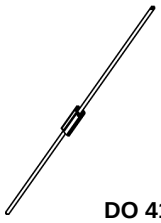
SGS-THOMSON MICROELECTRONICS

BAT 49

SMALL SIGNAL SCHOTTKY DIODE



DO 41
(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 RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		80	V
I_F	Forward Continuous Current*	T_a = 70 °C	500	mA
I_{FRM}	Repetitive Peak Forward Current*	t_p = 1s $\delta \leq 0.5$	3	A
I_{FSM}	Surge non Repetitive Forward Current*	$t_p \leq$ 10ms	10	A
T_{stg} T_j	Storage and Junction Temperature Range		- 65 to 150 - 65 to 125	°C °C
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from Case		230	°C

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	110	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_R * *	T_j = 25°C	V_R = 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		

* On infinite heatsink with 4mm lead length
** Pulse test: $t_p \leq 300\mu s$ $\delta < 2\%$.

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

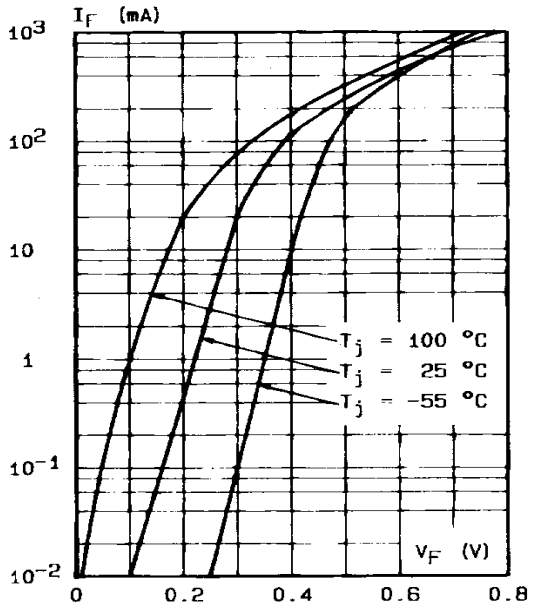


Figure 2. Forward current versus forward voltage at high level (typical values).

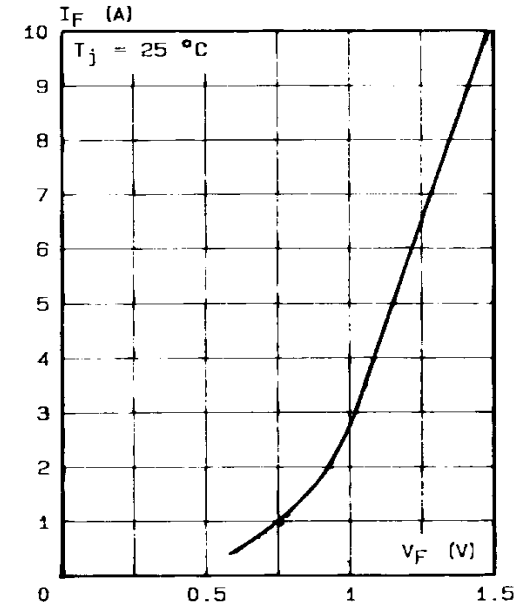


Figure 3. Reverse current versus junction temperature.

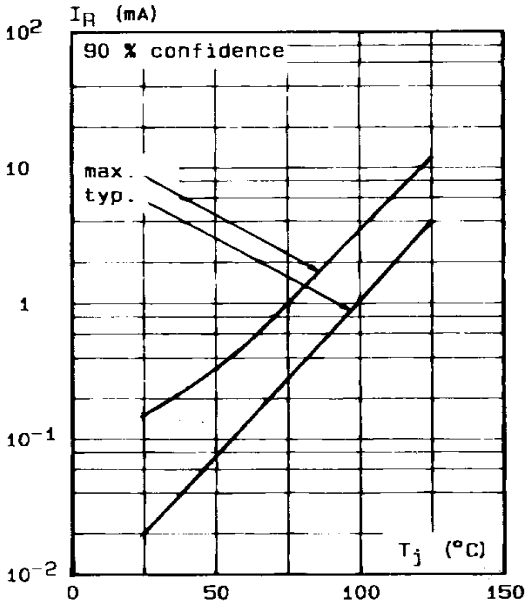


Figure 4. Reverse current versus V_{RRM} in per cent.

