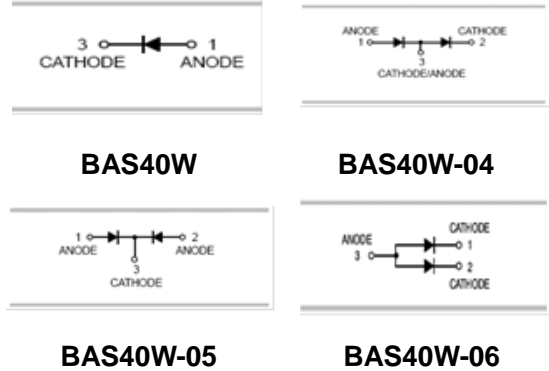




Features

- Low turn-on voltage.
- Fast switching.
- Ultra-small surface mount package.
- PN Junction Guard Ring for Transient and ESD Protection.



Typical Applications

- For general purpose switching applications.

Mechanical Data

- Case: SOT-323
- Terminals: solderable per MIL-STD-202, Method 208.



SOT-323

Ordering Information

| Part Number | Package | Shipping | Marking Code |
|-------------|---------|------------------------|--------------|
| BAS40W | SOT-323 | 3000 pcs / Tape & Reel | 43 |
| BAS40W-04 | SOT-323 | 3000 pcs / Tape & Reel | 44 |
| BAS40W-05 | SOT-323 | 3000 pcs / Tape & Reel | 45 |
| BAS40W-06 | SOT-323 | 3000 pcs / Tape & Reel | 46 |

Maximum Ratings (@T_A=25°C unless otherwise specified)

| Parameter | Symbol | Limits | Unit |
|---|---------------------|--------|------|
| Peak Repetitive Peak reverse voltage | V _{RRM} | 40 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Reverse Voltage | V _R | | |
| RMS Reverse voltage | V _{R(RMS)} | 28 | V |
| Forward Continuous Current | I _{FM} | 200 | mA |
| Non-Repetitive peak forward surge Current@8.3ms | I _{FSM} | 600 | mA |
| Power Dissipation * | P _D | 200 | mW |

* part mounted on FR-4 board with recommended pad layout



Thermal Characteristics

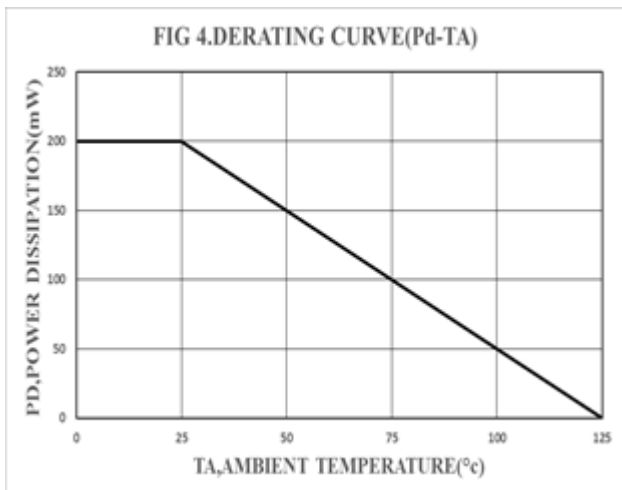
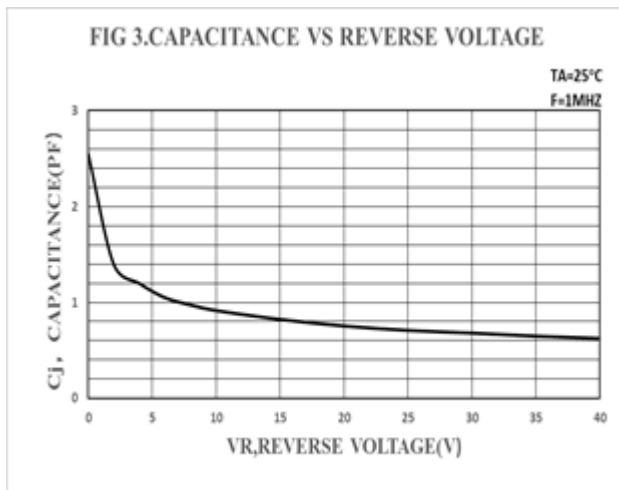
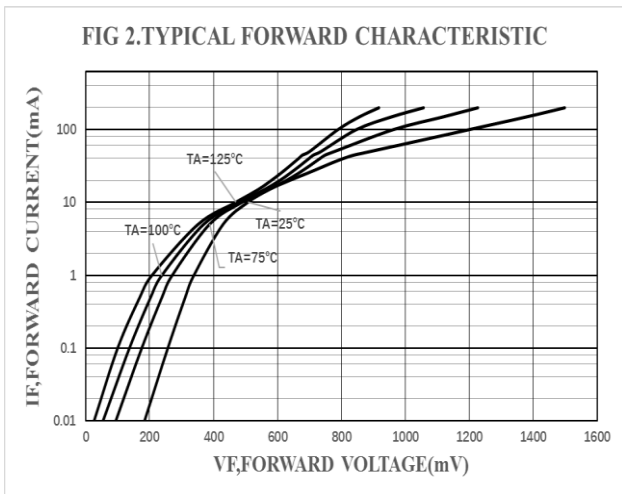
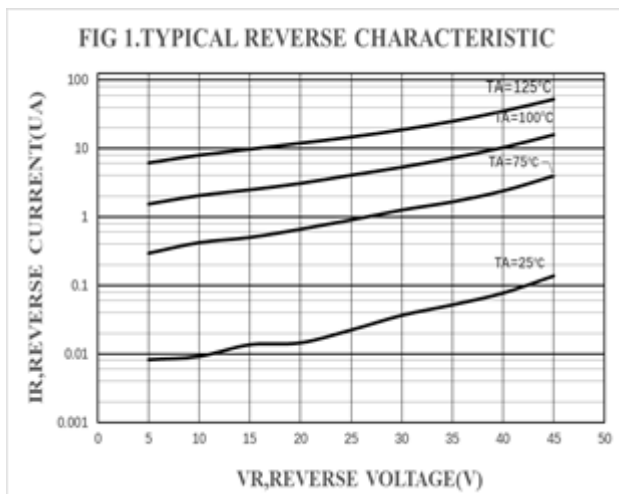
| Parameter | Symbol | Limits | Unit |
|---|-----------------|-------------|---------------|
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 500 | $^{\circ}C/W$ |
| Operating Junction Temperature Range | T_j | -55 to +125 | $^{\circ}C$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^{\circ}C$ |

