



BAS70J / BAS70W BAS70-04W / BAS70-05W / BAS70-06W

SMALL SIGNAL SCHOTTKY DIODE

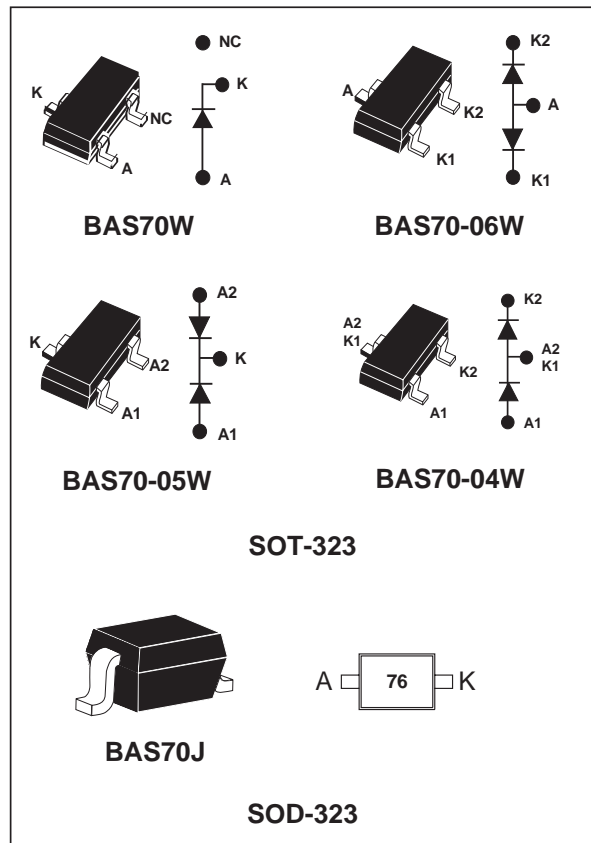
FEATURES AND BENEFITS

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

DESCRIPTION

Schottky barrier diodes encapsulated either in SOT-323 or SOD-323 small SMD packages.

Single and double diodes with different pinning are available.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V _{RRM}	Repetitive peak reverse voltage		70	V
I _F	Continuous forward current		70	mA
I _{FSM}	Surge non repetitive forward current	tp = 10 ms	1	A
P _{tot}	Power dissipation (note 1) T _{amb} = 25°C	SOT-323	230	mW
		SOT-323		
T _{stg}	Maximum storage temperature range		- 65 to +150	°C
T _j	Maximum operating junction temperature *		150	°C
T _L	Maximum temperature for soldering during 10s		260	°C

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

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

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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 (per diode)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
V_{BR}	$T_j = 25^\circ\text{C}$ $I_R = 10\mu\text{A}$	70			V
V_F^*	$T_j = 25^\circ\text{C}$ $I_F = 1\text{mA}$			410	mV
I_R^{**}	$T_j = 25^\circ\text{C}$ $V_R = 50\text{V}$			100	nA

Pulse test: * $t_p = 380\mu\text{s}$, $\delta < 2\%$

** $t_p = 5\text{ms}$, $\delta < 2\%$

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ\text{C}$ F = 1MHz $V_R = 0\text{V}$			2	pF
τ^*	$T_j = 25^\circ\text{C}$ Krakauer Method $I_F = 5\text{mA}$			100	ps

* Effective carrier life time.

Fig. 1: Forward voltage drop versus forward current.

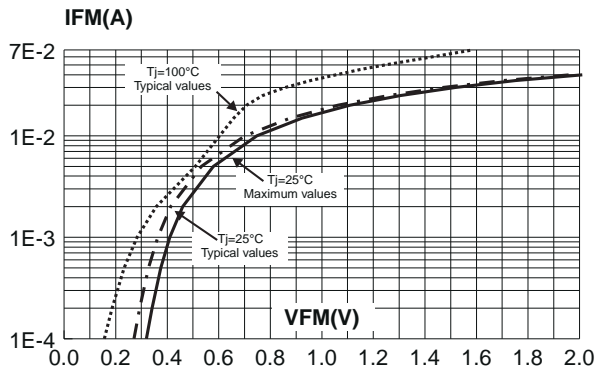


Fig. 2: Reverse leakage current versus reverse voltage applied (typical values).

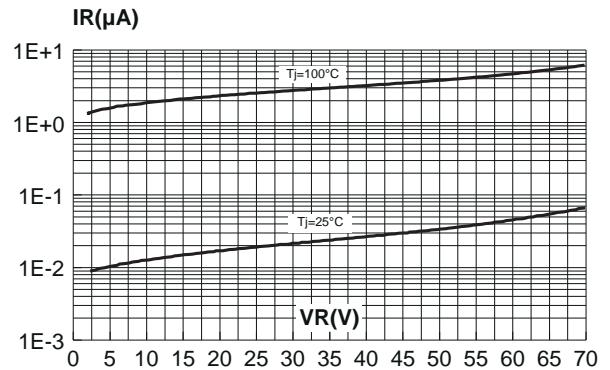


Fig. 3: Reverse leakage current versus junction temperature (typical values).

