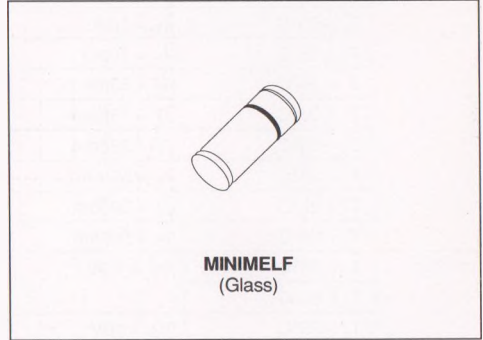


SMALL SIGNAL SCHOTTKY DIODES

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	$T_I = 25^\circ\text{C}$	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	$T_I = 25^\circ\text{C}$	330		mW
T_{stg}	Storage and Junction Temperature Range		- 65 to 150		$^\circ\text{C}$
T_j			- 65 to 125		$^\circ\text{C}$
T_L	Maximum Temperature for Soldering during 15s		260		$^\circ\text{C}$

THERMAL RESISTANCE

Symbol	Parameter	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°C	I _R = 10μA	TMMBAT47	20			V
	T _J = 25°C	I _R = 25μA	TMMBAT48	40			
V _F *	T _J = 25°C	I _F = 0.1mA	All Types			0.25	V
	T _J = 25°C	I _F = 1mA				0.3	
	T _J = 25°C	I _F = 10mA				0.4	
	T _J = 25°C	I _F = 30mA	TMMBAT47			0.5	
	T _J = 25°C	I _F = 150mA				0.8	
	T _J = 25°C	I _F = 300mA				1	
	T _J = 25°C	I _F = 50mA	TMMBAT48			0.5	
	T _J = 25°C	I _F = 200mA				0.75	
	T _J = 25°C	I _F = 500mA				0.9	
I _R *	T _J = 25°C	V _R = 1.5V	All Types			1	μA
	T _J = 60°C					10	
	T _J = 25°C	V _R = 10V	TMMBAT47			4	
	T _J = 60°C					20	
	T _J = 25°C	V _R = 20V				10	
	T _J = 60°C					30	
	T _J = 25°C	V _R = 10V	TMMBAT48			2	
	T _J = 60°C					15	
	T _J = 25°C	V _R = 20V				5	
	T _J = 60°C					25	
	T _J = 25°C	V _R = 40V				25	
	T _J = 60°C					50	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T _J = 25°C	V _R = 0V	f = 1MHz		20		pF
	T _J = 25°C	V _R = 1V			12		
t _{rr}	T _J = 25°C	I _F = 10mA	V _R = 1V	i _{rr} = 1mA	R _L = 100Ω	10	ns

* Pulse test : t_p ≤ 300μs δ < 2%.

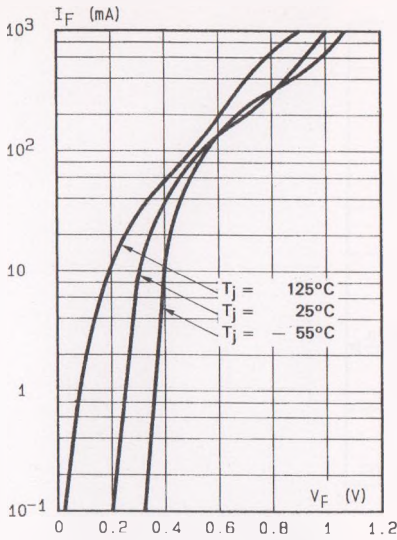


Fig.1 - Forward current versus forward voltage at different temperatures (typical values).

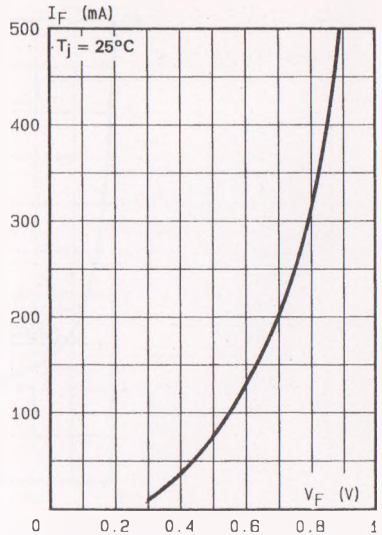


Fig.2 - Forward current versus forward voltage (typical values).

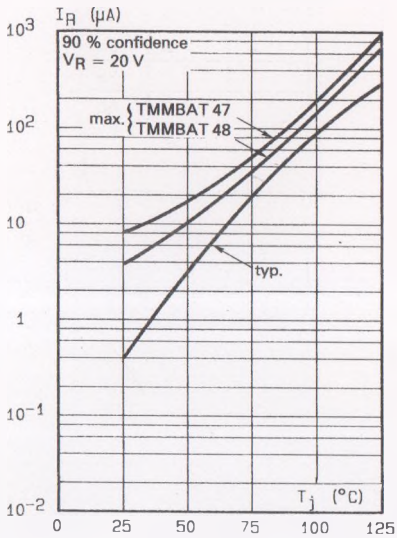


Fig.3 - Reverse current versus junction temperature.

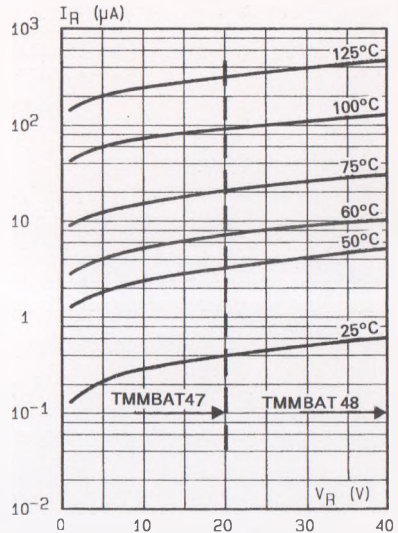


Fig.4 - Reverse current versus continuous reverse voltage (typical values).

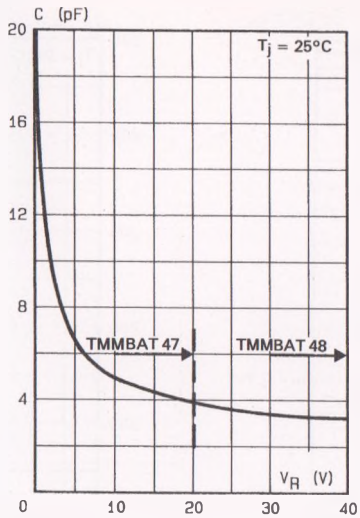


Fig.5 - Capacitance C versus reverse applied voltage V_R (typical values).