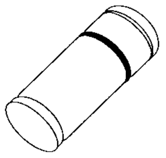
SGS-THOMSON
MICROELECTRONICS

TMMBAT 42
TMMBAT 43

SMALL SIGNAL SCHOTTKY DIODES



MINIMELF
(Glass)

DESCRIPTION

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

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

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		30	V
I_F	Forward Continuous Current	T_l = 25 °C	200	mA
I_{FRM}	Repetitive Peak Fordware Current	$t_p \le 1s$ $\delta \le 0.5$	500	mA
I_{FSM}	Surge non Repetitive Forward Current	t_p = 10ms	4	A
P_{tot}	Power Dissipation	T_l = 65 °C	200	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

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
V_{BR}	T_j = 25°C	I_R = 100µA		30			V
V_F*	T_j = 25°C	I_F = 200mA	All Types			1	V
	T_j = 25°C	I_F = 10mA	BAT 42			0.4	
	T_j = 25°C	I_F = 50mA				0.65	
	T_j = 25°C	I_F = 2mA	BAT 43	0.26		0.33	
	T_j = 25°C	I_F = 15mA				0.45	
I_R*	T_j = 25°C		V_R = 25V			0.5	µA
	T_j = 100°C					100	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
C	T_j = 25°C V_R = 1V f = 1MHz		7		pF
trr	Tj = 25°C I_F = 10mA I_R = 10mA i_{rr} = 1mA R_L = 100Ω			5	ns
η	T_j = 25°C R_L = 15KΩ C_L = 300pF f = 45MHz V_i = 2V	80			%

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

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

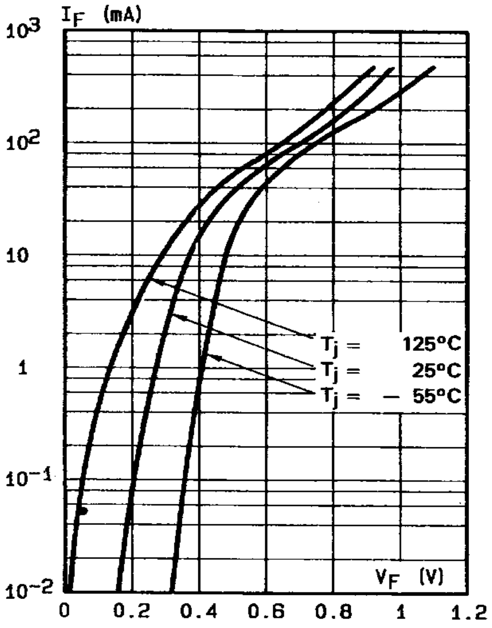


Figure 2. Forward current versus forward voltage (typical values).

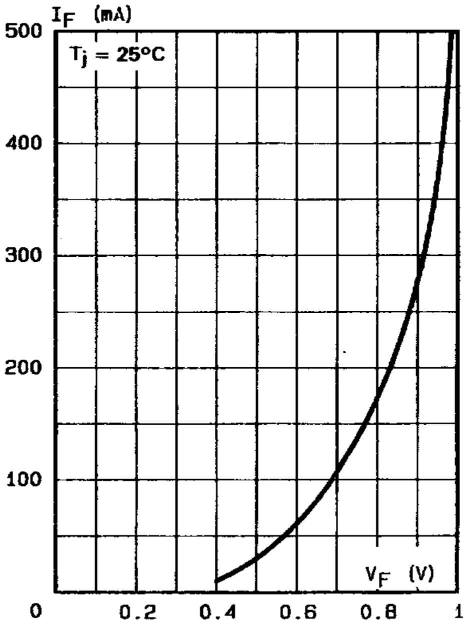


Figure 3. Reverse current versus junction temperature.

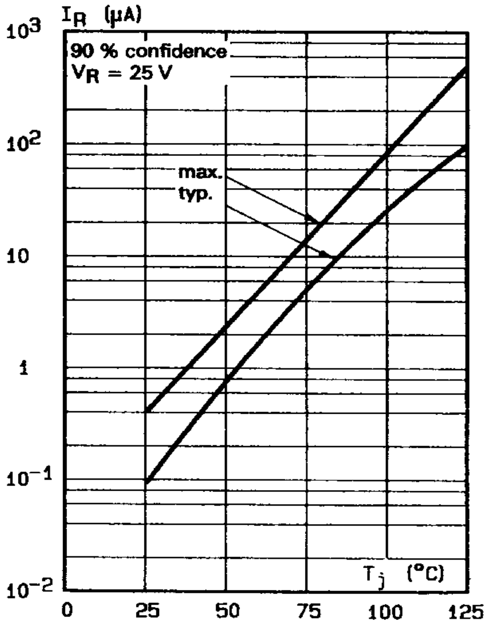


Figure 4. Reverse current versus continuous reverse voltage (typical values).

