

# BAS40 THRU BAS70

## Surface Mount Schottky Barrier Diode 200 mWatt

### Features

- SOT-23 Package For surface mount application
- Protects from line to  $V_{CC}$  and line to ground
- Low forward voltage and reverse recovery characteristics
- Bidirectional-low-forward available with "-04" suffix (Figure 2)
- Tape & Reel EIA Standard 481.

### Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"
- Mounting Position: Any
- Weight: .008 grams (approx.)

### MAXIMUM RATINGS

- Operating Temperature:  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Storage Temperature:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Power Dissipation: 200 mWatts @  $T_{amb}=25^{\circ}\text{C}$
- Forward Continuous Current: BAS40  $I_F = 200\text{mA}$  @  $T_a=25^{\circ}\text{C}$   
 BAS70  $I_F = 70\text{mA}$  @  $T_a=25^{\circ}\text{C}$
- Surge Forward Current: BAS40  $I_{FSM}=600\text{mA}$  @  $tp<1\text{s}$ ,  $T_{amb}=25^{\circ}\text{C}$   
 BAS70  $I_{FSM}=100\text{mA}$  @  $tp<1\text{s}$ ,  $T_{amb}=25^{\circ}\text{C}$

### DESCRIPTION

Various configurations of Schottky barrier's diodes in SOT-23 package are provided for general-purpose use in high-speed switching ,mixers and detector applications. They may also be used for signal integrity and counteract the transmission-line effects with (PC) board traces by clamping over/and undershoot from signal reflections with the schottky-low-threshold voltages.

This type of termination also does not depend on matching the transmission line characteristic impedance, making it particularly useful where line impedance is unknown or a variable. This method of termination can control distortions of clock, data, address, and control lines as well as provides a stabilizing effect on signal jitter. It can also significantly reduce power consumption compared to standard resistor-based termination methods.

### SOT-23

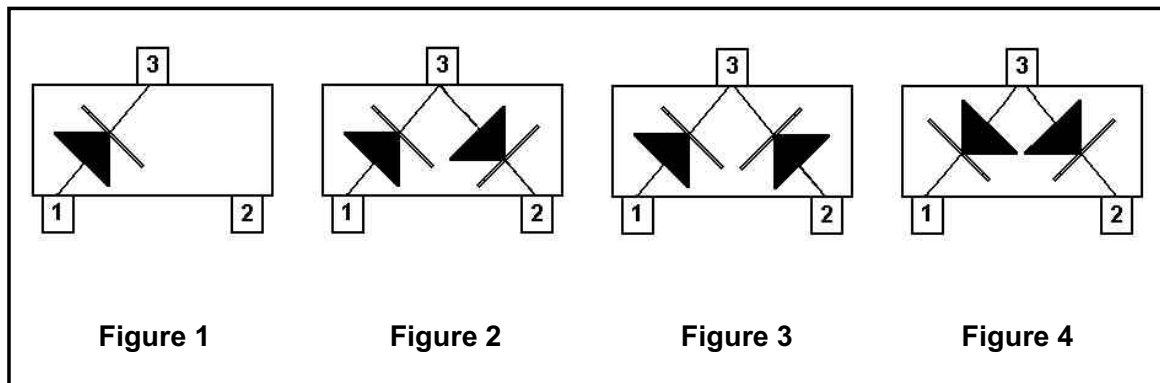
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout

# BAS40 and BAS70

## ELECTRICAL CHARACTERISTICS PER DIODE @ 25°C Unless otherwise specified

DEVICE TYPE	DEVICE MARKING	FIGURE	Repetitive Peak Reverse Voltage	Reverse Breakdown Voltage Tested with 10µA Pulse	Leakage Current Pulse test tp < 300µs @		Forward Voltage Pulse Test tp < 300µs at I <sub>F</sub> = 1 mA at I <sub>F</sub> = 40 mA			Reverse Recovery Time from I <sub>F</sub> = 10 mA through I <sub>R</sub> =10mA to I <sub>R</sub> =1mA	Thermal Resistance Junction to Ambient Air	Capacitance At V <sub>R</sub> = 0V F = 1 MHz C <sub>tot</sub>
			V <sub>RRM</sub> (VOLTS)	V <sub>BR(R)</sub> (VOLTS)	I <sub>R</sub> (nA)	V <sub>F</sub> (mV)	t <sub>r</sub> (ns)	R <sub>thJA</sub> (K/W)	pF			
			TYP	MIN	TYP	MAX	I <sub>F</sub> =1mA	I <sub>F</sub> =15mA	I <sub>F</sub> =40mA	MAX	MAX	MAX
BAS40	43	1	40	40	10	200	380		1000	5	430	5
BAS40-04	44	2	40	40	10	200	380		1000	5	430	5
BAS40-05	45	3	40	40	10	200	380		1000	5	430	5
BAS40-06	46	4	40	40	10	200	380		1000	5	430	5
BAS70	73	1	70	70	10	200	410	1000		5	430	2
BAS70-04	74	2	70	70	10	200	410	1000		5	430	2
BAS70-05	75	3	70	70	10	200	410	1000		5	430	2
BAS70-06	76	4	70	70	10	200	410	1000		5	430	2



