

Small Signal Product

Low VF SMD Schottky Barrier Diode

FEATURES

- Metal-on-silicon schottky barrier
- Surface device type mounting
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel(Ni) underplat
- Packing code with suffix "G" means green compound (halogen-free)


SOT-23
MECHANICAL DATA

- Case: SOT- 23, molded plastic
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed: 260°C/10s
- Weight: 0.008g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | |
|--|-----------------------------------|-------------|------|
| PARAMETER | SYMBOL | VALUE | UNIT |
| Power Dissipation | P _D | 200 | mW |
| Repetitive Peak Reverse Voltage | V _{RRM} | 40 | V |
| Reverse Voltage | V _R | 40 | V |
| Repetitive Peak Forward Current | I _{FRM} | 200 | mA |
| Mean Forward Current | I _O | 200 | mA |
| Non-Repetitive Peak Forward Surge Current (Note 1) | I _{FSM} | 0.6 | A |
| Thermal Resistance (Junction to Ambient) (Note 2) | R _{θJA} | 357 | °C/W |
| Junction and Storage Temperature Range | T _J , T _{STG} | -65 to +125 | °C |

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|---|-------------------|-----|------|------|
| Reverse Breakdown Voltage I _R =10μA | V _(BR) | 40 | - | V |
| Forward Voltage I _F =1mA I _F =10mA I _F =40mA | V _F | - | 0.38 | V |
| | | - | 0.50 | |
| | | - | 1.00 | |
| Reverse Leakage Current V _R =30V | I _R | - | 0.2 | μA |
| Junction Capacitance V _R =1V, f=1.0MHz | C _J | - | 5.0 | pF |
| Reverse Recovery Time I _F =I _R =10mA, R _L =100Ω, I _{RR} =1mA | t _{rr} | - | 5.0 | ns |

Notes : 1. Test Condition : 8.3ms single half sine-wave superimposed on rated load

Notes : 2. Valid provided that electrodes are kept at ambient temperature

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RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig.1 Power Derating Curve

