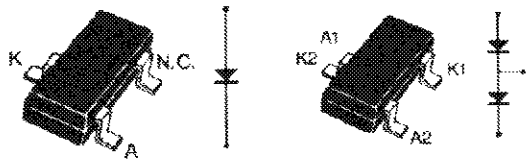
SGS-THOMSON MICROELECTRONICS

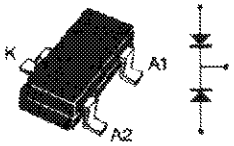
BAR 18
BAS 70-04 → 06

SMALL SIGNAL SCHOTTKY DIODES



BAR18

BAS 70-04



BAS 70-05

BAS 70-06

SOT 23
(Plastic)

DESCRIPTION

Low turn-on and high breakdown voltage diodes intended for ultrafast switching and UHF detectors in hybrid micro circuits.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		70	V
P_{tot}	Power Dissipation*	T_{amb} = 25 °C	100	mW
T_{stg} T_j	Storage and Junction Temperature Range		- 55 to +150 - 55 to +150	°C °C

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	625	°C/W
$R_{th(j-SR)}$	Junction-substrate	400	°C/W

* Mounted on ceramic substrate: 7 x 5 x 0.5mm.

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
V_{BR}	T_{amb} = 25°C	I_R = 10µA	70			V
V_F	T_{amb} = 25°C	I_F = 1mA			410	mV
I_R	T_{amb} = 25°C	V_R = 50V			200	nA

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T_{amb} = 25°C	V_R = 1V	f = 1MHz			2	pF
τ*	T_{amb} = 25°C	I_F = 5mA	Krakauer Method			100	ps

* Effective carrier life time.

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

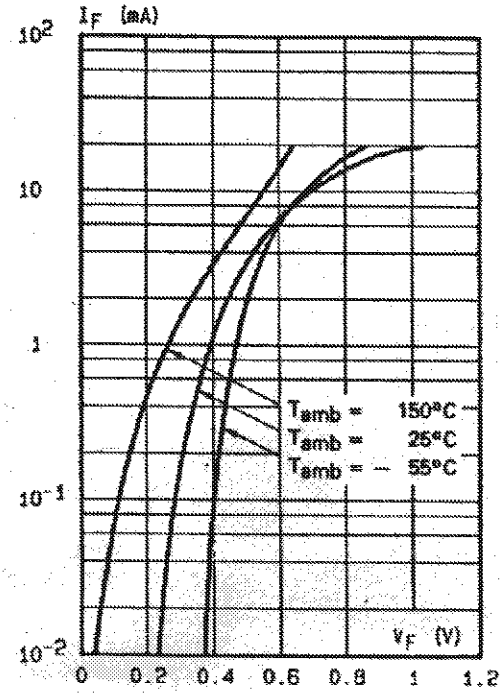


Figure 2. Capacitance C versus reverse applied voltage V_R (typical values).

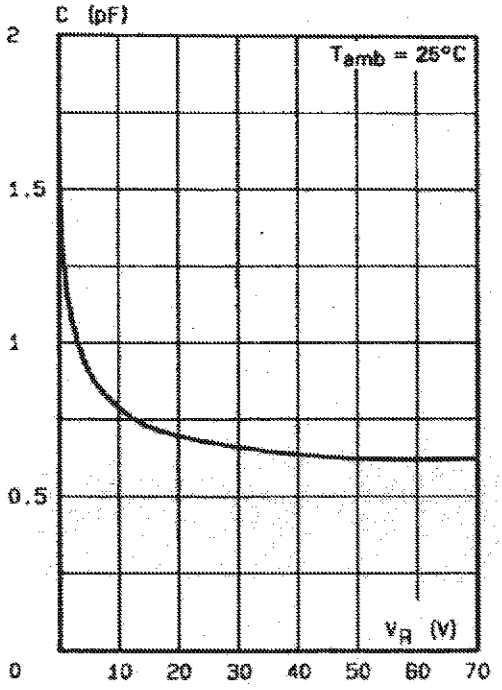


Figure 3. Reverse current versus ambient temperature.

