



## BAS70-07S / BAS70-08S

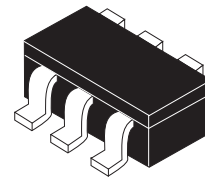
### RF DETECTION DIODE

#### FEATURES AND BENEFITS

- LOW DIODE CAPACITANCE
- LOW SERIES INDUCTANCE AND RESISTANCE
- SURFACE MOUNT PACKAGE

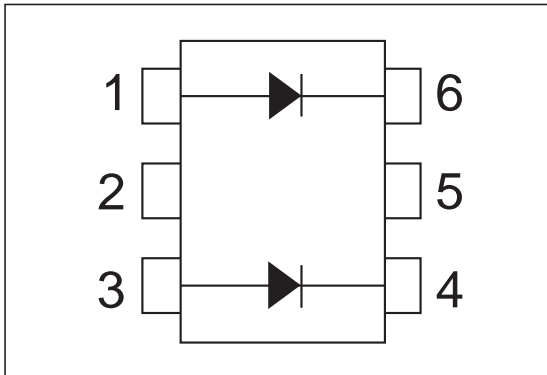
#### DESCRIPTION

Dual and Triple Schottky diode in SOT323-6L package. This diode is intended to be used in RF application for signal detection and temperature compensation.

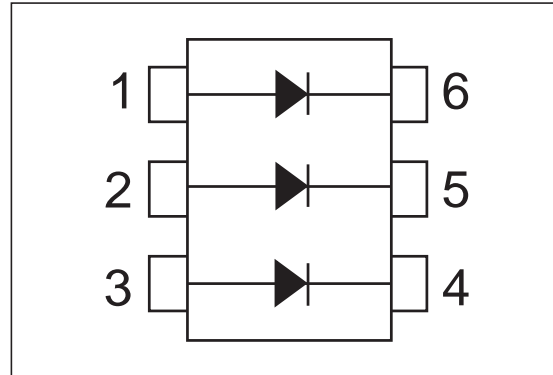


SOT323-6L

#### BAS70-07S SCHEMATIC DIAGRAM



#### BAS70-08S SCHEMATIC DIAGRAM



#### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$V_R$	Continuous reverse voltage		70	V
$I_F$	Continuous forward current		70	mA
$I_{FRM}$	Repetitive peak forward current		70	mA
$I_{FSM}$	Surge non repetitive forward current	$t_p = 10$ ms sinusoidal	1	A
P	Power Dissipation	$T_a = 55^\circ\text{C}$	250	mW
$T_{stg}$	Storage temperature range		- 65 to +150	$^\circ\text{C}$
$T_j$	Maximum junction temperature		150	$^\circ\text{C}$
TL	Maximum temperature for soldering		260	$^\circ\text{C}$

## BAS70-07S / BAS70-08S

### THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient on printed circuit board FR4 with recommended pad layout	500	°C/W

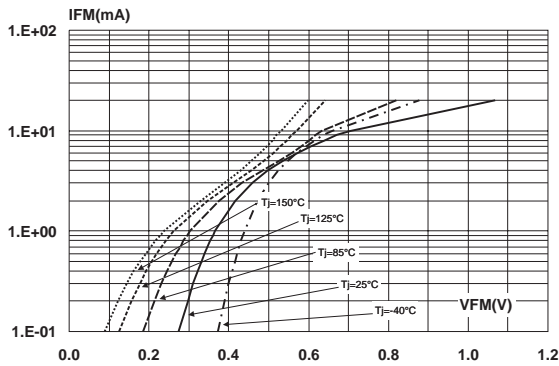
### STATIC ELECTRICAL CHARACTERISTICS (T<sub>j</sub> = 25°C otherwise specified)

Symbol	Parameter	Tests Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward voltage drop	$I_F = 1 \text{ mA}$			0.41	V
		$I_F = 10 \text{ mA}$			0.75	V
		$I_F = 15 \text{ mA}$			1	V
$I_R$	Reverse leakage current	$V_R = 70 \text{ V}$			10	μA
$V_{BR}$	Breakdown voltage	$I_R = 10 \text{ μA}$	70			V