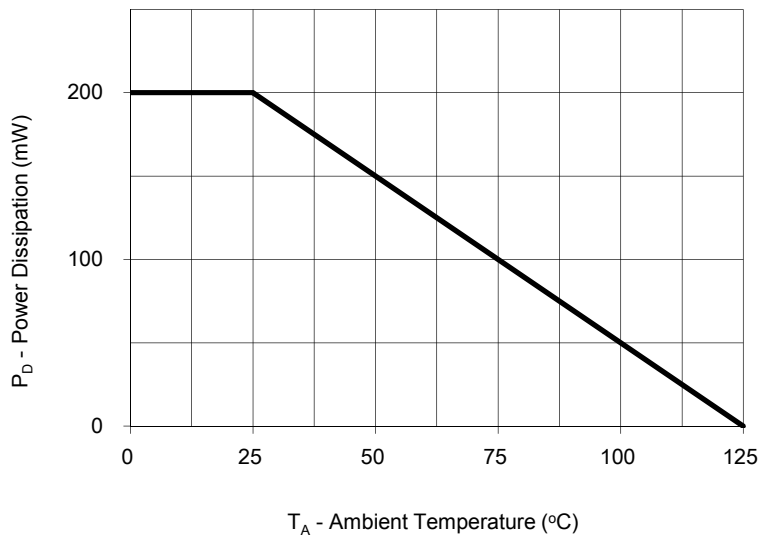


Fig. 2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg

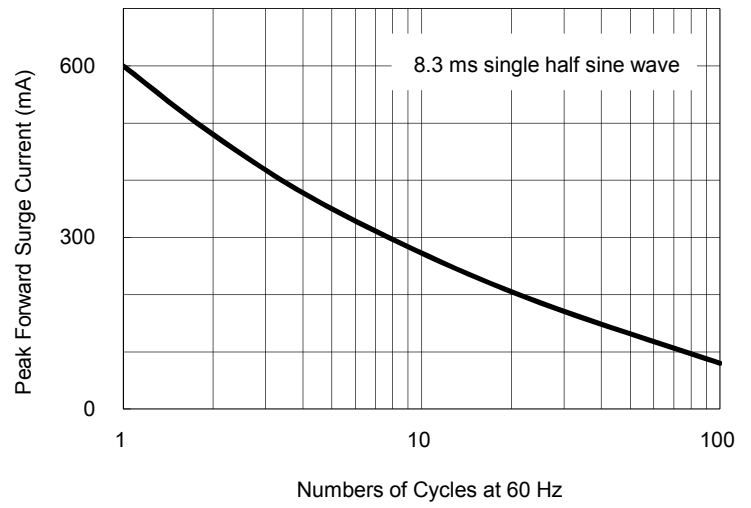


Fig. 3 Typical Forward Characteristics

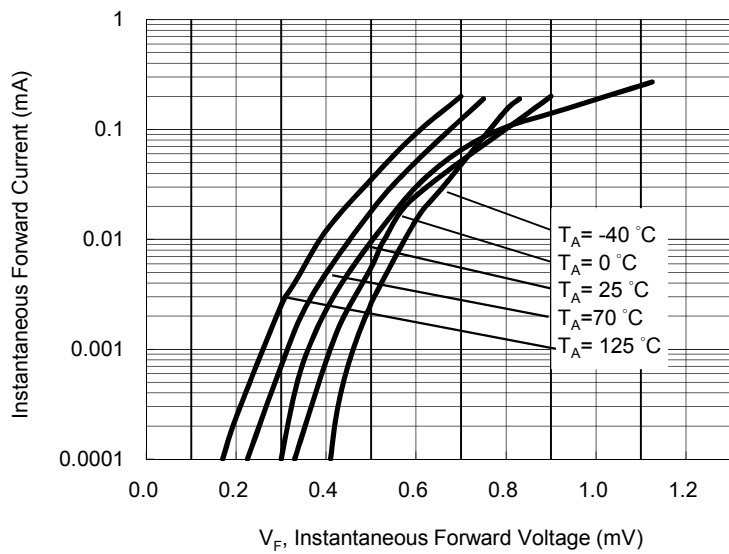


Fig. 4 Typical Reverse Characteristics

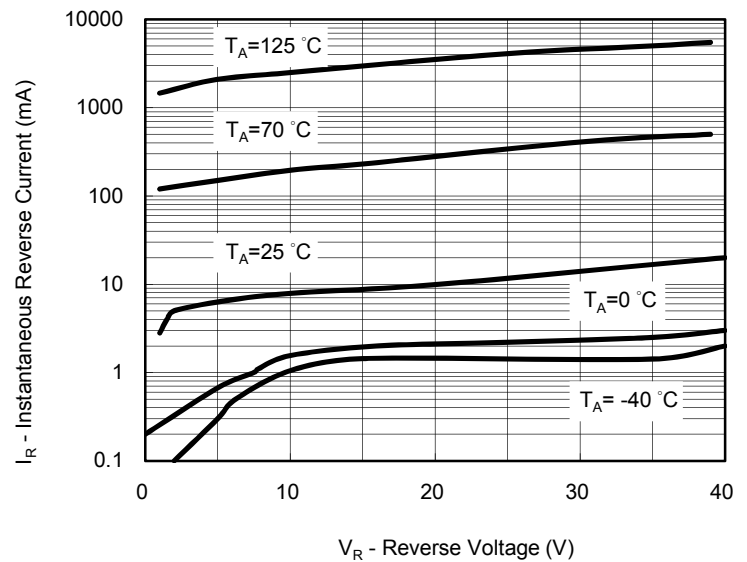


Fig. 5 Typical Total Capacitance VS. Reverse Voltage

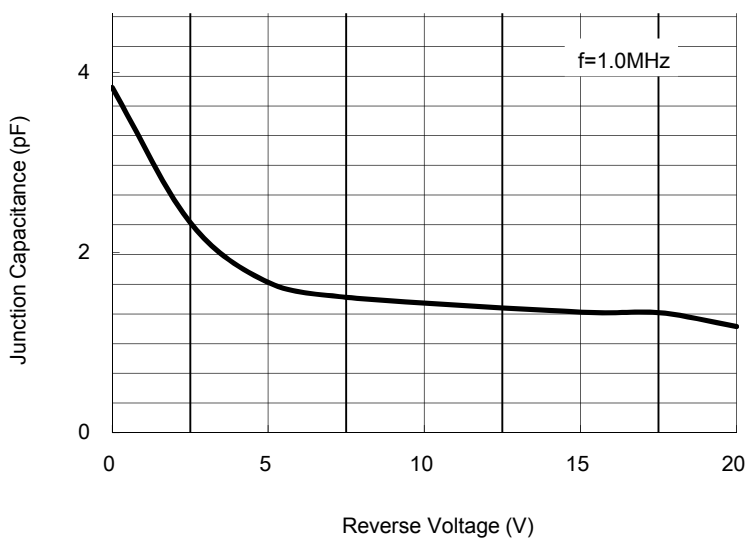
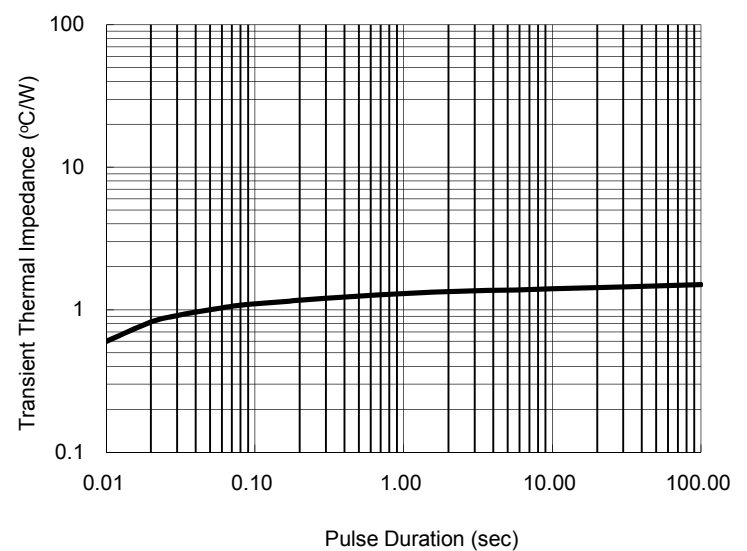


