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| | |
|----------------|------------------------------|
| Part Number | BAS70-04 |
| product family | SMALL SIGNAL SCHOTTKY DIODES |
| package type | SOT-23 |
| VRM(PRV) | 70V |
| Ifsm | 600mA |
| IF(AV) | 200mA |
| @Vf | 1V |
| @If | 15mA |
| Trr | 5nS |
| IR | 200nA |
| @VR | 50V |
| Package Qty | Tape : 3K/Reel, 120K/Ctn; |

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Micro Commercial Components

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

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Mounting Position: Any
- Weight: .008 grams (approx.)

MAXIMUM RATINGS

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

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

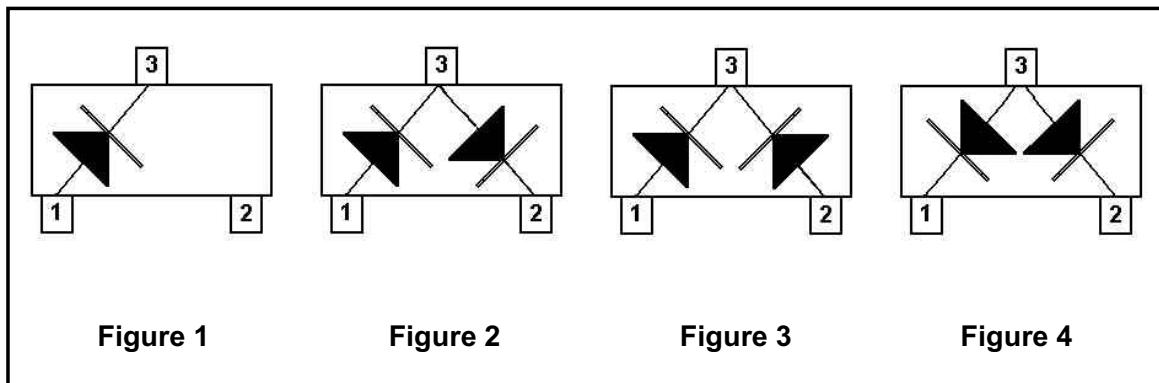
| DIMENSIONS | | | | | |
|------------|--------|-------|------|------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | .110 | .120 | 2.80 | 3.04 | |
| B | .083 | .098 | 2.10 | 2.64 | |
| C | .047 | .055 | 1.20 | 1.40 | |
| D | .035 | .041 | .89 | 1.03 | |
| E | .070 | .081 | 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 _F = 1 mA at I _F = 40 mA | | | Reverse Recovery Time from I _F = 10 mA through I _R =10mA to I _R =1mA | Thermal Resistance Junction to Ambient Air | Capacitance At V _R = 0V F = 1 MHz C _{tot} |
|-------------|----------------|--------|---------------------------------|--|---|---------------------|--|-------------------------|----------------------|---|--|---|
| | | | V _{RRM} (VOLTS) | V _{BR(R)} (VOLTS) | I _R (nA) | V _F (mV) | t _r (ns) | R _{thJA} (K/W) | pF | | | |
| | | | TYP | MIN | TYP | MAX | I _F =1mA | I _F =15mA | I _F =40mA | MAX | MAX | MAX |
| BAS40 | 43 | 1 | 40 | 40 | 20 | 200 | 380 | | 1000 | 5 | 430 | 5 |
| BAS40-04 | 44 | 2 | 40 | 40 | 20 | 200 | 380 | | 1000 | 5 | 430 | 5 |
| BAS40-05 | 45 | 3 | 40 | 40 | 20 | 200 | 380 | | 1000 | 5 | 430 | 5 |
| BAS40-06 | 46 | 4 | 40 | 40 | 20 | 200 | 380 | | 1000 | 5 | 430 | 5 |
| BAS70 | 73 | 1 | 70 | 70 | 20 | 200 | 410 | 1000 | | 5 | 430 | 2 |
| BAS70-04 | 74 | 2 | 70 | 70 | 20 | 200 | 410 | 1000 | | 5 | 430 | 2 |
| BAS70-05 | 75 | 3 | 70 | 70 | 20 | 200 | 410 | 1000 | | 5 | 430 | 2 |
| BAS70-06 | 76 | 4 | 70 | 70 | 20 | 200 | 410 | 1000 | | 5 | 430 | 2 |





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Ordering Information

| Device | Packing |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |

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