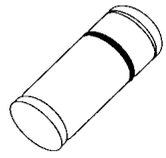
chanhvinh.com

TMMBAT 47
TMMBAT 48

SMALL SIGNAL SCHOTTKY DIODES



MINIMELF
(Glass)

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_l = 25 °C	350		mA
I_{FRM}	Repetitive Peak Fordward Current	$t_p \leq 1s$ $\delta \leq 0.5$	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_l = 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	°C/W

chanhvinh.com

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: $t_p \leq 300\mu s$ $\delta < 2\%$.

chanhvinh.com

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

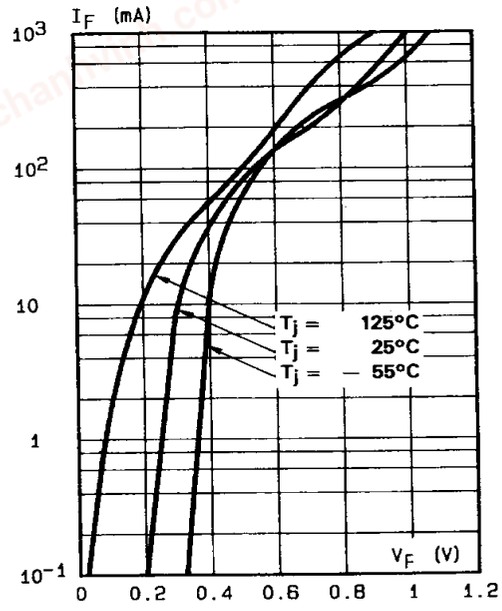


Figure 2. Forward current versus forward voltage (typical values).

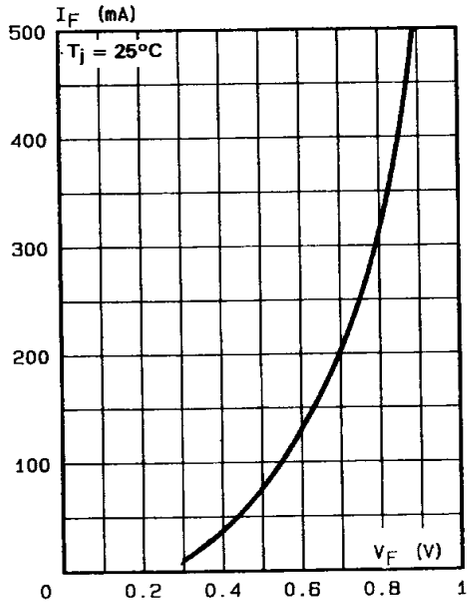


Figure 3. Reverse current versus junction temperature.

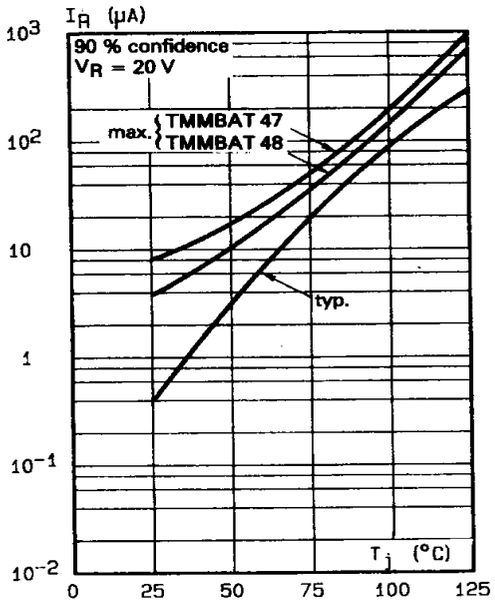
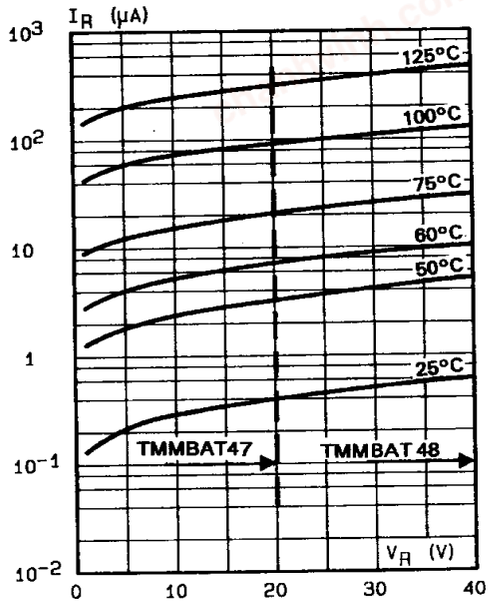
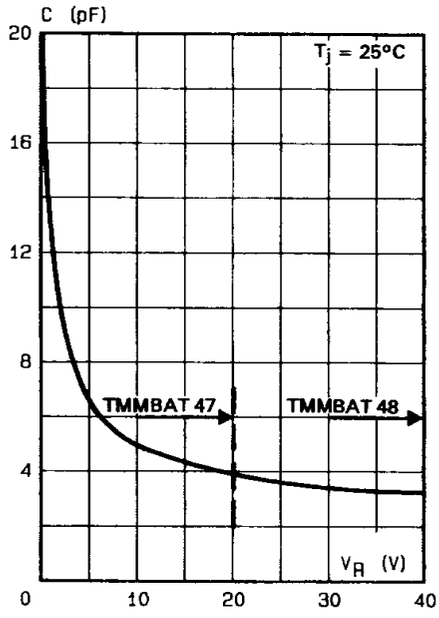


Figure 4. Reverse current versus continuous reverse voltage (typical values).



chanhvinh.com

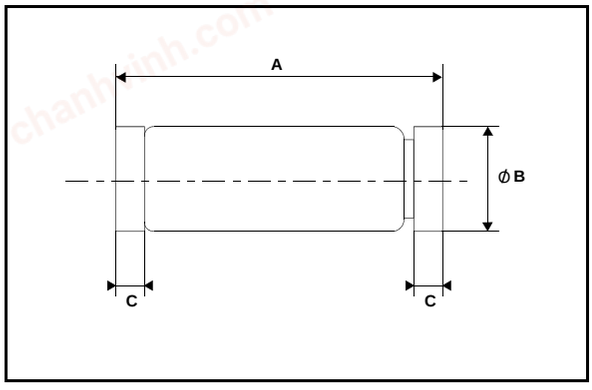
Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).



chanhvinh.com

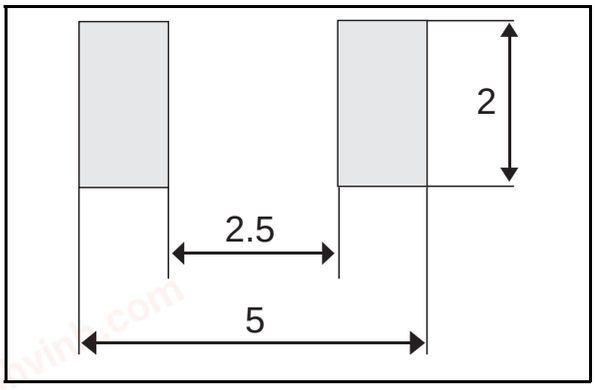
PACKAGE MECHANICAL DATA

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

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied.
STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1999 STMicroelectronics - Printed in Italy - All rights reserved.

STMicroelectronics GROUP OF COMPANIES
Australia - Brazil - China - Finland - France - Germany - Hong Kong - India - Italy - Japan - Malaysia
Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.

http://www.st.com