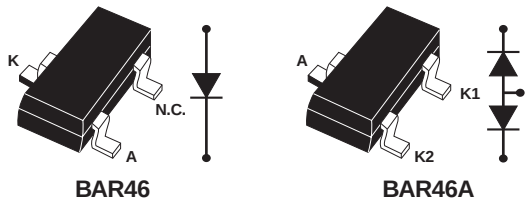
BAR46
BAR46AFILM

SMALL SIGNAL SCHOTTKY DIODES

FEATURES AND BENEFITS

- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD VOLTAGE DROP
- SURFACE MOUNT DEVICE



BAR46 **BAR46A**

SOT-23
(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
I_F	Continuous forward current		150	mA
P_{tot}	Power dissipation (note 1)	Tamb = 25°C	230	mW
T_{stg}	Maximum storage temperature range		- 65 to +150	°C
Tj	Maximum operating junction temperature *		150	°C
T_L	Maximum temperature for soldering during 10s		260	°C

Note 1: for double diodes, Ptot is the total dissipation of both diodes.

$* : \frac{dPtot}{dTj} < \frac{1}{Rth(j-a)}$ thermal runaway condition for a diode on its own heatsink

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction-ambient *	500	°C/W

* Mounted on epoxy board, with recommended pad layout.

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 = 380µs $\delta < 2\%$
** tp = 5 ms, $\delta < 2\%$

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		

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

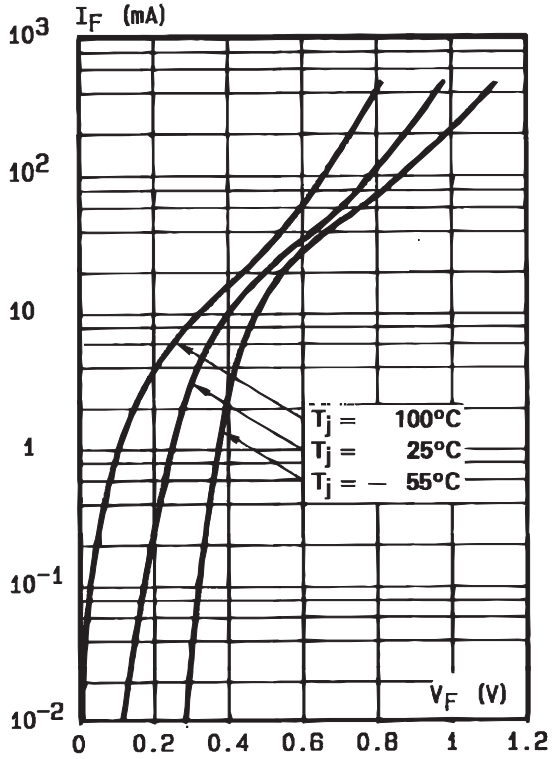


Fig. 2: Forward current versus forward voltage (typical values).

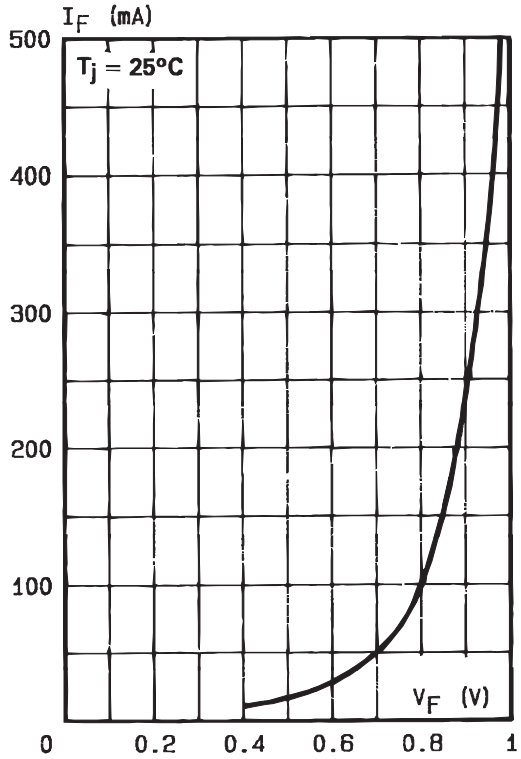


Fig. 3: Reverse current versus junction temperature (typical values).

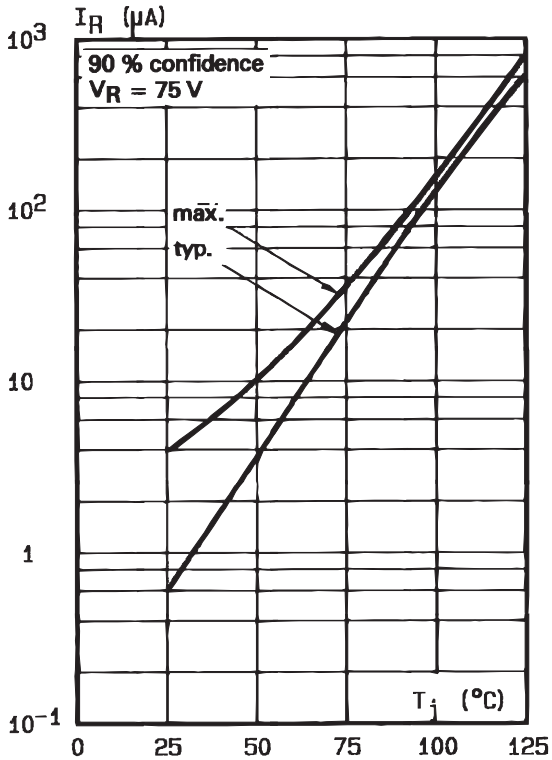


Fig. 4: Reverse current versus continuous reverse voltage (typical values).

