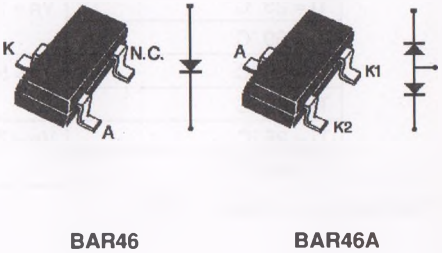
SGS-THOMSON MICROELECTRONICS

BAR46
BAR46A

SMALL SIGNAL SCHOTTKY DIODES



BAR46 **BAR46A**

SOT23
(Plastic)

DESCRIPTION

High voltage Schottky rectifier suited for SLIC protection during the card insertion operation.

ABSOLUTE RATINGS(limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		100	V
Ptot	Power Dissipation *	Tamb=25°C	200	mW
Tstg Tj	Storage and Junction Temperature Range		- 55 to + 150 150	°C

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction-ambient *	625	°C/W
Rth(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}	Tj = 25 °C	I_R = 100 µA	100			V
V_F *	Tj = 25 °C	I_F = 0.1 mA			0.25	V
	Tj = 25 °C	I_F = 10 mA			0.45	
	Tj = 25 °C	I_F = 250 mA			1	
I_R*	Tj = 25 °C	V_R = 1.5 V			0.5	µA
	Tj = 60 °C				5	
	Tj = 25 °C	V_R = 10 V			0.8	
	Tj = 60 °C				7.5	
	Tj = 25 °C	V_R = 50 V			2	
	Tj = 60 °C				15	
	Tj = 25 °C	V_R = 75 V			5	
	Tj = 60 °C				20	

* Pulse test : tp ≤ 300µs δ < 2%

DYNAMIC CHARACTERISTICS

Symbol	Test conditions			Min.	Typ.	Max.	Unit
C	Tj = 25 °C	V_R = 0 V	f = 1MHz		10		pF
	Tj = 25 °C	V_R = 1 V			6		

Type	BAR46	BAR46A
Marking	S46	A46

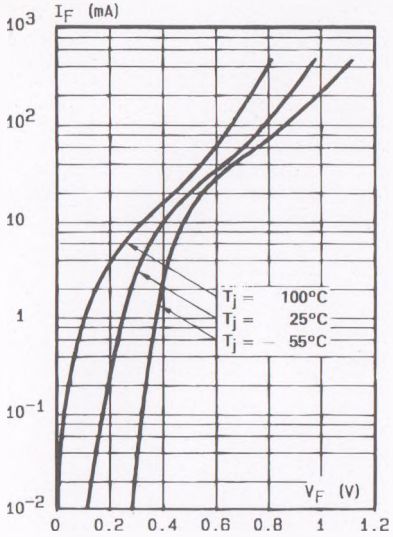


Fig.1 - Forward current versus forward voltage at different temperatures (typical values).

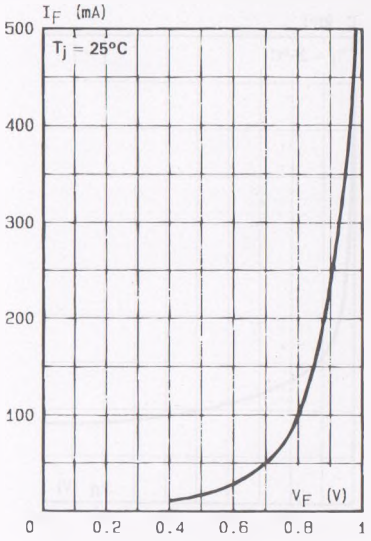


Fig.2 - Forward current versus forward voltage (typical values).

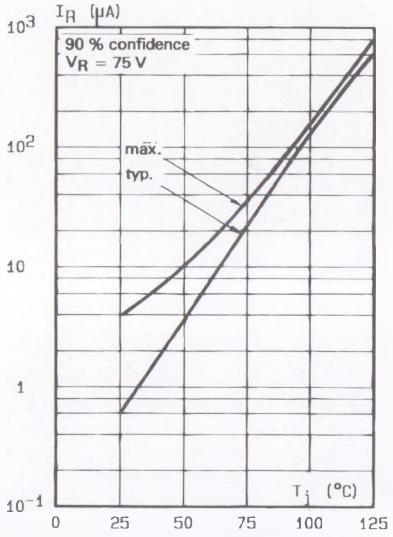


Fig.3 - Reverse current versus junction temperature (typical values).

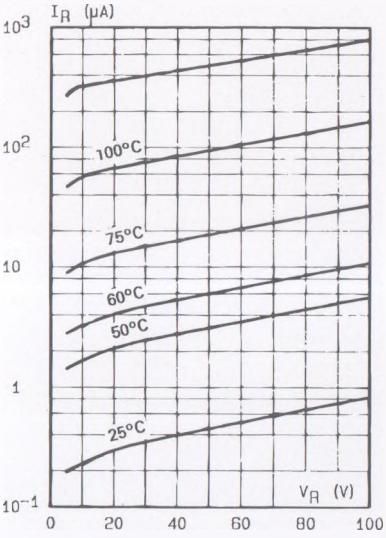


Fig.4 - Reverse current versus continuous reverse voltage

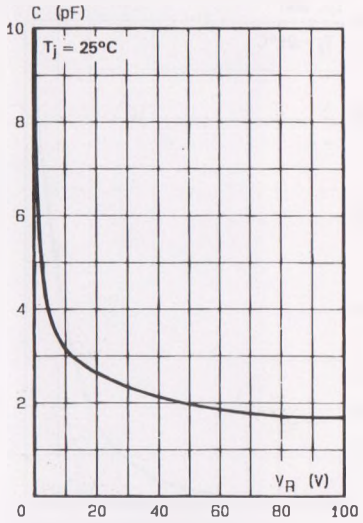


Fig.5 - Capacitance C versus reverse applied voltage V_R (typical values).