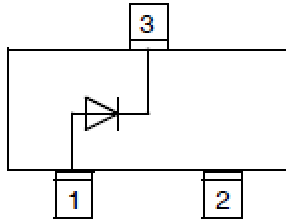


## Switching Diode



### SOT-23

#### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Low Current Leakage
- Part no. with suffix "Q" means AEC-Q101 qualified

#### Applications

- For General Purpose Switching Applications

#### Mechanical Data

- **Case:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** JS

#### ■Maximum Rating (Ta=25°C Unless otherwise specified)

| Item   | Symbol    | Unit | Value       |
|--|-----------|------|-------------|
| Reverse Voltage                                  | $V_R$     | V    | 250         |
| Forward Continuous Current, Per Leg              | $I_F$     | mA   | 200         |
| Non-Repetitive Peak Forward Surge Current@ t=1s, | $I_{FSM}$ | A    | 0.5         |
| Power Dissipation                                | $P_D$     | mW   | 350         |
| Operation Junction Temperature                   | $T_J$     | °C   | -55 to +150 |
| Storage Temperature                              | $T_{STG}$ | °C   | -55 to +150 |

#### ■Electrical Characteristics (Ta=25°C Unless otherwise specified, Per Leg)

| Item                                  | Symbol   | Unit | Conditions                                      | Value |
|---------------------------------------|----------|------|---|-------|
| Reverse Voltage                       | $V_R$    | V    | $I_R=100\mu A$                                  | 250   |
| Maximum Instantaneous Forward Voltage | $V_F$    | V    | $I_{FM}=100mA, T_J=25^\circ C$                  | 1.0   |
|                                       |          |      | $I_{FM}=200mA, T_J=25^\circ C$                  | 1.25  |
| Maximum DC Reverse Current            | $I_R$    | nA   | $V_R=200V$                                      | 100   |
| Typical Junction Capacitance          | $C_J$    | pF   | f=1.0MHz, $V_R=0V$                              | 5     |
| Reverse Recovery Time                 | $T_{rr}$ | ns   | $I_F=30mA, I_R=30mA, R_L=100\Omega, I_{rr}=3mA$ | 50    |



# BAS21Q

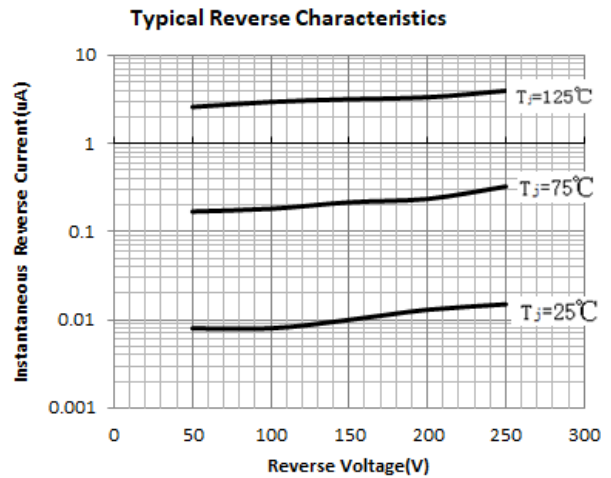
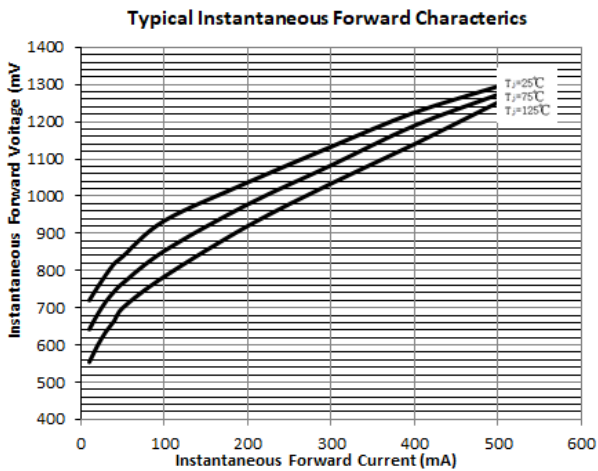
## ■ Thermal Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                   | SYMBOL          | UNIT | Value |
|-----------------------------|-----------------|------|-------|
| Thermal Resistance(Typical) | $R_{\theta JA}$ | °C/W | 357   |

