



BAT46J / BAT46W BAT46AW / BAT46CW / BAT46SW

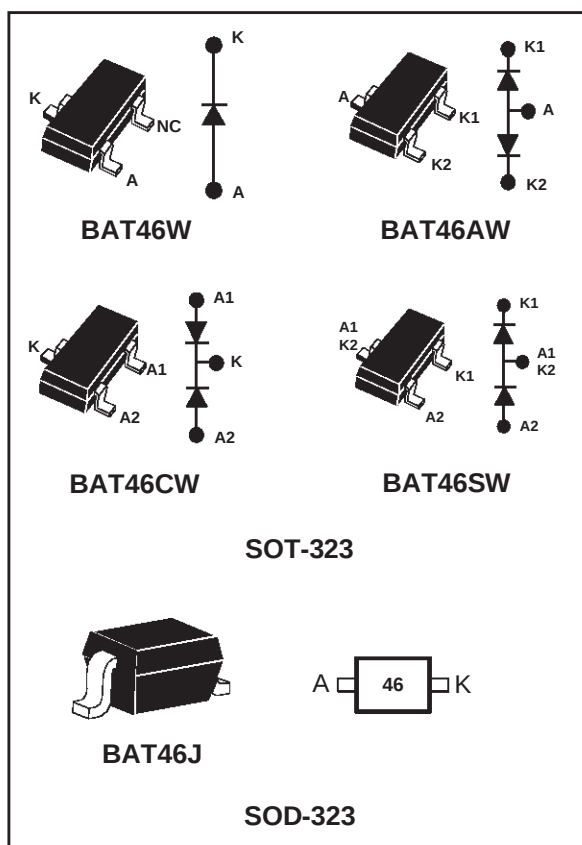
SMALL SIGNAL SCHOTTKY DIODE

FEATURES AND BENEFITS

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

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) $T_{amb} = 25^\circ\text{C}$	SOT-323	230	mW
		SOT-323		
T_{stg}	Maximum storage temperature range		- 65 to +150	$^\circ\text{C}$
T_j	Maximum operating junction temperature *		150	$^\circ\text{C}$
T_L	Maximum temperature for soldering during 10s		260	$^\circ\text{C}$

Note 1: for double diodes, P_{tot} is the total dissipation of the both diodes.

* : $\frac{dP_{tot}}{dT_j} < \frac{1}{R_{th(j-a)}}$ thermal runaway condition for a diode on its own heatsink

BAT46J / BAT46W / BAT46AW / BAT46CW / BAT46SW**THERMAL RESISTANCE**

Symbol	Parameters		Value	Unit
R _{th(j-a)}	Junction to ambient (*)	SOD-323	550	°C/W
		SOT-323		°C/W

(*) Mounted on epoxy board, with recommended pad layout.

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Test conditions		Min.	Typ.	Max.	Unit
V _{BR}	T _j = 25 °C	I _R = 100 µA	100			V
V _F *	T _j = 25 °C	I _F = 0.1 mA			0.25	V
	T _j = 25 °C	I _F = 10 mA			0.45	
	T _j = 25 °C	I _F = 250 mA			1	
I _R **	T _j = 25 °C	V _R = 1.5 V			0.5	µA
	T _j = 60 °C				5	
	T _j = 25 °C	V _R = 10 V			0.8	
	T _j = 60 °C				7.5	
	T _j = 25 °C	V _R = 50 V			2	
	T _j = 60 °C				15	
	T _j = 25 °C	V _R = 75 V			5	
	T _j = 60 °C				20	

Pulse test : * tp = 380µs δ < 2%

** tp = 5ms, δ < 2%

DYNAMIC CHARACTERISTICS

Symbol	Test conditions			Min.	Typ.	Max.	Unit
C	T _j = 25 °C	V _R = 0 V	F = 1MHz		10		pF
	T _j = 25 °C	V _R = 1 V			6		

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

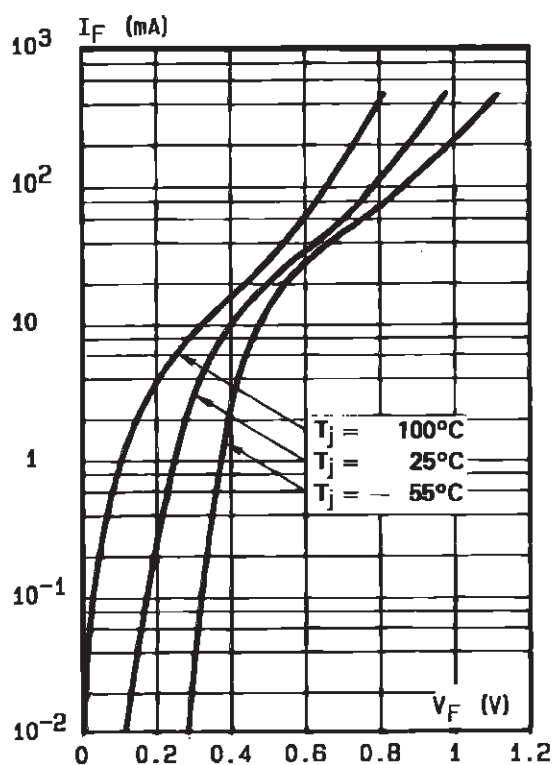


Fig. 2: Forward current versus forward voltage (typical values).

