

SOT-23

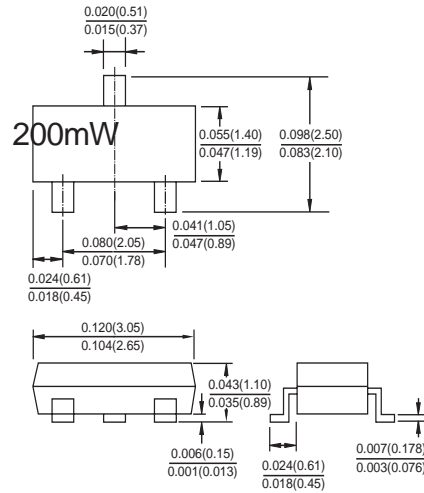


Features

- ◇ Low turn-on voltage
- ◇ Fast switching
- ◇ PN junction guard Ring for transient

Mechanical Data

- ◇ Case: SOT-23, Molded plastic
- ◇ Weight: 0.008 grams



Dimensions in inches and (millimeters)



Maximum Ratings $T_A=25^\circ\text{C}$ unless otherwise specified

| Type Number | Symbol | BAS70 | Units |
|---|-----------------|-------------|------------------|
| Peak Repetitive Reverse Voltage | VRRM | 70 | V |
| Working Peak Reverse Voltage | VRWM | | |
| DC Blocking Voltage | VR | | |
| RMS Reverse Voltage | VR(RMS) | 49 | V |
| Forward Continuous Current (Note 1) | IF | 70 | mA |
| Non-Repetitive Peak Forward Surge Current @ $t \leq 1.0\text{s}$ | IFSM | 100 | mA |
| Power Dissipation (Note 1) | Pd | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 625 | K/W |
| Operating Junction Temperature Range | T_J | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | $^\circ\text{C}$ |

Electrical Characteristics

| Type Number | Symbol | Min | Max | Units |
|---|--------|-----|-------------|-------|
| Reverse Breakdown Voltage (Note 2), $I_R=10\mu\text{A}$ | V(BR) | 70 | | |
| Reverse Leakage Current $t_p<300\mu\text{s}$, $V_R=50\text{V}$ | I_R | - | 100 | nA |
| Forward Voltage Drop $t_p=300\mu\text{s}$, $I_F=1.0\text{mA}$ $t_p<300\mu\text{s}$, $I_F=15\text{mA}$ | V_F | - | 410 1000 | mV |
| Junction Capacitance $V_R=0$, $f=1.0\text{MHz}$ | C_j | - | 2.0 | pF |
| Reverse Recovery Time (Note 3) | trr | - | 5.0 | nS |

- Notes:
1. Valid Provided that Terminals are Kept at Ambient Temperature.
 2. Test Period < 3000 μs .
 3. Reverse Recovery Test Conditions: $I_F=I_R=10\text{mA}$, $I_{rr}=1.0\text{mA}$, $R_L=100\Omega$.

RATINGS AND CHARACTERISTIC CURVES (BAS70 / -04 / -05 / -06)

