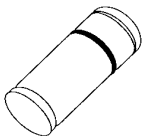
SGS-THOMSON MICROELECTRONICS

TMMBAR 10
TMMBAR 11

SMALL SIGNAL SCHOTTKY DIODES



MINIMELF
(Glass)

DESCRIPTION

Metal to silicon junction diodes featuring high breakdown, low turn-on voltage and ultrafast switching.

Primarily intended for high level UHF/VHF detection and pulse application with broad dynamic range.

Matched batches are available on request, (TMMBAR11 only).

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		TMMBAR 10	TMMBAR 11	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		20	15	V
I_F	Forward Continuous Current	T_l = 25 °C	35	20	mA
I_{FSM}	Surge non Repetitive Forward Current	$t_p \leq 1s$	100		mA
T_{stg} T_j	Storage and Junction Temperature Range		- 65 to 200 - 65 to 200		°C
T_L	Maximum Temperature for Soldering during 15s		260		°C

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-l)}$	Junction-leads	400	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
V_{BR}	T_{amb} = 25°C	I_R = 10µA	TMMBAR 10	20			V
	T_{amb} = 25°C	I_R = 10µA	TMMBAR 11	15			
V_F*	T_{amb} = 25°C	I_F = 1mA				0.41	V
	T_{amb} = 25°C	I_F = 35mA	TMMBAR 10			1	
	T_{amb} = 25°C	I_F = 20mA	TMMBAR 11			1	
I_R *	T_{amb} = 25°C	V_R = 15V	TMMBAR 10			0.1	µA
	T_{amb} = 25°C	V_R = 8V	TMMBAR 11			0.1	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T_{amb} = 25°C	V_R = 0V	f = 1MHz			1.2	pF
τ	T_{amb} = 25°C	I_F = 5mA	Krakauer Method			100	ps

* Pulse test: $t_p \leq 300\mu s$ $\delta < 2\%$.
Matched batches available on request. Test conditions (forward voltage and/or capacitance) according to customer specification.

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

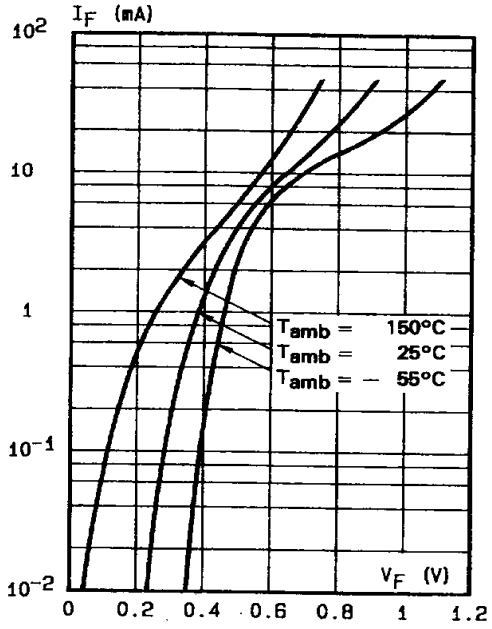


Figure 2. Forward current versus forward voltage (typical values).

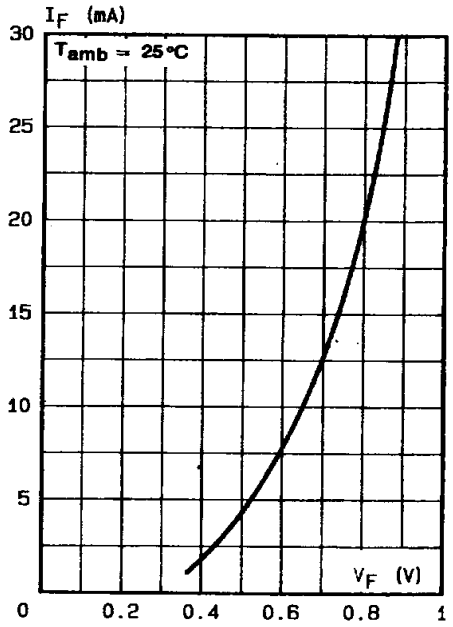


Figure 3a. Reverse current versus ambient temperature.