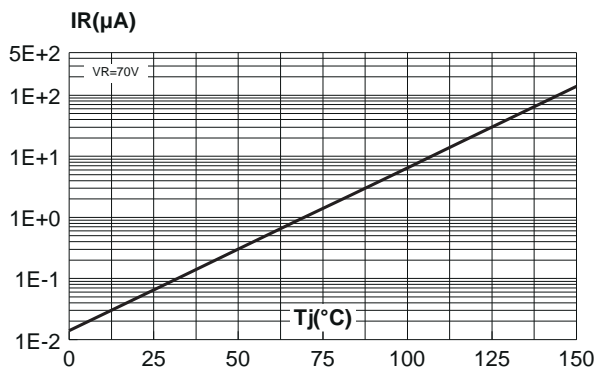


Fig. 4: Junction capacitance versus reverse voltage applied (typical values).

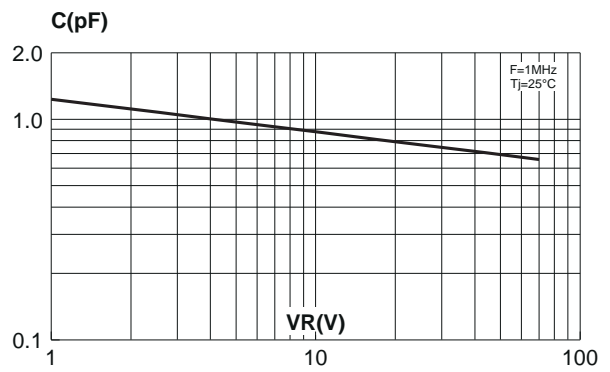


Fig. 5: Relative variation of thermal impedance junction to ambient versus pulse duration (epoxy FR4 with recommended pad layout, S(Cu)=35μm).

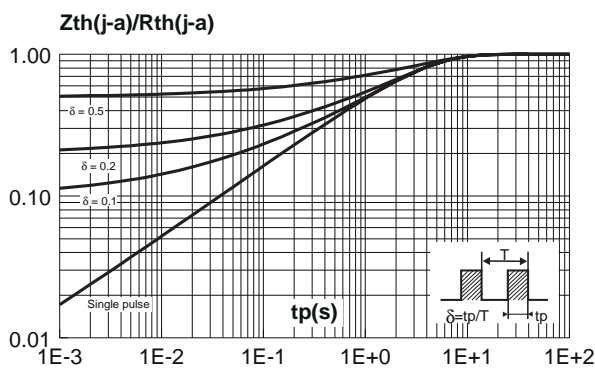
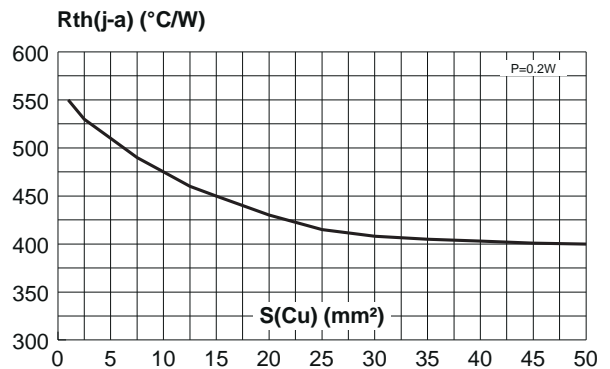
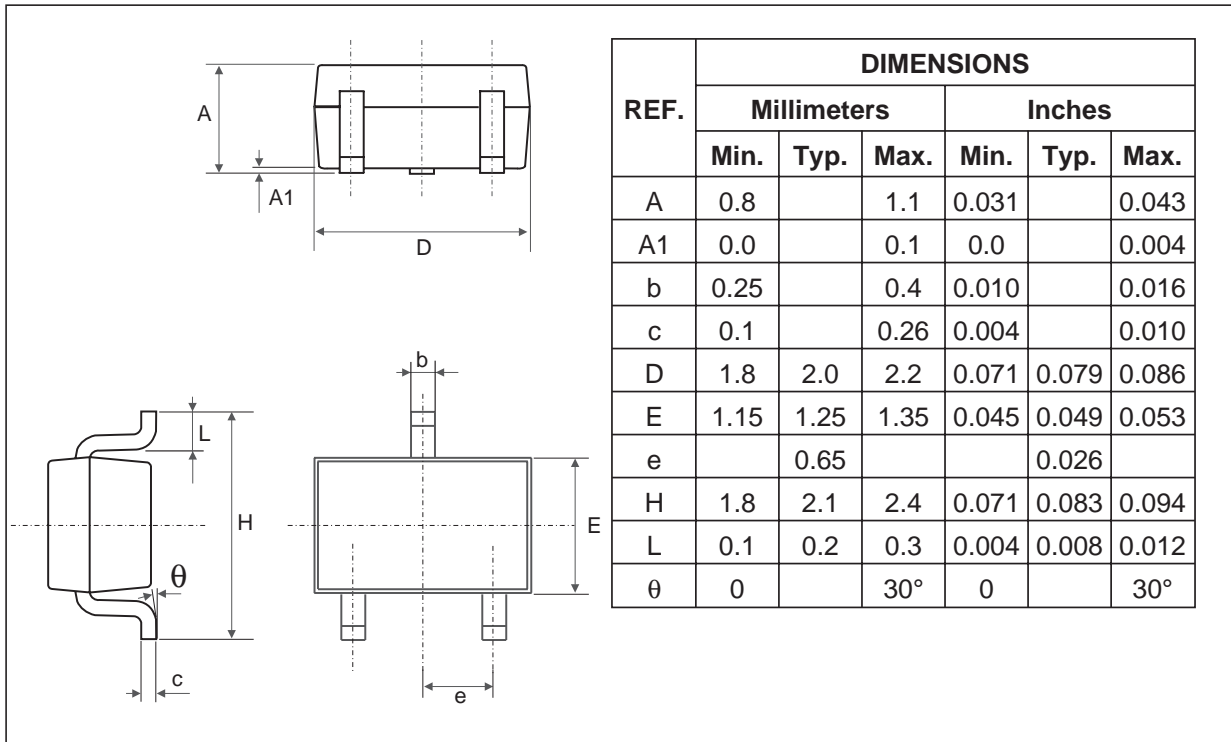