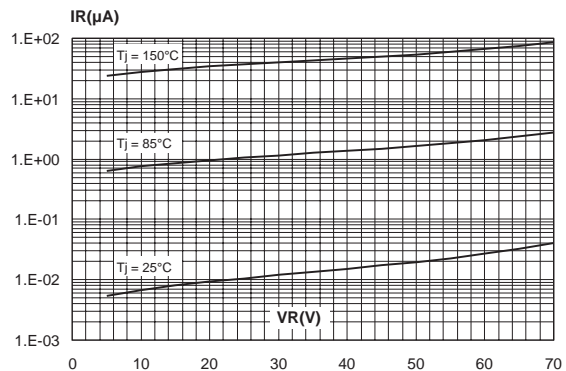
### ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests Conditions		Min.	Typ.	Max.	Unit
C	Junction capacitance	$V_R = 0 \text{ V}$	F = 1 MHz			2	pF
$R_F$	Differential forward resistance	$I_F = 10 \text{ mA}$	F = 100 MHz		30		Ohm
$L_s$	Series inductance				1.5		nH

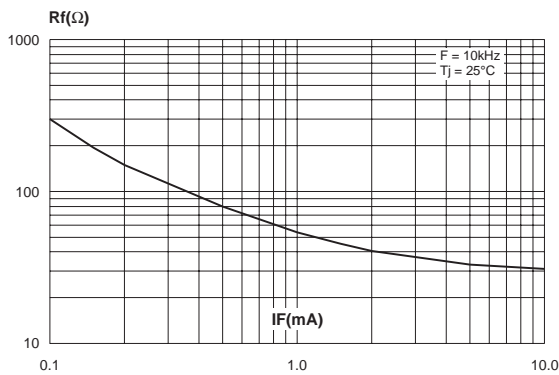
**Fig. 1:** Forward voltage drop versus forward current (typical values).



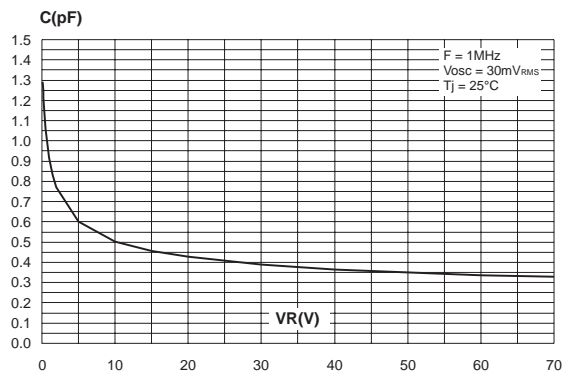
**Fig. 2:** Reverse leakage current versus reverse voltage applied (typical values).



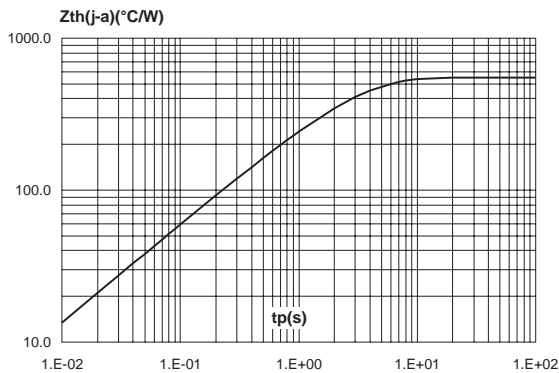
**Fig. 3:** Differential forward resistance versus forward current (typical values).



