



# 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

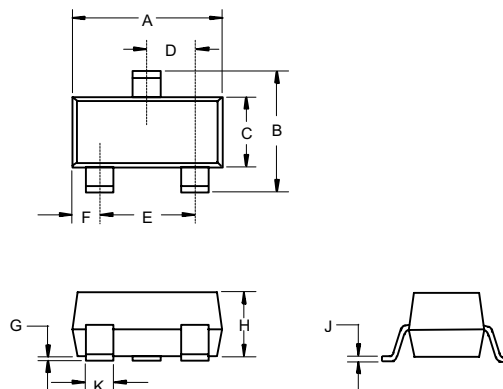
- Operating Temperature:  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Storage Temperature:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Power Dissipation: 200 mWatts @  $T_{amb}=25^{\circ}\text{C}$
- Forward Continuous Current: BAS40  $I_F = 200\text{mA}$  @  $T_a=25^{\circ}\text{C}$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

### 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.

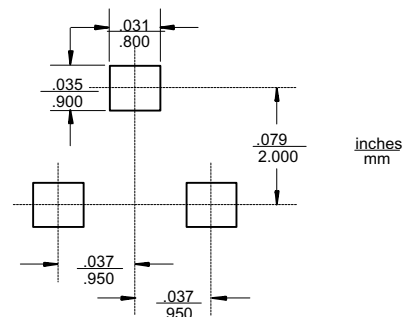
This type of termination also does not depend on matching the transmission line characteristic impedance, making it particularly useful where line impedance is unknown or a variable. This method of termination can control distortions of clock, data, address, and control lines as well as provides a stabilizing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

### SOT-23



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	

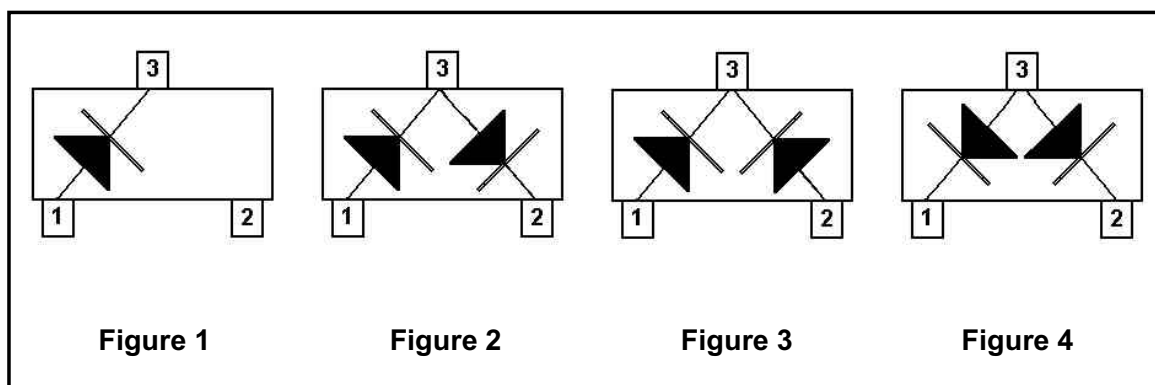
### Suggested Solder Pad Layout



# 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)	TYP	MAX	I <sub>F</sub> =1mA	I <sub>F</sub> =15mA	I <sub>F</sub> =40mA	t <sub>rr</sub> (ns)	R <sub>thJA</sub> (K/W)	pF
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