Fig. 6 Typical Transient Thermal



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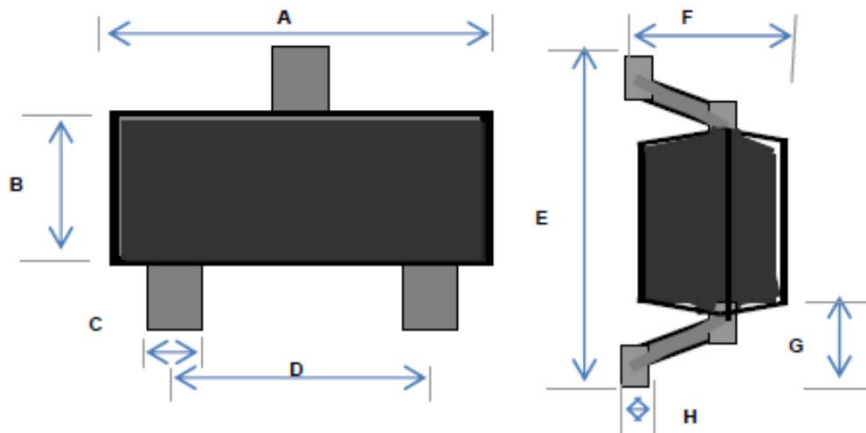
| ORDERING INFORMATION | | | | | | |
|----------------------|-----------------------------|-----------------|------------------------|---------|--------------|---------|
| PART NO. | PART NO. SUFFIX (Note 1) | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING | MARKING |
| BAS40 | -xx | RF | G | SOT-23 | 3K / 7" Reel | 43 |
| BAS40-04 | | | | | | 44 |
| BAS40-05 | | | | | | 45 |
| BAS40-06 | | | | | | 46 |

Note 1: Part No. Suffix „-xx “ would be used for special requirement

| EXAMPLE | | | | | |
|---------------|----------|--------------------|--------------|------------------------|---|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| BAS40 RF | BAS40 | | RF | | Multiple manufacture source |
| BAS40 RFG | BAS40 | | RF | G | Multiple manufacture source Green compound |
| BAS40-D0 RFG | BAS40 | -D0 | RF | G | Define manufacture source Green compound |

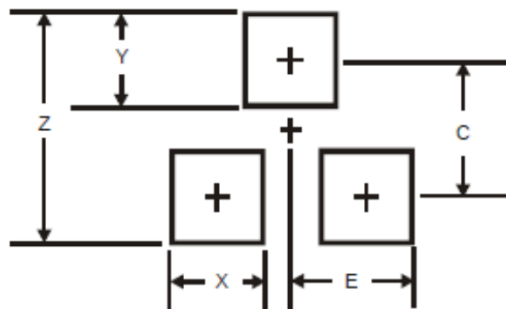
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PACKAGE OUTLINE DIMENSIONS



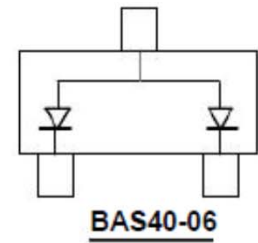
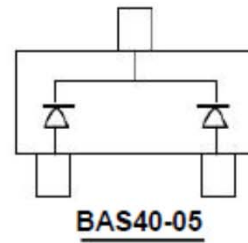
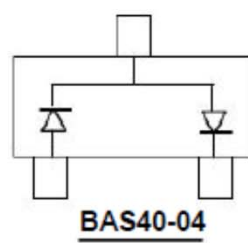
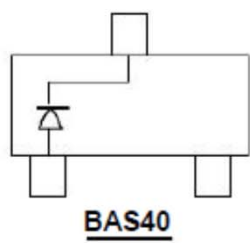
| DIM. | Unit(mm) | | Unit(inch) | |
|------|----------|------|------------|-------|
| | Min | Max | Min | Max |
| A | 2.70 | 3.10 | 0.106 | 0.122 |
| B | 1.10 | 1.50 | 0.043 | 0.059 |
| C | 0.30 | 0.51 | 0.012 | 0.020 |
| D | 1.78 | 2.04 | 0.070 | 0.080 |
| E | 2.10 | 2.64 | 0.083 | 0.104 |
| F | 0.89 | 1.30 | 0.035 | 0.051 |
| G | 0.55 REF | | 0.022 REF | |
| H | 0.10 REF | | 0.004 REF | |

SUGGEST PAD LAYOUT



| DIM. | Unit(mm) | Unit(inch) |
|------|----------|------------|
| | Typ. | Typ. |
| Z | 2.8 | 0.11 |
| X | 0.7 | 0.03 |
| Y | 0.9 | 0.04 |
| C | 1.9 | 0.07 |
| E | 1.0 | 0.04 |

PIN CONFIGURATION



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