## ■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BAS21Q        | F2           | Approximate 0.010 | 3000                 | 30000                   | 120000                     | 7" reel       |

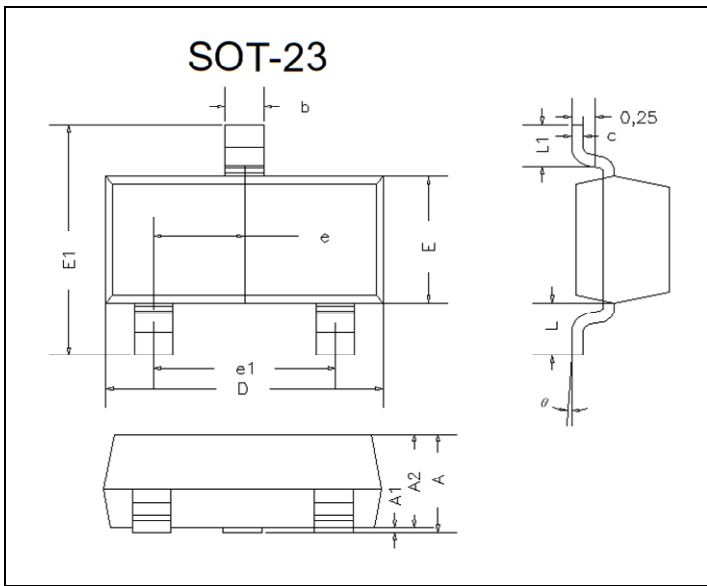
## ■ Typical Characteristics (Per Leg)





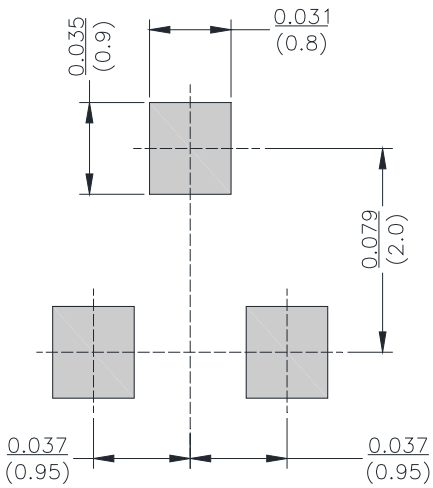
# BAS21Q

## ■SOT-23 Package Outline Dimensions



| DIM   | INCHES   |       | MM      |      | NOTE |
|-------|----------|-------|---------|------|------|
|       | MIN      | MAX   | MIN     | MAX  |      |
| A     | 0.035    | 0.045 | 0.90    | 1.15 |      |
| A1    | 0.000    | 0.004 | 0.00    | 0.10 |      |
| A2    | 0.035    | 0.041 | 0.90    | 1.05 |      |
| b     | 0.012    | 0.020 | 0.30    | 0.50 |      |
| c     | 0.004    | 0.008 | 0.10    | 0.20 |      |
| D     | 0.110    | 0.118 | 2.80    | 3.00 |      |
| E     | 0.047    | 0.055 | 1.20    | 1.40 |      |
| E1    | 0.089    | 0.100 | 2.25    | 2.55 |      |
| e     | 0.370TYP |       | 0.95TYP |      |      |
| e1    | 0.071    | 0.079 | 1.80    | 2.00 |      |
| L     | 0.220REF |       | 0.55REF |      |      |
| L1    | 0.012    | 0.020 | 0.30    | 0.50 |      |
| theta | 0°       | 8°    | 0°      | 8°   |      |

## ■SOT-23 Suggested Pad Layout



Unit:  $\frac{\text{inch}}{\text{mm}}$



## BAS21Q

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