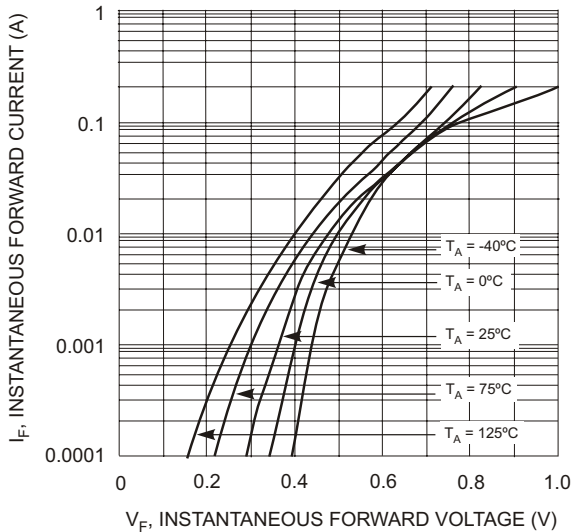


Fig. 1 Typical Forward Voltage

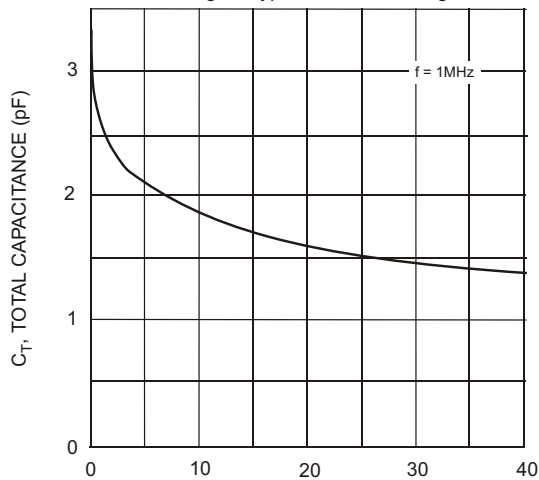


Fig. 3 Typical Capacitance

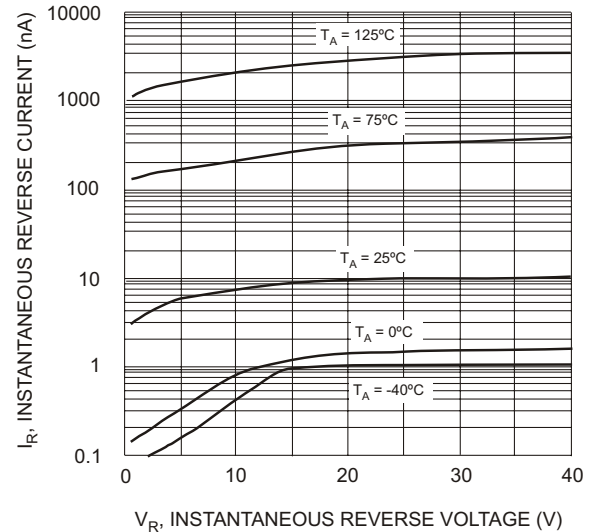


Fig. 2 Typical Reverse Characteristics

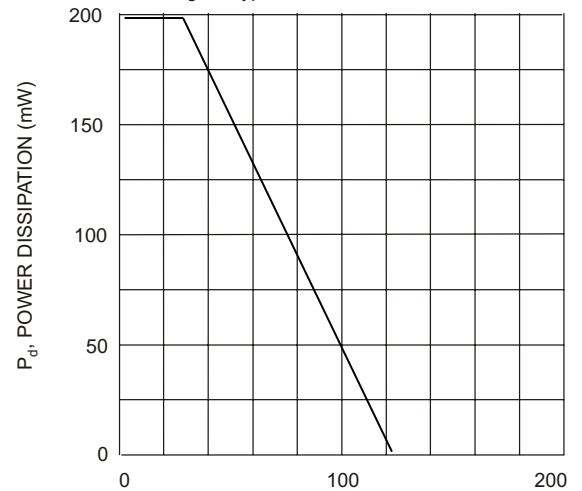


Fig. 4 Power Derating Curve, Total Package

## Ordering Information :

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

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

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Micro Commercial Components \(MCC\):](#)

[BAS70-T](#) [BAS40-05-T](#) [BAS70-05-T](#) [BAS40-06-T](#) [BAS70-06-T](#) [BAS40-04-T](#) [BAS70-04-T](#) [BAS40-T](#)