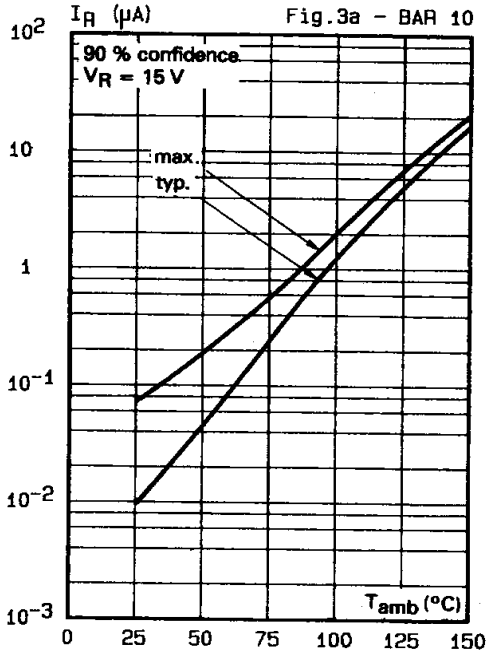


Figure 3b. Reverse current versus ambient temperature.

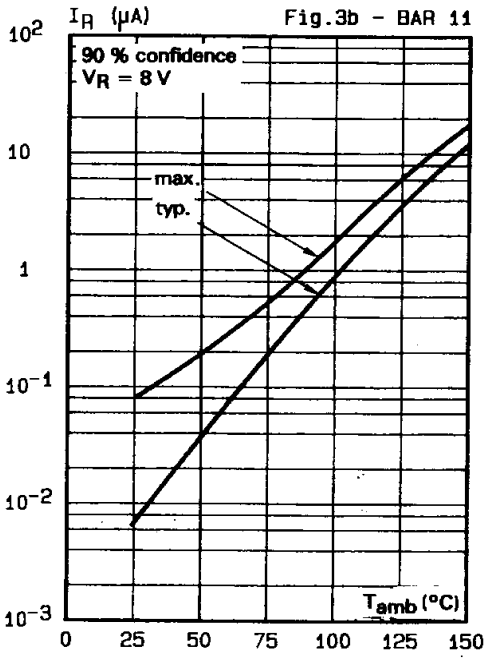


Figure 4. Reverse current versus continuous reverse voltage (typical values).

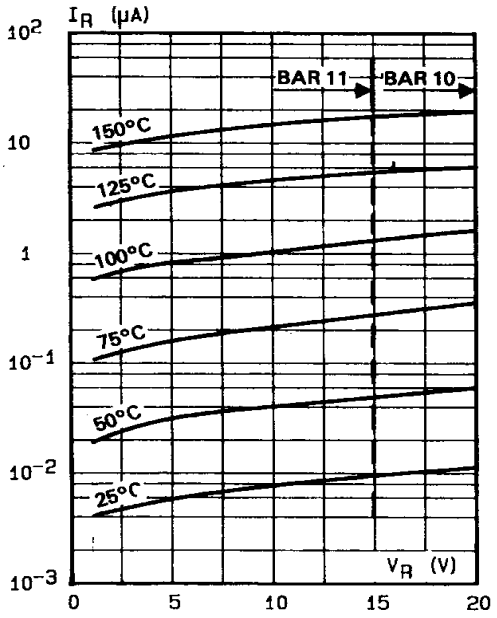
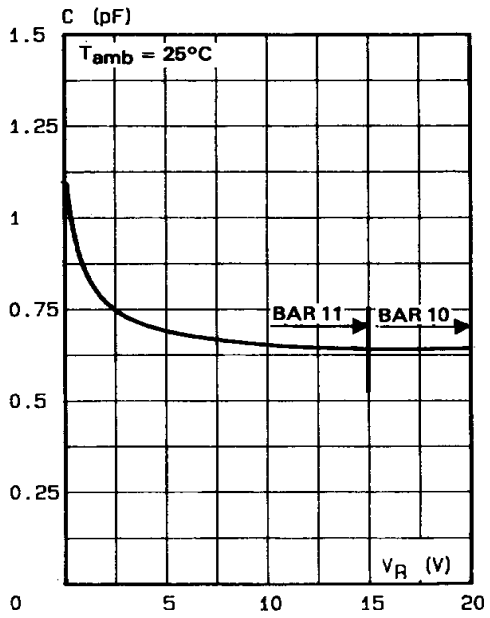
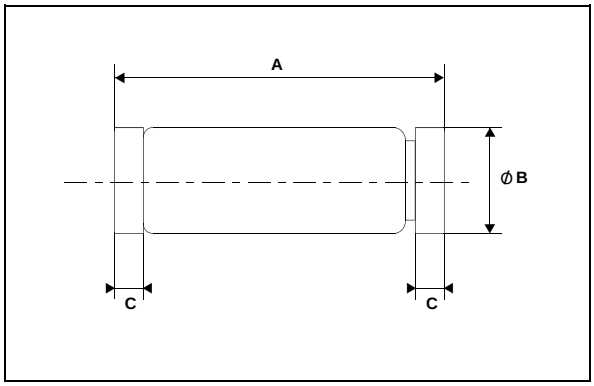


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA

MINIMELF Glass



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

FOOT PRINT DIMENSIONS (Millimeter)