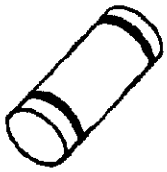
SGS-THOMSON MICROELECTRONICS

TMBAT 49

SMALL SIGNAL SCHOTTKY DIODE



MELF
(Glass)

DESCRIPTION

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

This device has integrated protection against excessive voltage such as electrostatic discharges.

ABSOLUTE MAXIMUM RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		80	V
I_F	Forward Continuous Current	T_i = 70 °C	500	mA
I_{FRM}	Repetitive Peak Forward Current	tp = 1s $\delta \leq 0.5$	3	A
I_{FSM}	Surge non Repetitive Forward Current	t_p = 10ms	10	A
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	110	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R *	T_j = 25°C	VR = 80V			200	µA
V_F *	T_j = 25°C	I_F = 10mA			0.32	V
	T_j = 25°C	I_F = 100mA			0.42	
	T_j = 25°C	I_F = 1A			1	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T_j = 25°C	f = 1MHz	V_R = 0V		120		pF
			V_R = 5V		35		

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

Figure 1. Forward current versus forward voltage at low level (typical values).

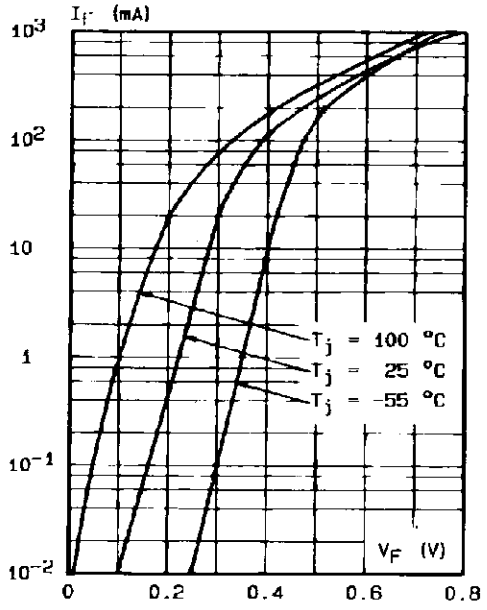


Figure 2. Forward current versus forward voltage at high level (typical values).

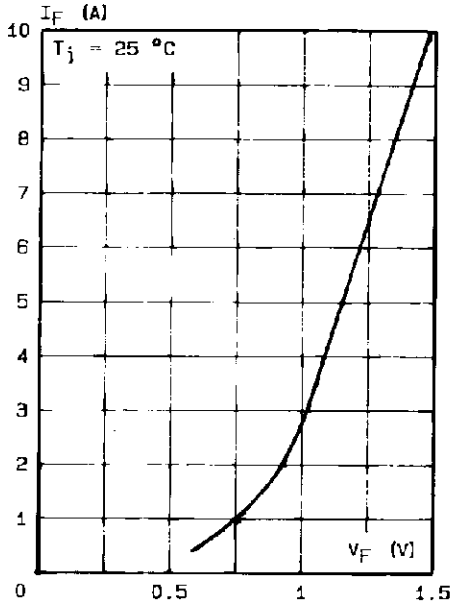


Figure 3. Reverse current versus junction temperature.

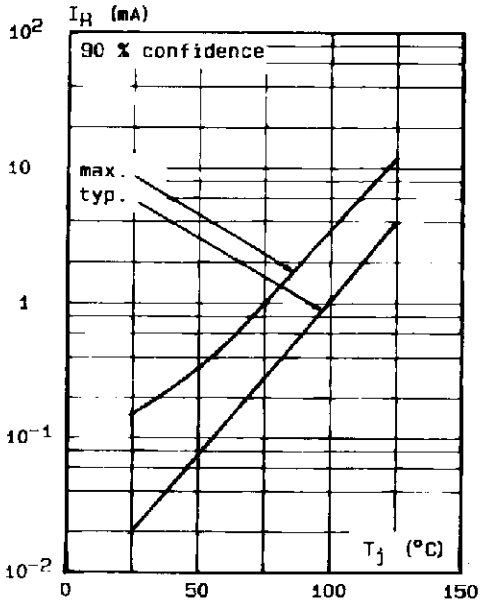


Figure 4. Reverse current versus V_{RRM} in per cent.

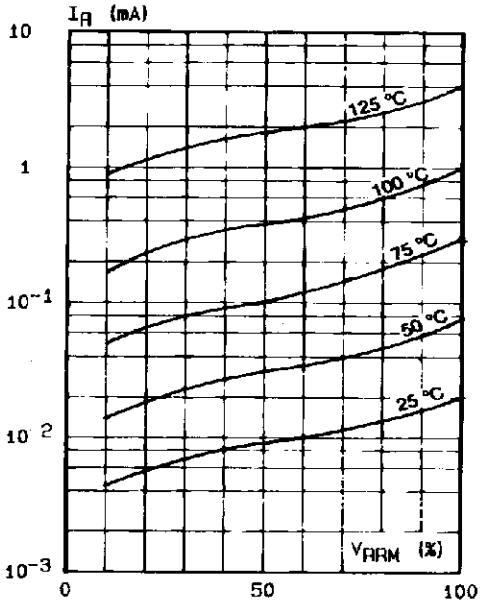


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).