Electrical Characteristics (@ $T_A=25^{\circ}C$ unless otherwise specified)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|-------------------------------|----------|---|-----|-----|------|------|
| Forward Voltage *1 | V_F | $I_F=1mA$ | | | 0.38 | V |
| | | $I_F=40mA$ | | | 1 | V |
| Reverse Leakage Current *2 | I_R | $V_R=30V$ | | | 200 | nA |
| Capacitance Between Terminals | C_T | $V_R=0V, f=1MHz$ | | 2.5 | 5 | pF |
| Reverse Recovery Time | t_{rr} | $I_F=I_R=10mA$ $I_{rr}=1.0mA, R_L=100\Omega$ | | | 5 | ns |

*1: pulse test, $t_p \leq 300\mu s$
*2: pulse test, $t_p \leq 5ms$

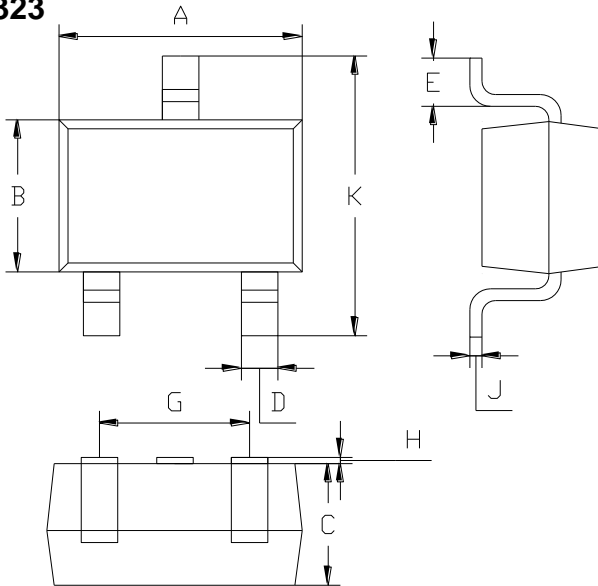
Ratings and Characteristic Curves ($T_A=25^{\circ}C$ unless otherwise noted)





Package Outline Dimensions (unit: mm)

SOT-323



| SOT-323 | | |
|---------|------|------|
| Dim | Min | Max |
| A | 2.00 | 2.20 |
| B | 1.15 | 1.35 |
| C | 0.90 | 1.10 |
| D | 0.15 | 0.35 |
| E | 0.25 | 0.40 |
| G | 1.20 | 1.40 |
| H | 0.02 | 0.10 |
| J | 0.05 | 0.15 |
| K | 2.20 | 2.40 |

Mounting Pad Layout (unit: mm)

SOT-323