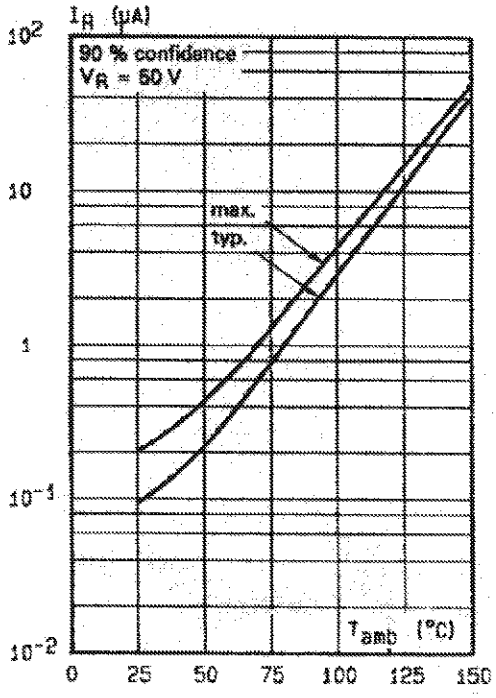
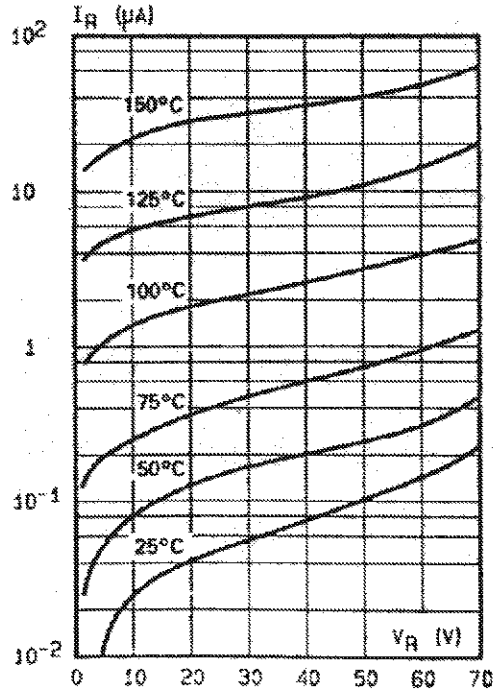
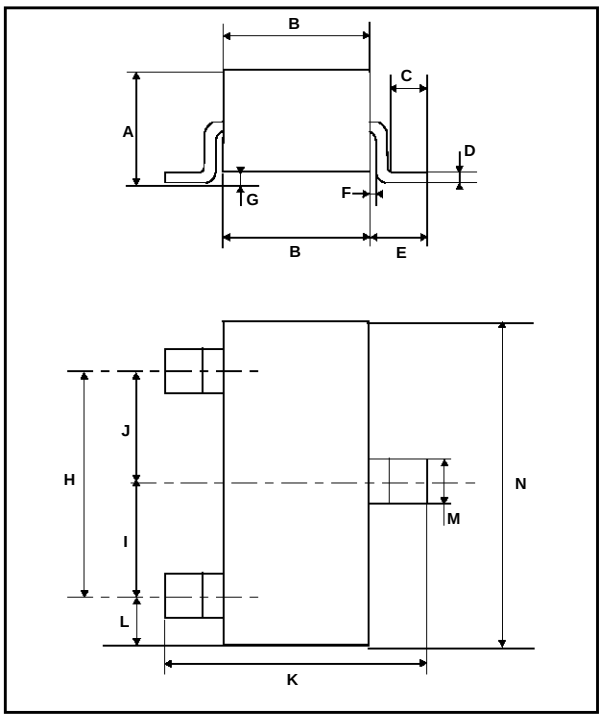


Figure 4. Reverse current versus continuous reverse voltage (typical values).

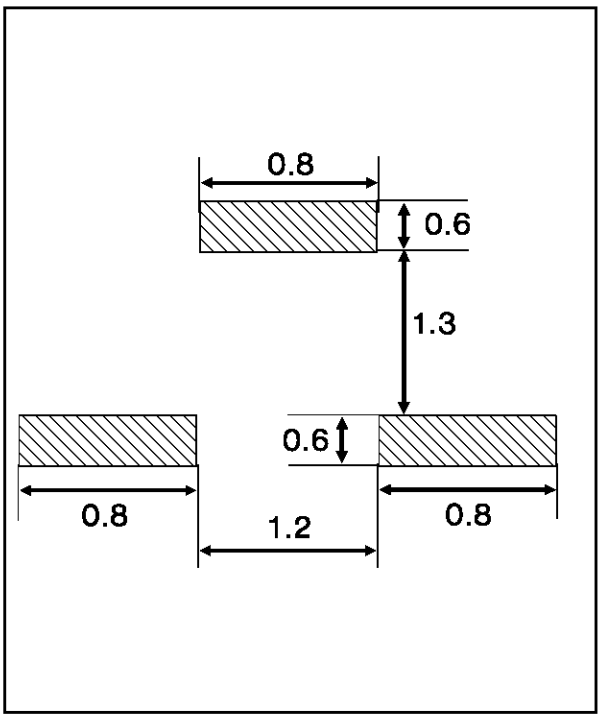


PACKAGE MECHANICAL DATA

SOT 23 (Plastic)



FOOT PRINT DIMENSIONS (Millimeter)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.93	1.04	0.036	0.041
B	1.20	1.40	0.047	0.055
C	0.15		0.006	
D	0.085	0.115	0.003	0.005
E	0.45	0.60	0.018	0.024
F	0.08		0.003	
G	0.013	0.10	0.0005	0.004
H	1.90	2.05	0.075	0.081
I	0.95	1.05	0.037	0.041
J	0.95	1.05	0.037	0.041
K	2.10	2.50	0.083	0.098
L	0.45	0.60	0.018	0.024
M	0.37	0.46	0.015	0.018
N	2.80	3.00	0.110	0.118

Type	BAR 18	BAS 70-04	BAS 70-05	BAS 70-06
Marking	D76	D96	D97	D98