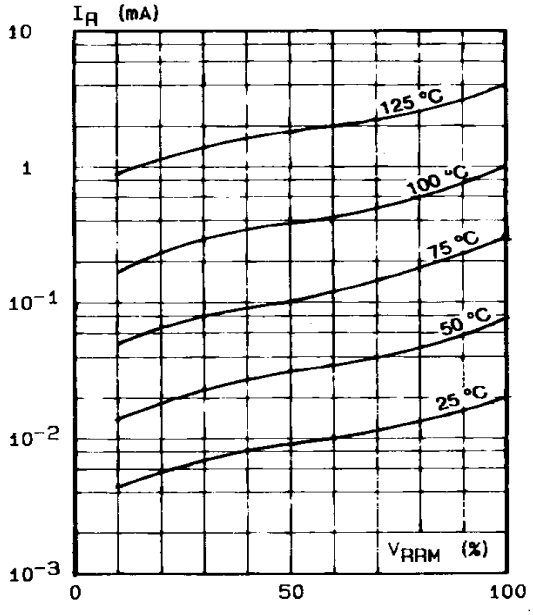


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).

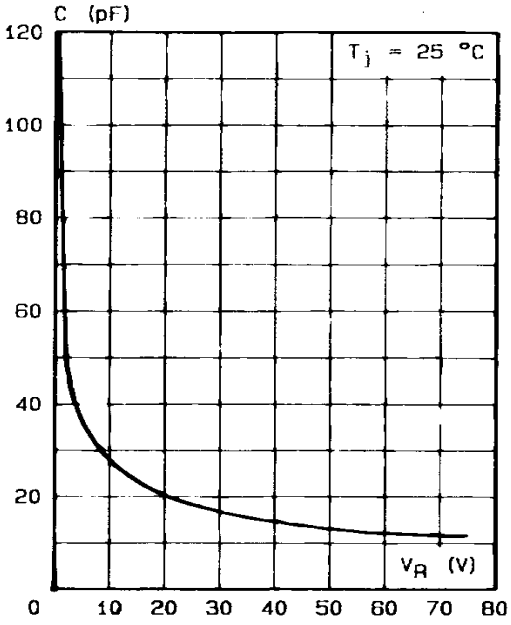


Figure 6. Surge non repetitive forward current for a rectangular pulse with t ≤ 10 ms.

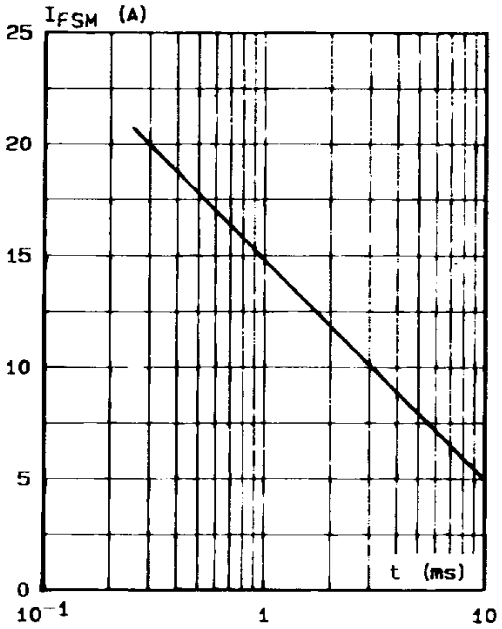
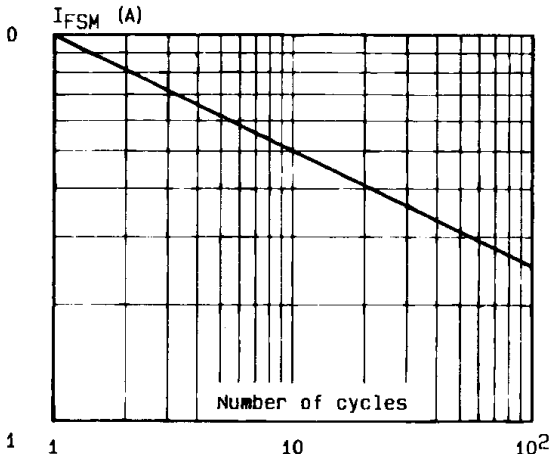
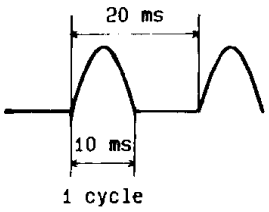


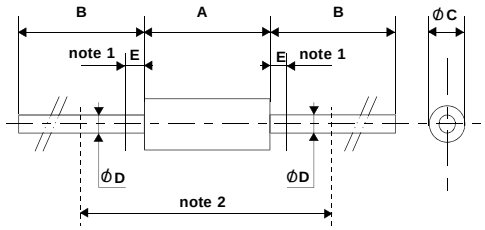
Figure 7. Surge non repetitive forward current versus number of cycles.





PACKAGE MECHANICAL DATA

DO 41 Glass



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A	4.070	5.200	0.160	0.205	1 - The lead diameter ∅ D is not controlled over zone E 2 - The minimum axial lengh within which the device may be placed with its leads bent at right angles is 0.59"(15 mm)
B	28		1.102		
∅ C	2.040	2.710	0.080	0.107	
∅ D	0.712	0.863	0.028	0.034	
E		1.27		0.050	

Cooling method : by convection and conduction
Marking: clear, ring at cathode end.
Weight: 0.34g