Fig. 6: Thermal resistance junction to ambient versus copper surface under each lead (Epoxy printed circuit board FR4, copper thickness: 35μm).

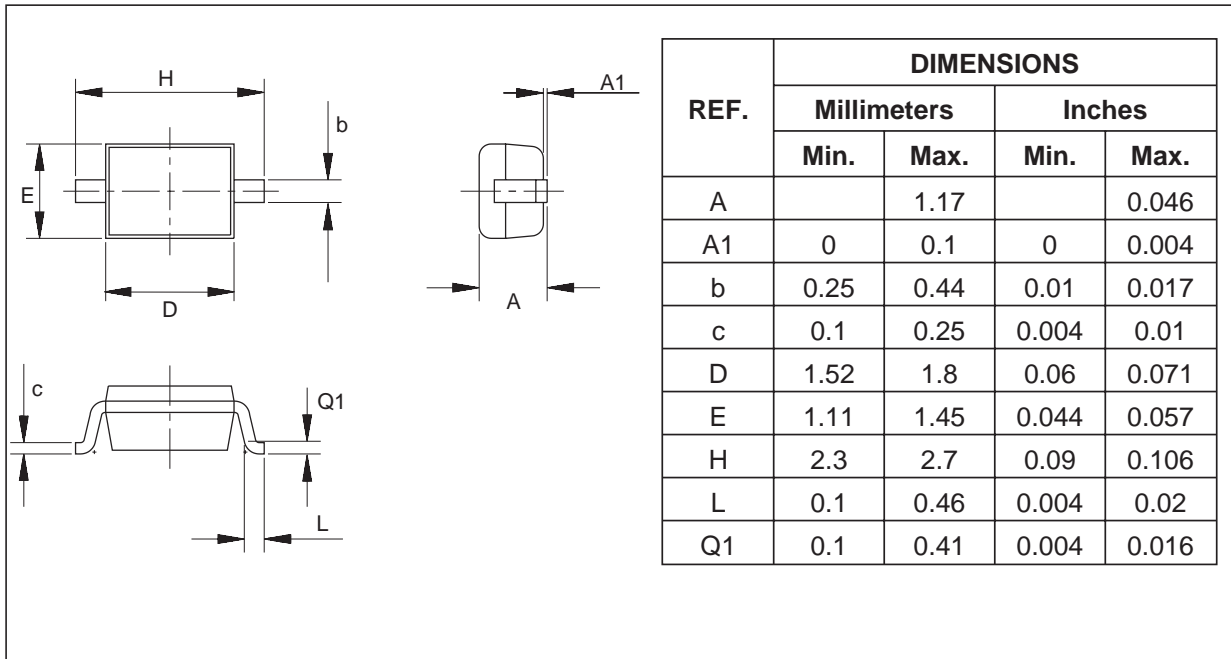


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PACKAGE MECHANICAL DATA
SOT-323



PACKAGE MECHANICAL DATA
SOD-323



Ordering type	Marking	Package	Weight	Base qty	Delivery mode
BAS70W	D28	SOT-323	0.006g	3000	Tape & reel
BAS70-04W	D31	SOT-323	0.006g	3000	Tape & reel
BAS70-05W	D30	SOT-323	0.006g	3000	Tape & reel
BAS70-06W	D29	SOT-323	0.006g	3000	Tape & reel
BAS70J	76	SOD-323	0.005g	3000	Tape & reel

- Epoxy meets UL94,V0

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