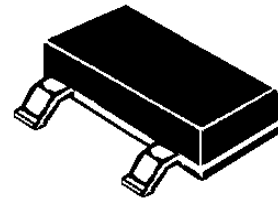




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BAS40 and BAS70

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

MECHANICAL

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

ELECTRICAL CHARACTERISTICS PER DIODE @ 25°C Unless otherwise specified

DEVICE TYPE	DEVICE MARKING	FIGURE	Repetitive Peak Reverse Voltage	Reverse Breakdown Voltage Tested with 10 μ A Pulse	Leakage Current Pulse test $t_p < 300\mu\text{s}$ @		Forward Voltage Pulse Test $t_p < 300\mu\text{s}$ at $I_F = 1 \text{ mA}$ at $I_F = 40 \text{ mA}$			Reverse Recovery Time from $I_F = 10 \text{ mA}$ through $I_R = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$	Thermal Resistance Junction to Ambient Air	Capacitance At $V_R = 0 \text{ V}$ $F = 1 \text{ MHz}$ C_{tot}
			V_{RRM} (VOLTS)	V_{BRJR} (VOLTS)	I_R (nA)		V_F (mV)			t_{rr} (ns)	R_{thJA} (K/W)	pF
			TYP	MIN	TYP	MAX	$I_F = 1 \text{ mA}$	$I_F = 15 \text{ mA}$	$I_F = 40 \text{ mA}$	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