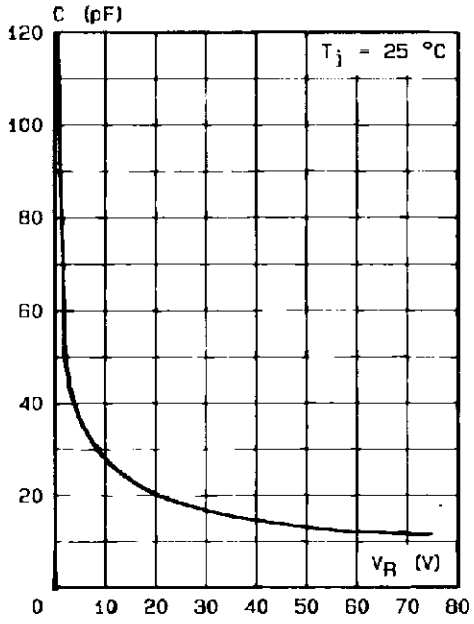


Figure 6. Surge non repetitive forward current for a rectangular pulse with t ≤ 10 ms.

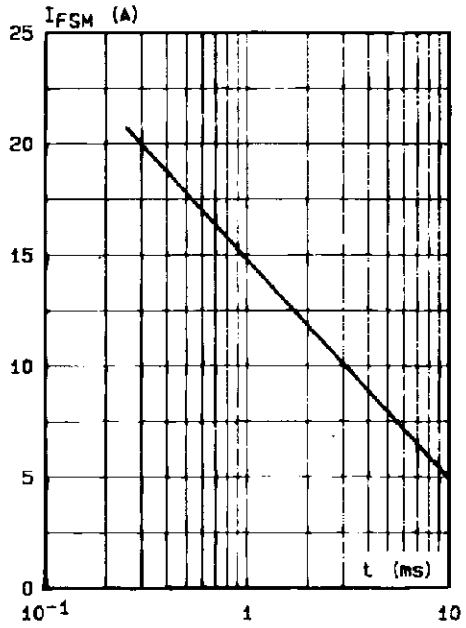
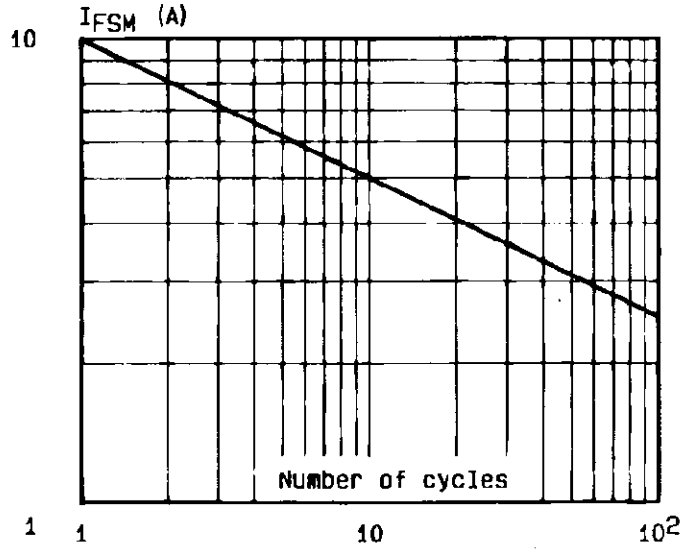
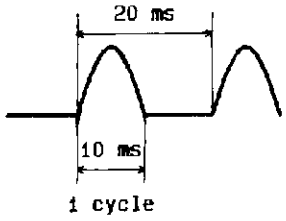


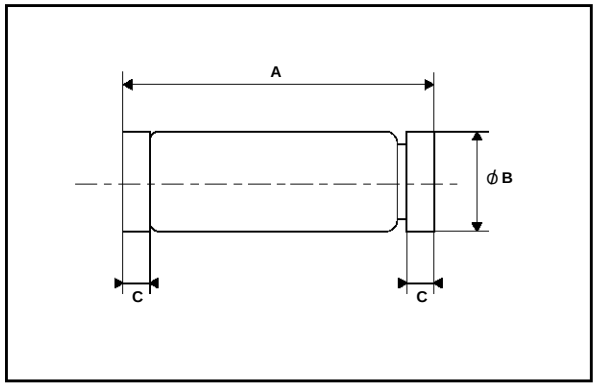
Figure 7. - Surge non repetitive forward current versus number of cycles.





PACKAGE MECHANICAL DATA

MELF Glass



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.80	5.20	0.19	0.20
B	2.55	2.65	0.10	0.10
C	0.45	0.55	0.02	0.02

Marking: ring at cathode end.
Weight: 0.15g

FOOT PRINT DIMENSIONS (Millimeter)