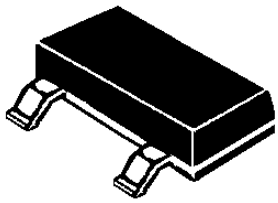
8700 E. Thomas Road
Scottsdale, AZ 85251
Tel: (480) 941-6300
Fax: (480) 947-1503

BAS40
and
BAS70

SCHOTTKYarray™ SERIES



DESCRIPTION

Various configurations of Schottky barrier's diodes in SOT-23 packages are provided for general-purpose use in high-speed switching, mixers and detector applications. They may also be used for signal terminations at the board level. This helps maintain 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.

FEATURES

- Protects from line to V_{CC} and line to ground
- Clamps within one forward diode threshold voltage
- Low forward voltage and reverse recovery characteristics
- Bidirectional-low-forward available with “-04” suffix (Figure 2)
- SOT-23 Surface Mount packaging for small foot print

PACKAGING

- Tape & Reel EIA Standard 481
- 7 inch reel 3,000 pieces
- 13 inch reel 10,000 pieces

MAXIMUM RATINGS

- Operating Temperatures: -55^{0}C to +125^{0}C
- Storage Temperature: -55^{0}C to +150^{0}C
- Power dissipation at T_{amb} = 25^{0}C is 200 mW
- Forward Continuous Current at T_{amb} = 25^{0}C is 200 mA
- Surge Forward Current At t_p < 1 s, T_{amb} = 25^{0}C is 600 mA

MECHANICAL

- Molded SOT-23 Surface Mount
- Weight: .008 grams (approximate)
- Body Marked with device number

ELECTRICAL CHARACTERISTICS PER DIODE @ 25^{0}C Unless otherwise specified

DEVICE TYPE	DEVICE MARKING	FIGURE	Repetitive Peak Reverse Voltage V_{RRM} (VOLTS)	Reverse Breakdown Voltage Tested with 10µA Pulse $V_{(BR)R}$ (VOLTS)	Leakage Current Pulse test tp < 300µs @ For BAS40 V_R = 30 V For BAS70 V_R = 50 V I_R (nA)		Forward Voltage Pulse Test tp < 300µs at I_F = 1 mA at I_F = 40 mA V_F (mV)			Reverse Recovery Time from I_F = 10 mA through I_R=10mA to I_R=1mA t_{rr} (ns)	Thermal Resistance Junction to Ambient Air R_{thJA} (K/W)	Capacitance At V_R = 0V F = 1 MHz C_{tot} pF
			TYP	MIN	TYP	MAX	I_F=1mA	I_F=15mA	I_F=40mA	MAX	MAX	MAX
BAS40	43	1	40	40	20	100	380		1000	5	430	5
BAS40-04	44	2	40	40	20	100	380		1000	5	430	5
BAS40-05	45	3	40	40	20	100	380		1000	5	430	5
BAS40-06	46	4	40	40	20	100	380		1000	5	430	5
BAS70	73	1	70	70	20	100	410	1000		5	430	2
BAS70-04	74	2	70	70	20	100	410	1000		5	430	2
BAS70-05	75	3	70	70	20	100	410	1000		5	430	2
BAS70-06	76	4	70	70	20	100	410	1000		5	430	2

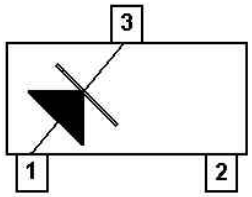


Figure 1

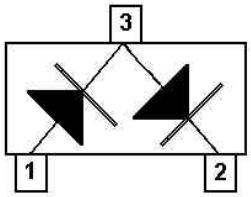


Figure 2

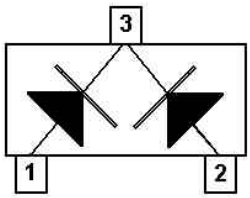


Figure 3

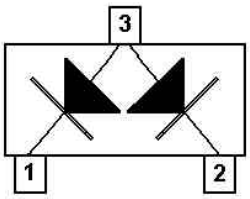
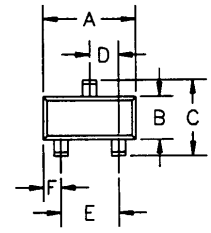
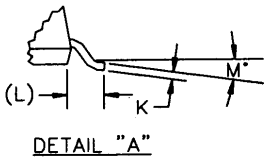


Figure 4

PACKAGE OUTLINE



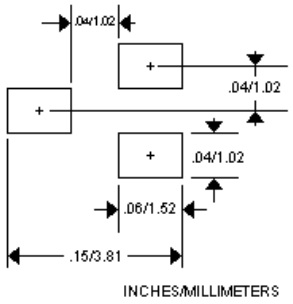


DETAIL "A"

SEE DETAIL "A"

DIMENSIONS [1]					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.119	2.8	3.04	–
B	.047	.055	1.20	1.40	–
C	.083	.104	2.10	2.64	–
D	.035	.040	0.88	1.02	–
E	.070	.081	1.78	2.05	–
F	.017	.024	.44	.60	–
G	.014	.020	.37	.51	–
H	.0005	.004	.013	0.10	–
J	.034	.040	.87	1.02	–
K	.003	.007	.085	.180	–
L	–	.022	–	0.55	REF
M	0	8°	0	8°	–

PAD DIMENSIONS



INCHES/MILLIMETERS

MSC1380.PDF ISO 9001 CERTIFIED