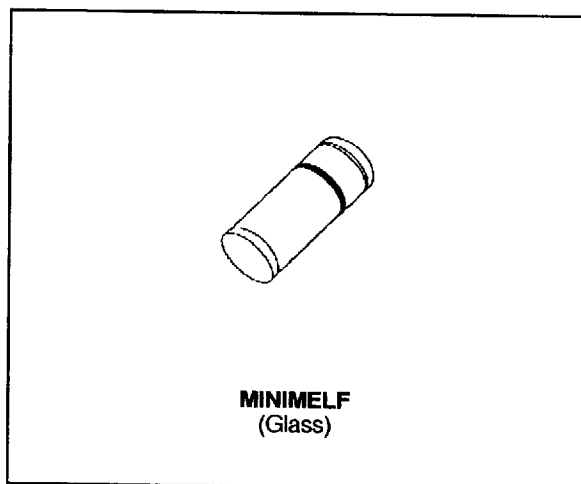


SMALL SIGNAL SCHOTTKY DIODES

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 °C	350		mA
I _{FRM}	Repetitive Peak Forward Current	t _p ≤ 1s δ ≤ 0.5	1		A
I _{FSM}	Surge non Repetitive Forward Current	t _p = 10ms	7.5		A
		t _p = 1s	1.5		
P _{tot}	Power Dissipation	T _I = 25 °C	330		mW
T _{stg} T _j	Storage and Junction Temperature Range		- 65 to 150 - 65 to 125		°C °C
T _L	Maximum Temperature for Soldering during 15s		260		°C

THERMAL RESISTANCE

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

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	
	$T_j = 25^\circ\text{C}$	$V_R = 1.5\text{V}$	All Types			1	μA
I_R^*	$T_j = 60^\circ\text{C}$					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		pF
	$T_j = 25^\circ\text{C}$	$V_R = 1\text{V}$			12		
t_r	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$	$V_R = 1\text{V}$	$i_{rr} = 1\text{mA}$	$R_L = 100\Omega$	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).

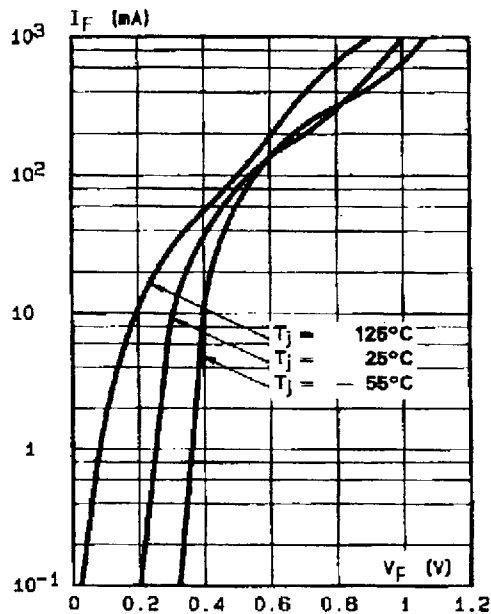


Figure 2. Forward current versus forward voltage (typical values).

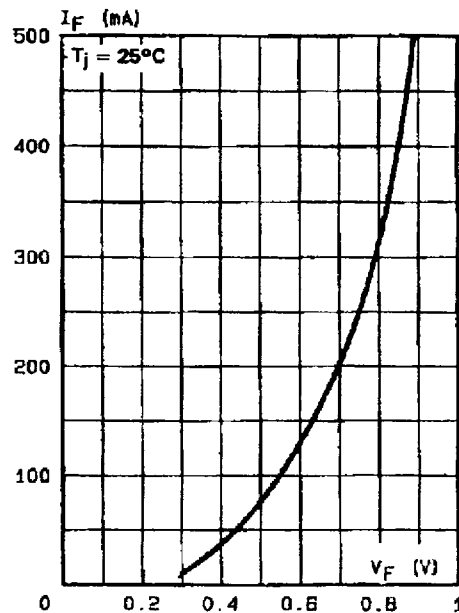


Figure 3. Reverse current versus junction temperature.