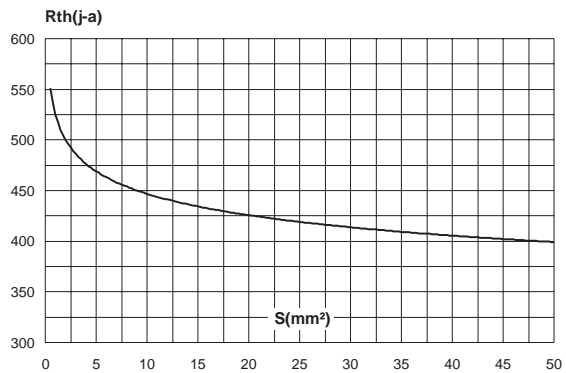
**Fig. 4:** Junction capacitance versus reverse voltage applied (typical values).



**Fig. 5:** Variation of thermal impedance junction to ambient versus pulse duration (printed circuit board, epoxy FR4).

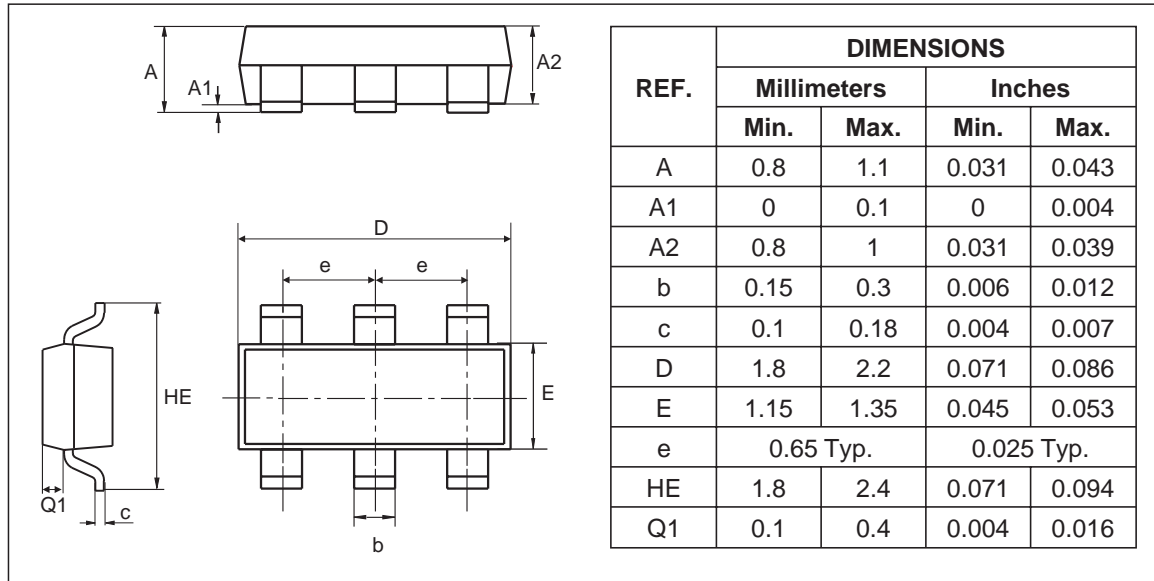


**Fig. 6:** Thermal resistance junction to ambient versus copper surface under each lead (printed circuit board, epoxy FR4).

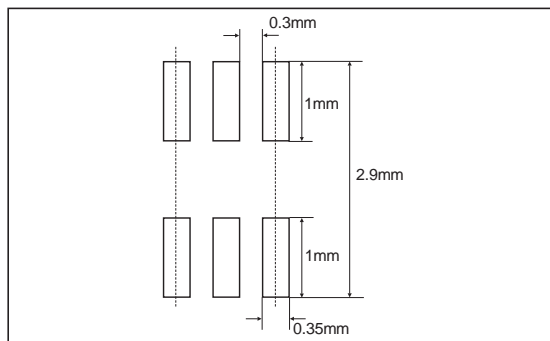


## BAS70-07S / BAS70-08S

### PACKAGE MECHANICAL DATA SOT323-6L



### FOOTPRINT DIMENSIONS (millimeters)



### MARKING

Type	Marking	Package	Weight	Base qty	Delivery mode
BAS70-07S	D32	SOT323-6L	0.006g	3000	Tape & reel
BAS70-08S	D33				

- Epoxy meets UL94, V0

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