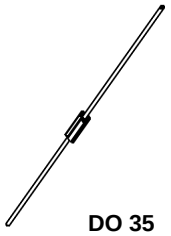
SGS-THOMSON MICROELECTRONICS

BAT 41

SMALL SIGNAL SCHOTTKY DIODE



DO 35
(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		100	V
I_F	Forward Continuous Current*	T_a = 25 °C	100	mA
I_{FRM}	Repetitive Peak Forward Current*	$t_p \leq 1s$ $\delta \leq 0.5$	350	mA
I_{FSM}	Surge non Repetitive Forward Current*	$t_p \leq 10ms$	750	mA
P_{tot}	Power Dissipation*	T_a = 95°C	100	mW
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*	300	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
V_{BR}	T_j = 25°C	I_R = 100µA	100			V
V_F * *	T_j = 25°C	I_F = 1mA		0.4	0.45	V
	T_j = 25°C	I_F = 200mA			1	
I_R * *	T_j = 25°C	V_R = 50V			0.1	µA
	T_j = 100°C				20	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T_j = 25°C	V_R = 1V	f = 1MHz		2		pF

* 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 different temperatures (typical values).

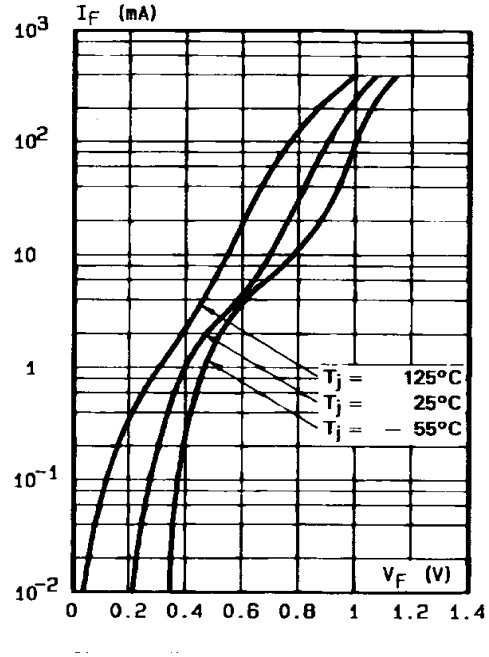


Figure 2. Forward current versus forward voltage (typical values).

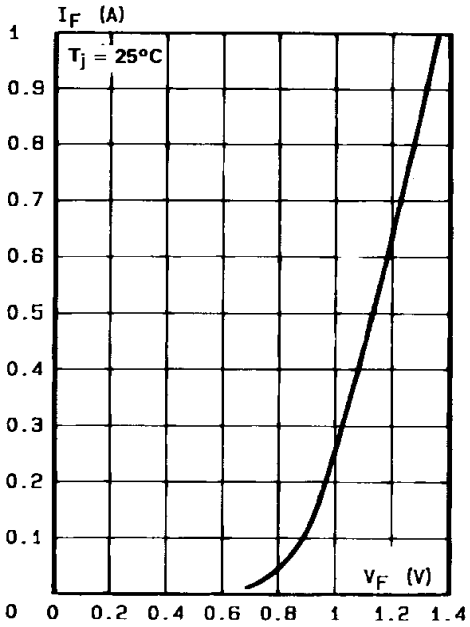


Figure 3. Reverse current versus junction temperature.

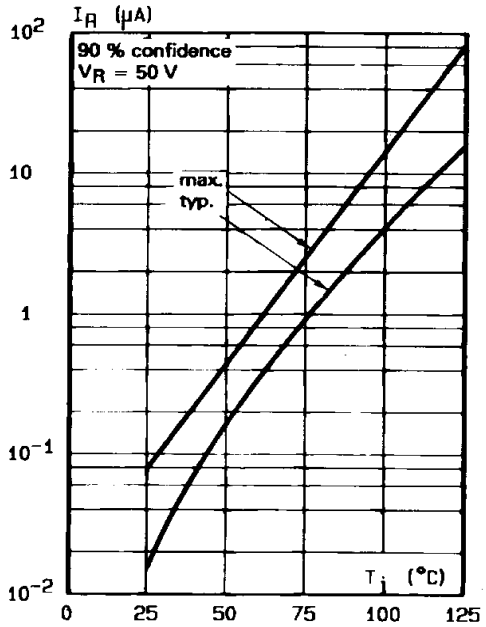


Figure 4. Reverse current versus continuous reverse voltage (typical values).

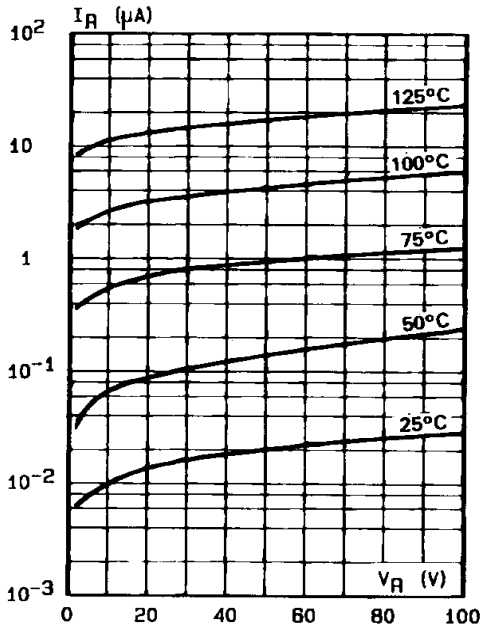
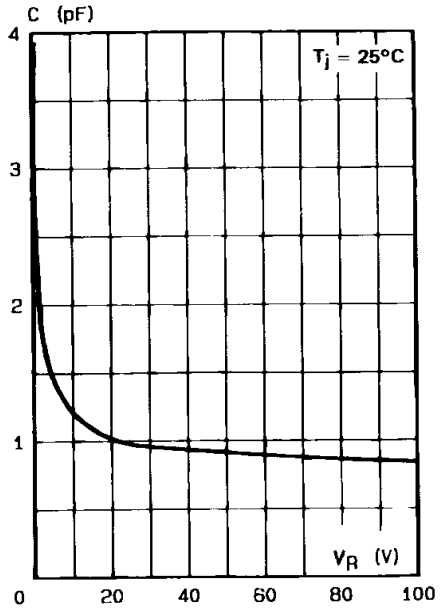
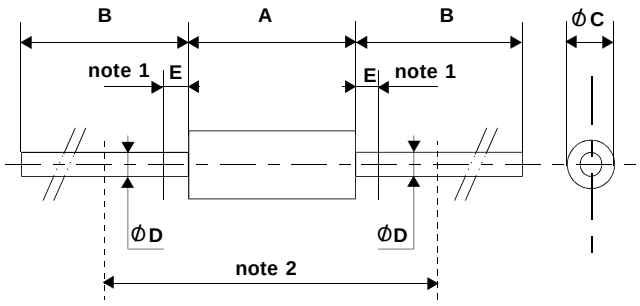


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA

DO 35 Glass



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A	3.050	4.500	0.120	0.117	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	12.7		0.500		
∅ C	1.530	2.000	0.060	0.079	
∅ D	0.458	0.558	0.018	0.022	
E		1.27		0.050	

Cooling method : by convection and conduction
Marking: clear, ring at cathode end.
Weight: 0.15g