# BAS40 and BAS70

## Typical Characteristics

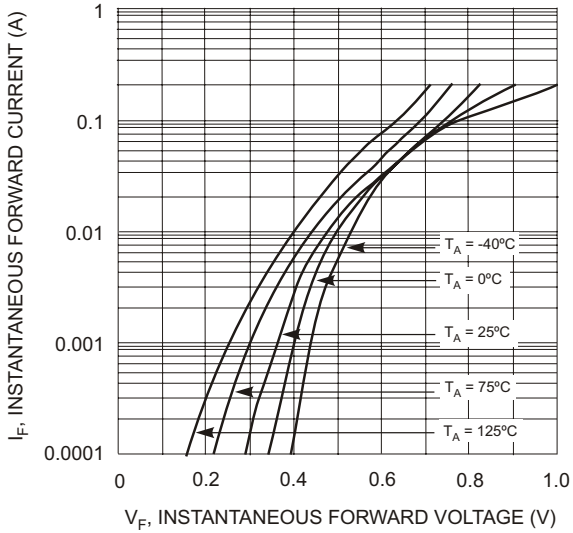


Fig. 1 Typical Forward Voltage

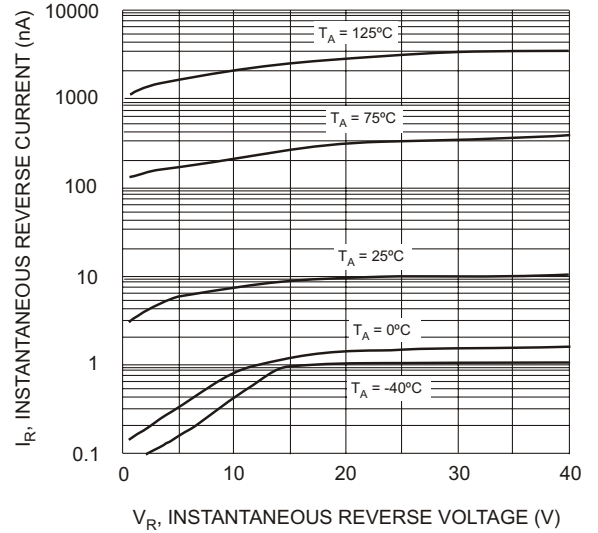


Fig. 2 Typical Reverse Characteristics

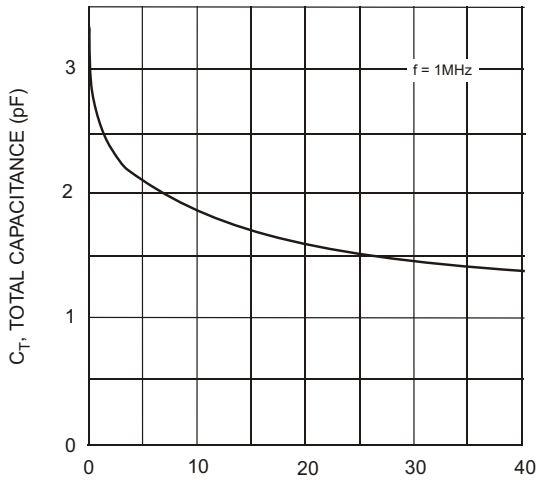


Fig. 3 Typical Capacitance

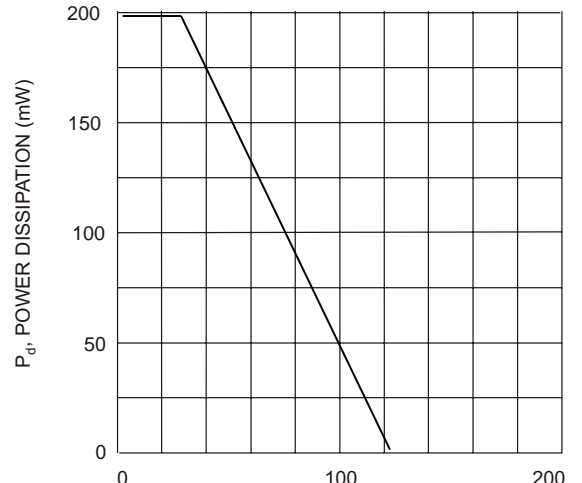


Fig. 4 Power Derating Curve, Total Package



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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[BAS70-06-TP](#)