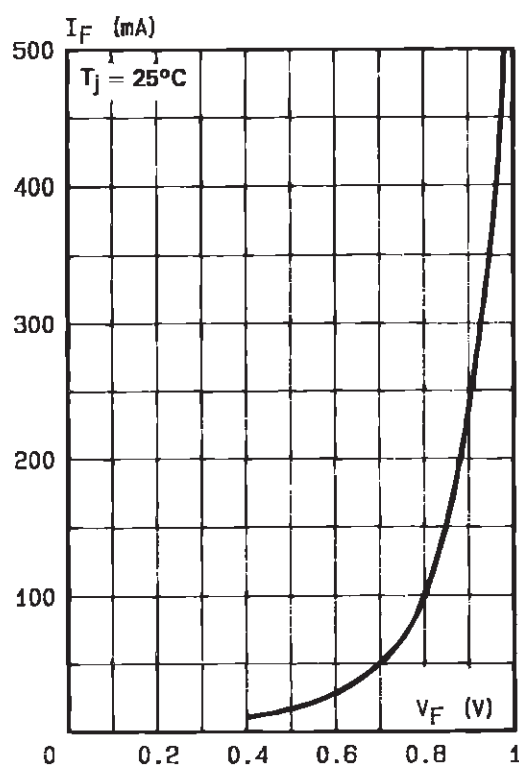


Fig. 3: Reverse current versus junction temperature (typical values).

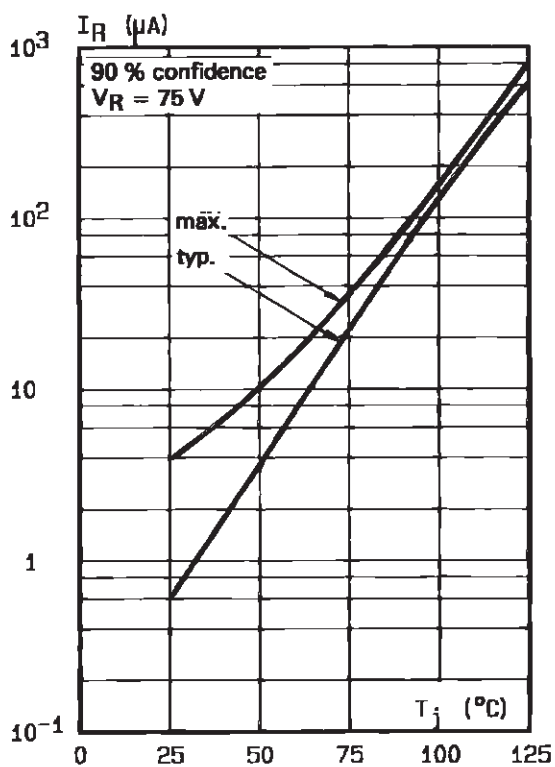


Fig. 4: Reverse current versus continuous reverse voltage (typical values).

