\text{C}$	$I_R = 25\mu\text{A}$	TMMBAT48	40			
V_F^*	$T_j = 25^\circ\text{C}$	$I_F = 0.1\text{mA}$	All Types			0.25	V
	$T_j = 25^\circ\text{C}$	$I_F = 1\text{mA}$				0.3	
	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$				0.4	
	$T_j = 25^\circ\text{C}$	$I_F = 30\text{mA}$	TMMBAT47			0.5	
	$T_j = 25^\circ\text{C}$	$I_F = 150\text{mA}$				0.8	
	$T_j = 25^\circ\text{C}$	$I_F = 300\text{mA}$				1	
	$T_j = 25^\circ\text{C}$	$I_F = 50\text{mA}$	TMMBAT48			0.5	
	$T_j = 25^\circ\text{C}$	$I_F = 200\text{mA}$				0.75	
	$T_j = 25^\circ\text{C}$	$I_F = 500\text{mA}$				0.9	
I_R^*	$T_j = 25^\circ\text{C}$	$V_R = 1.5\text{V}$	All Types			1	μA
	$T_j = 60^\circ\text{C}$					10	
	$T_j = 25^\circ\text{C}$	$V_R = 10\text{V}$	TMMBAT47			4	
	$T_j = 60^\circ\text{C}$					20	
	$T_j = 25^\circ\text{C}$	$V_R = 20\text{V}$				10	
	$T_j = 60^\circ\text{C}$					30	
	$T_j = 25^\circ\text{C}$	$V_R = 10\text{V}$	TMMBAT48			2	
	$T_j = 60^\circ\text{C}$					15	
	$T_j = 25^\circ\text{C}$	$V_R = 20\text{V}$				5	
	$T_j = 60^\circ\text{C}$					25	
	$T_j = 25^\circ\text{C}$	$V_R = 40\text{V}$				25	
	$T_j = 60^\circ\text{C}$					50	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ\text{C}$	$V_R = 0\text{V}$	f = 1MHz		20		μF
	$T_j = 25^\circ\text{C}$	$V_R = 1\text{V}$			12		
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$	$V_R = 1\text{V}$	$i_{rr} = 1\text{mA}$	$R_L = 100\Omega$	10	ns

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

Figure 1. Forward current versus forward voltage at different temperatures (typical values).

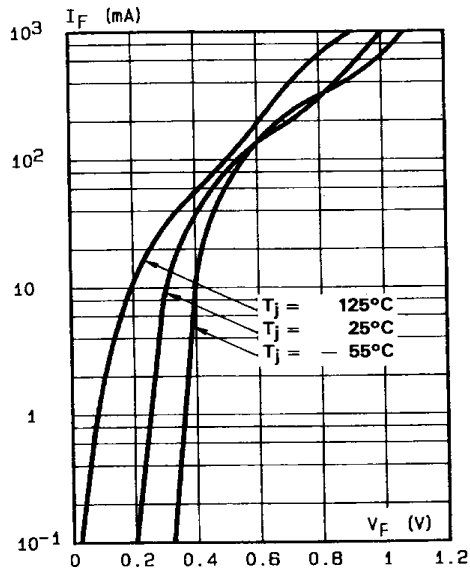


Figure 2. Forward current versus forward voltage (typical values).

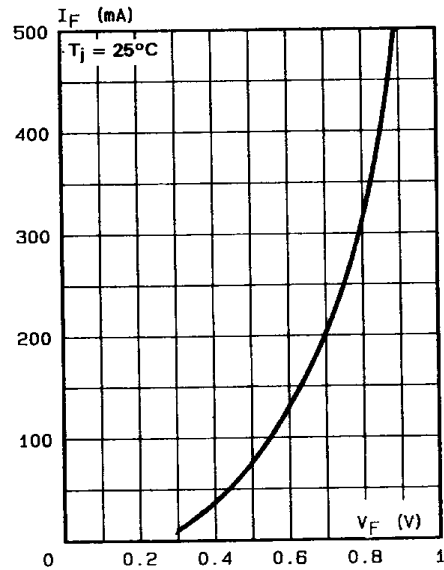


Figure 3. Reverse current versus junction temperature.