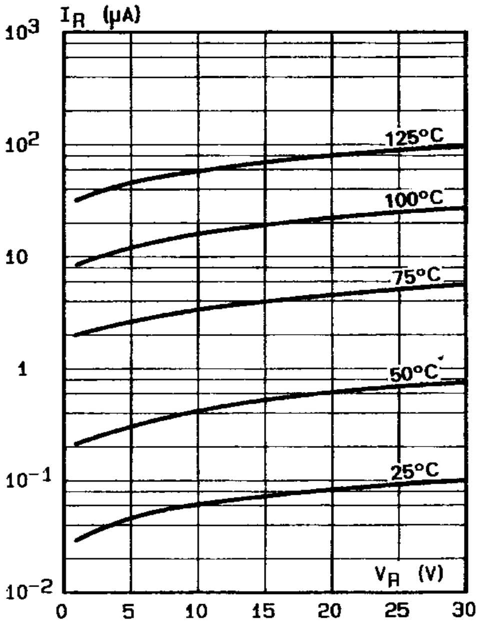
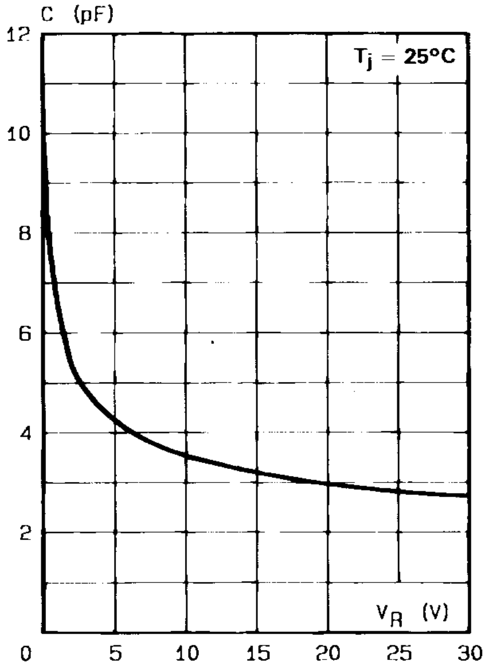
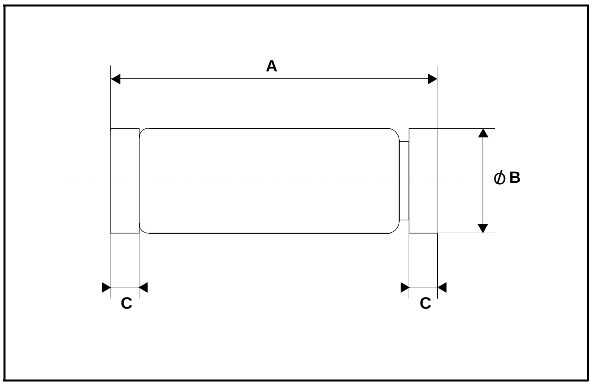


Figure 5. Forward current versus forward voltage (typical values).

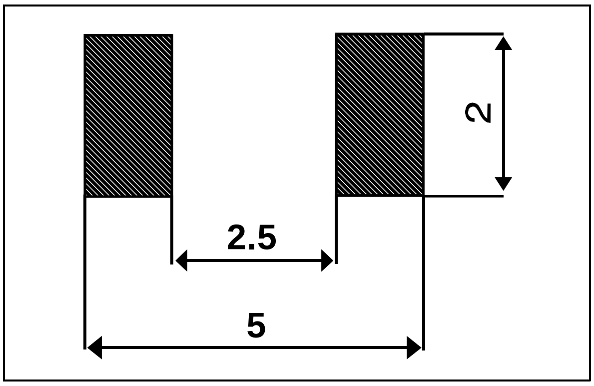


PACKAGE MECHANICAL DATA

MINIMELF Glass



FOOT PRINT DIMENSIONS (Millimeter)



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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