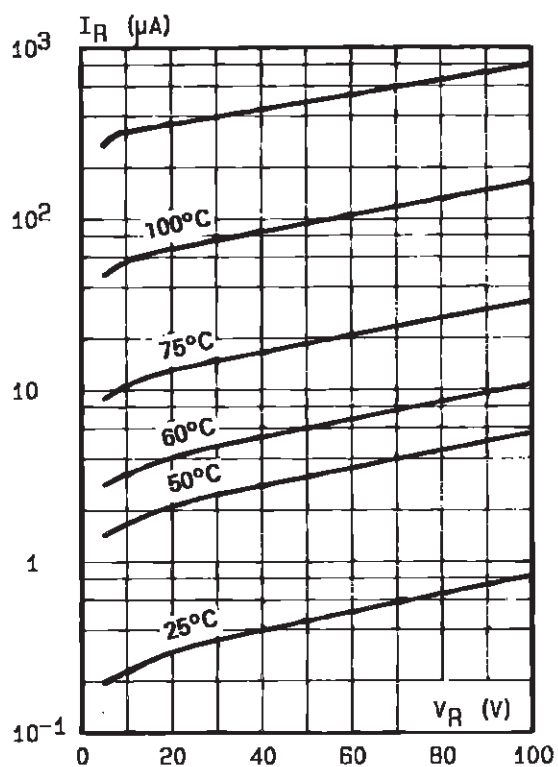
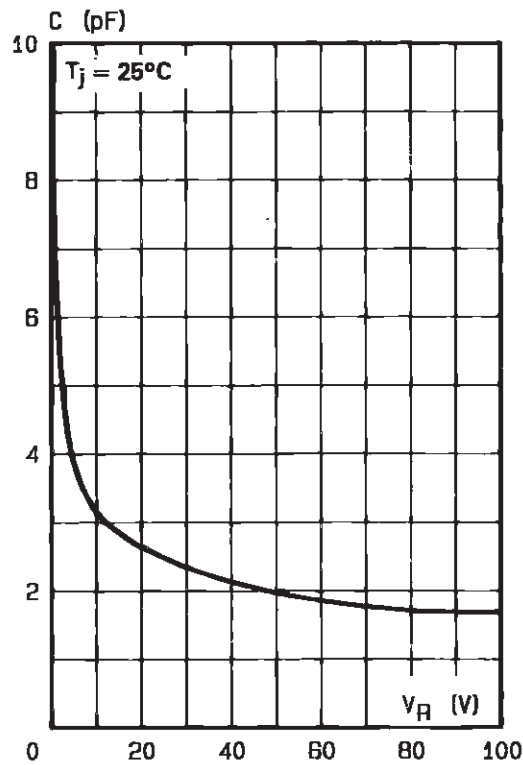
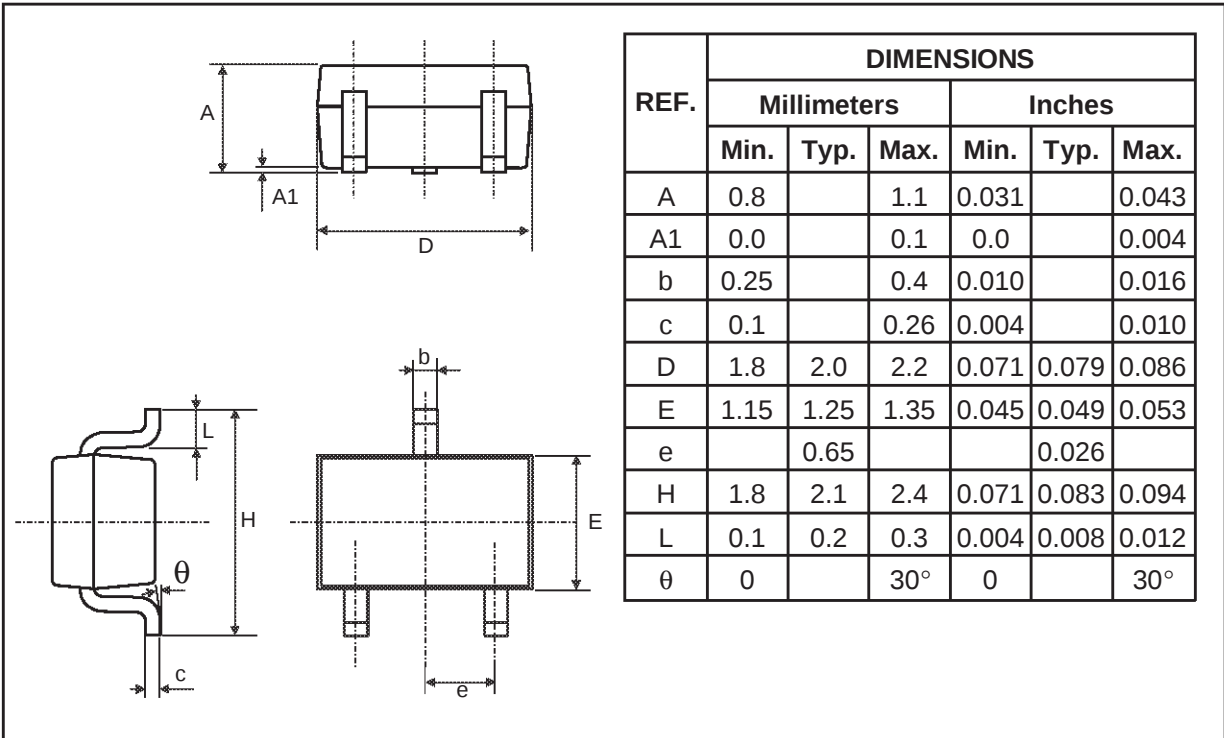


Fig. 5: Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA
SOT-323



PACKAGE MECHANICAL DATA
SOD-323

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		1.17		0.046
A1	0	0.1	0	0.004
b	0.25	0.44	0.01	0.017
c	0.1	0.25	0.004	0.01
D	1.52	1.8	0.06	0.071
E	1.11	1.45	0.044	0.057
H	2.3	2.7	0.09	0.106
L	0.1	0.46	0.004	0.02
Q1	0.1	0.41	0.004	0.016

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
BAT46W	D46	SOT-323	0.006g	3000	Tape & reel
BAT46AW	DB6	SOT-323	0.006g	3000	Tape & reel
BAT46CW	TBD	SOT-323	0.006g	3000	Tape & reel
BAT46SW	TBD	SOT-323	0.006g	3000	Tape & reel
BAT46J	46	SOD-323	0.005g	3000	Tape & reel

■ Epoxy meets UL94,V0

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