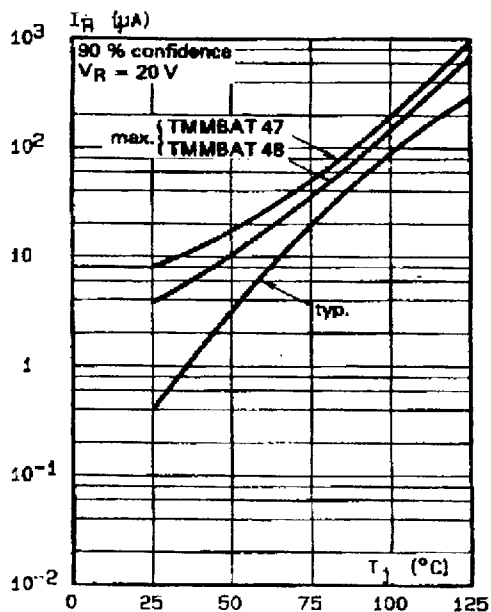


Figure 4. Reverse current versus continuous reverse voltage (typical values).

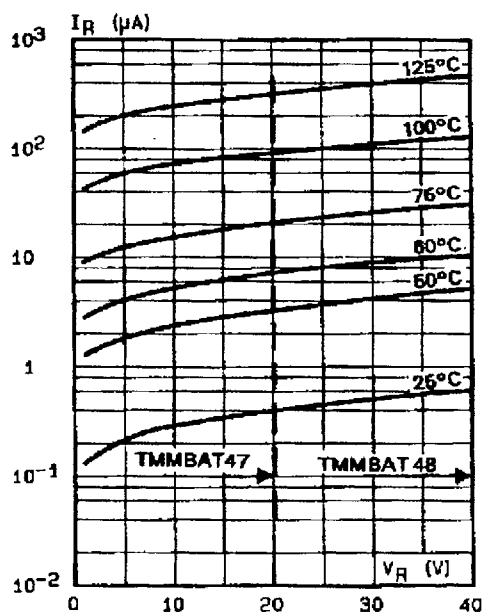
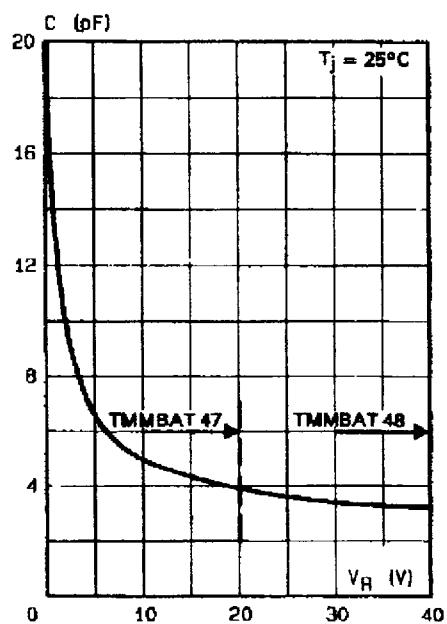


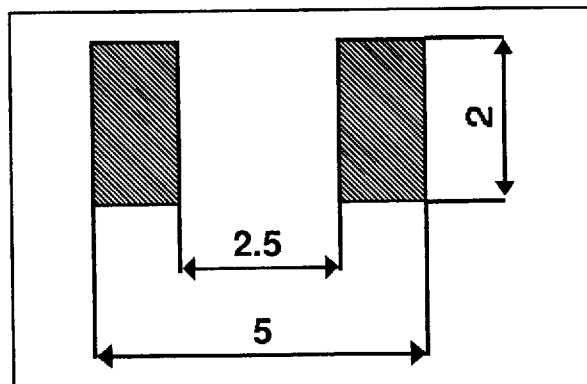
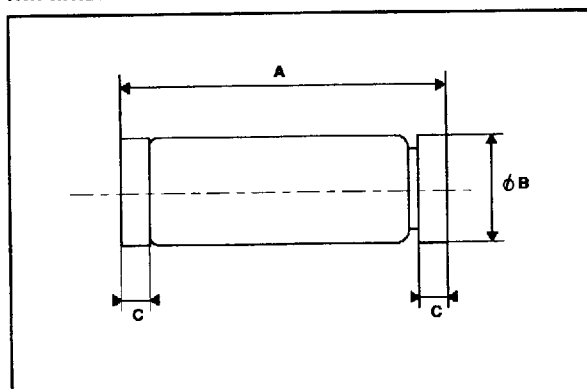
Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA

FOOT PRINT DIMENSIONS (Millimeter)

MINIMELF Glass



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.3	3.6	0.130	0.142
B	1.59	1.62	0.063	0.064
C	0.4	0.5	0.016	0.020

Marking: ring at cathode end.
Weight: 0.05g

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