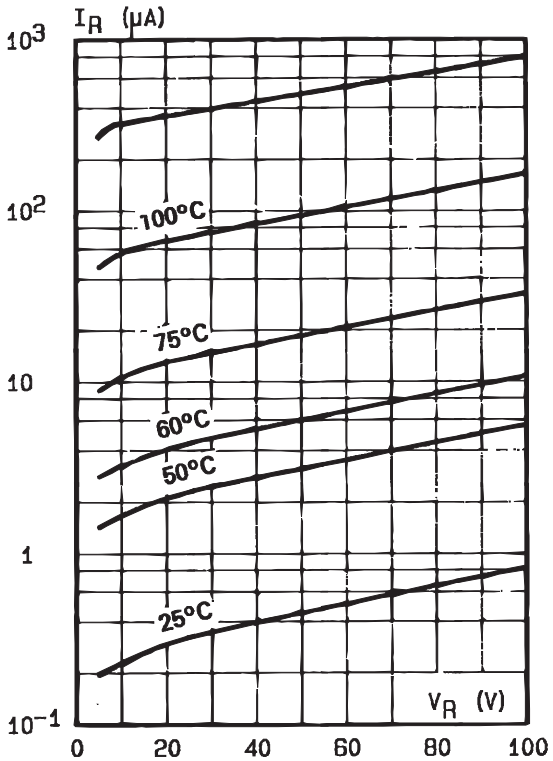
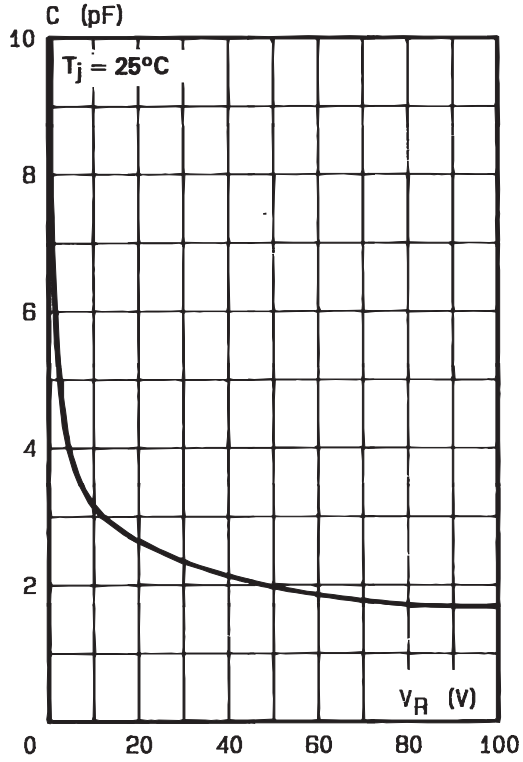
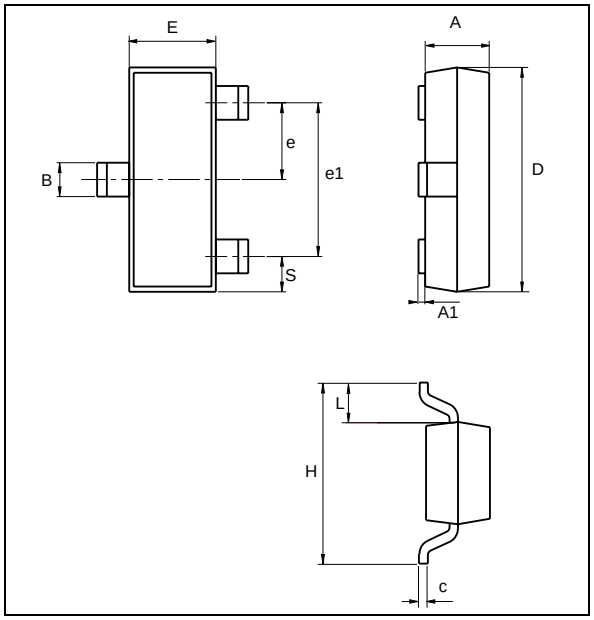


Fig. 5: Capacitance C versus reverse applied voltage V_R (typical values).



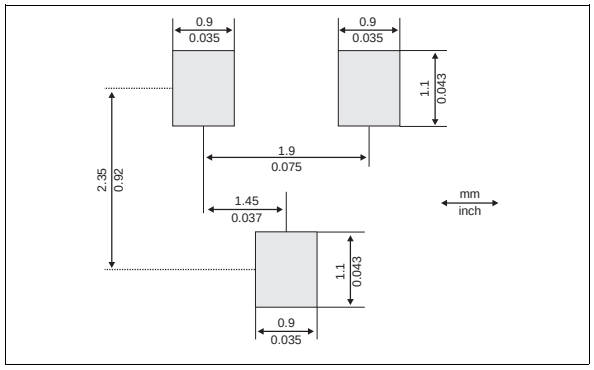
PACKAGE MECHANICAL DATA

SOT-23 (Plastic)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.89	1.4	0.035	0.055
A1	0	0.1	0	0.004
B	0.3	0.51	0.012	0.02
c	0.085	0.18	0.003	0.007
D	2.75	3.04	0.108	0.12
e	0.85	1.05	0.033	0.041
e1	1.7	2.1	0.067	0.083
E	1.2	1.6	0.047	0.063
H	2.1	2.75	0.083	0.108
L	0.6 typ.		0.024 typ.	
S	0.35	0.65	0.014	0.026

FOOT PRINT DIMENSIONS (Millimeter)



Ordering type	Marking	Package	Weight	Base qty	Delivery mode
BAR46	S46	SOT-23	0.01g	3000	Tape & reel
BAR46AFILM	A46	SOT-23	0.01g	3000	Tape & reel

- Epoxy meets UL94,V0