FIG.1- POWER DERATING CURVE

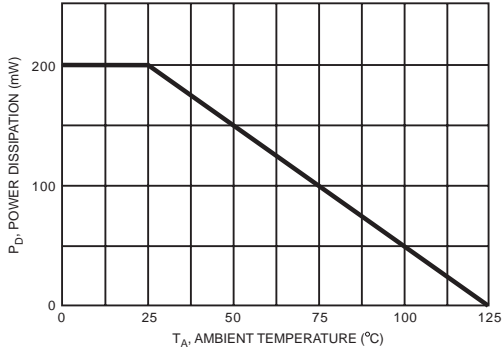


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

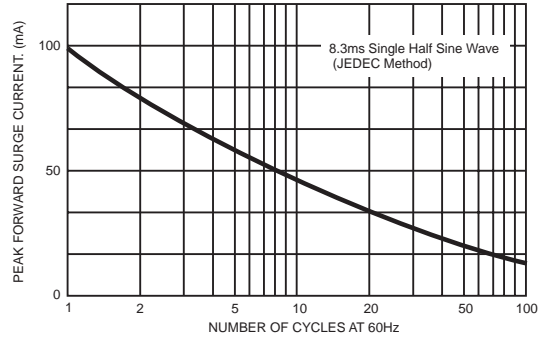


FIG.3- TYPICAL FORWARD CHARACTERISTICS

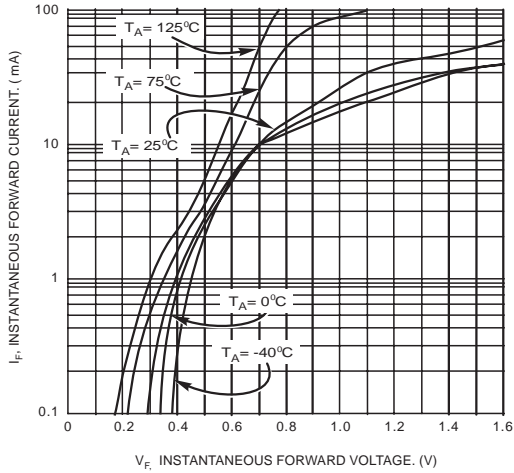


FIG.4- TYPICAL REVERSE CHARACTERISTICS

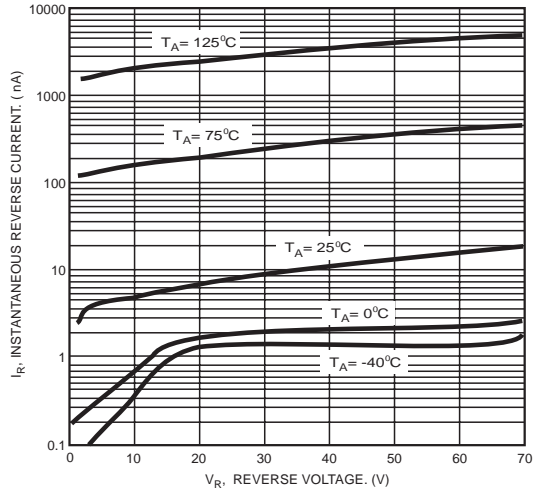


FIG.5- TYPICAL TOTAL CAPACITANCE VS REVERSE VOLTAGE

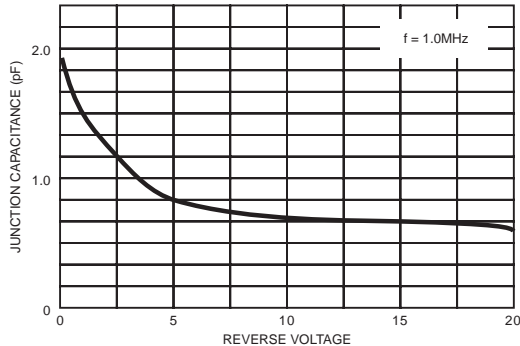
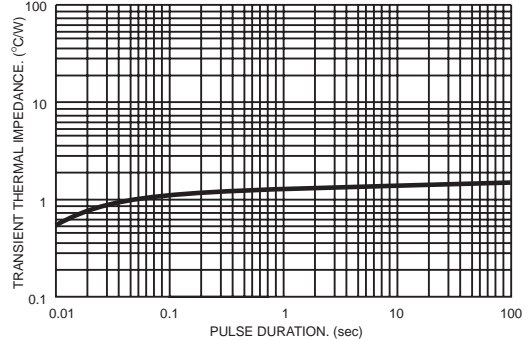


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



| PACKAGE | SPQ/PCS | CARTON SPQ/PCS | CARTON SIZE/CM | CARTON GW/KG | CARTON NW/KG |
|---------|-----------|----------------|----------------|--------------|--------------|
| SOT-23 | 3000/REEL | 90000 | 40X20X22 | 5.00 | 4.00 |