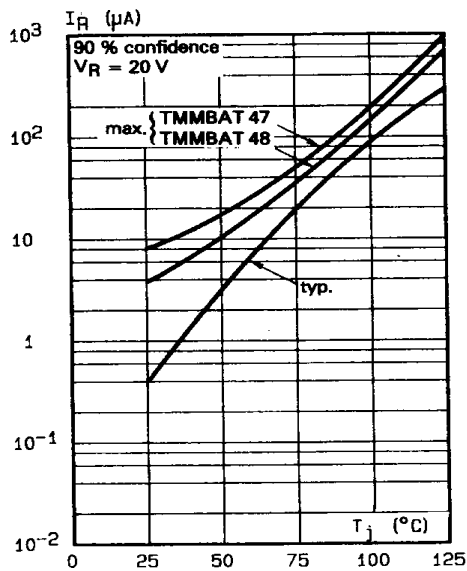


Figure 4. Reverse current versus continuous reverse voltage (typical values).

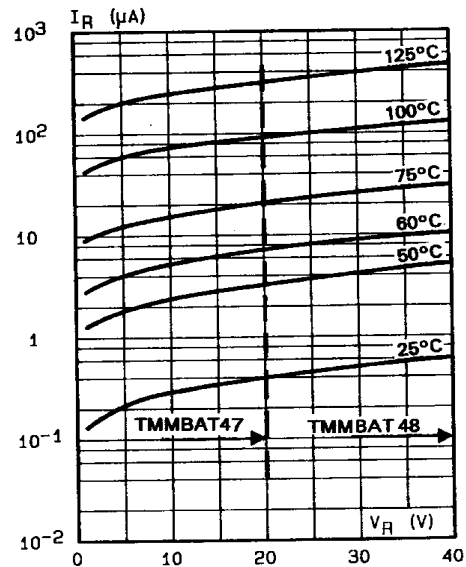
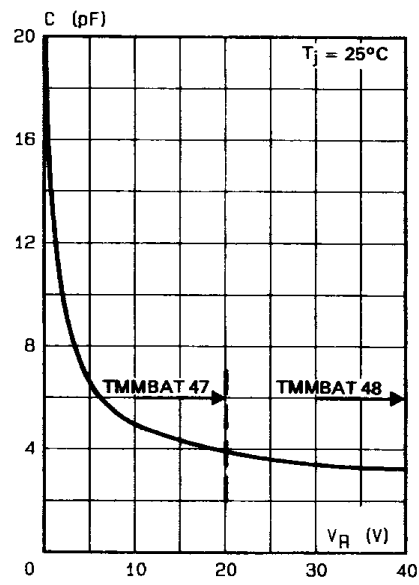
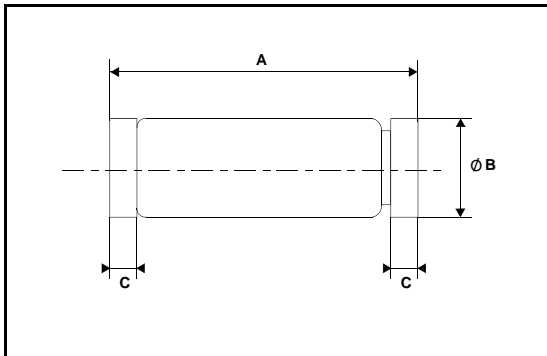


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).



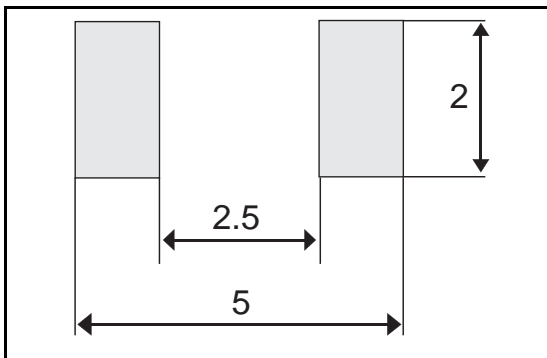
PACKAGE MECHANICAL DATA

MINIMELF Glass



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	3.30	3.40	3.6	0.130	0.134	0.142
B	1.59	1.60	1.62	0.063	0.063	0.064
C	0.40	0.45	0.50	0.016	0.018	0.020
D		1.50			0.059	

FOOT PRINT DIMENSIONS (Millimeter)



Marking: ring at cathode end.
Weight: 0.05g

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