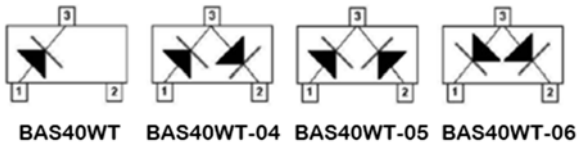


## Schottky Barrier Diode



### Features

- Moisture sensitivity level 1
- Reverse voltage: 40V
- Average forward current : 200mA

### Application

- Signal switching
- High frequency rectifier

### Mechanical data

- **Package:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| Parameter  | Symbol           | Unit | Value       |    |
|--|------------------|------|-------------|----|
| Device marking code  |                  |      | BAS40WT     | 43 |
|  |                  |      | BAS40WT -04 | 44 |
|  |                  |      | BAS40WT -05 | 45 |
|  |                  |      | BAS40WT -06 | 46 |
| Repetitive peak reverse voltage                                    | V <sub>RRM</sub> | V    | 40          |    |
| Forward current, per leg   | I <sub>F</sub>   | mA   | 200         |    |
| Non-repetitive surge peak forward current @ t=8.3ms half-sine wave | I <sub>FSM</sub> | A    | 0.6         |    |
| Non-repetitive surge peak forward current @ t=1ms square wave      |                  |      | 2           |    |
| Power dissipation  | P <sub>D</sub>   | mW   | 200         |    |
| Junction temperature   | T <sub>J</sub>   | °C   | -55 to +125 |    |
| Storage temperature  | T <sub>STG</sub> | °C   | -55 to +125 |    |



# BAS40WT THRU BAS40WT-06

RoHS  
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## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Parameter               | Symbol          | UNIT | Conditions   | Min | TYP | Max  |
|-------------------------|-----------------|------|--|-----|-----|------|
| Reverse voltage         | V <sub>R</sub>  | V    | I <sub>R</sub> =10μA   | 40  |     |      |
| Forward voltage         | V <sub>F1</sub> | mV   | I <sub>F</sub> =1mA  |     |     | 380  |
|                         | V <sub>F2</sub> | mV   | I <sub>F</sub> =40mA   |     |     | 1000 |
| Reverse leakage current | I <sub>R</sub>  | nA   | V <sub>R</sub> =30V  |     |     | 200  |
| Junction capacitance    | C <sub>j</sub>  | pF   | V <sub>R</sub> =0V, f=1MHz   |     |     | 5    |
| Reverse recovery time   | T <sub>rr</sub> | ns   | I <sub>F</sub> =I <sub>R</sub> =5mA, I <sub>rr</sub> =0.1*I <sub>R</sub> ,<br>R <sub>L</sub> =100Ω |     |     | 5    |

## ■ Thermal Characteristics

| Parameter                               | Symbol                           | Unit | Value |
|---|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R <sub>θJ-A</sub> <sup>(1)</sup> | °C/W | 500   |
| Thermal resistance, junction-to-case    | R <sub>θJ-C</sub> <sup>(1)</sup> | °C/W | 400   |

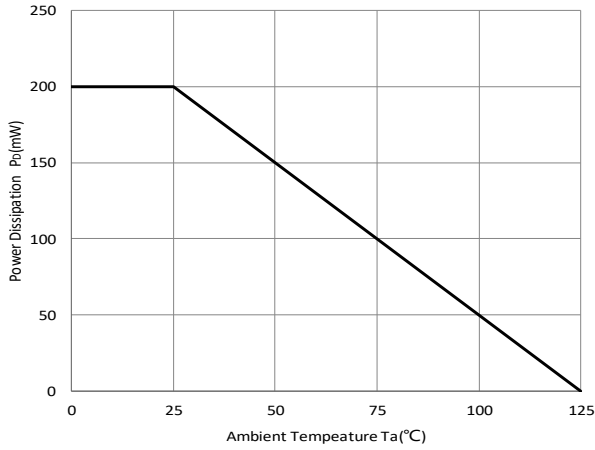
### Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

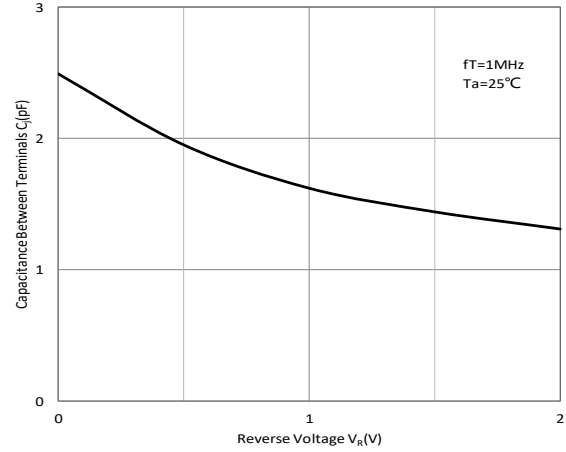


## ■ Characteristics

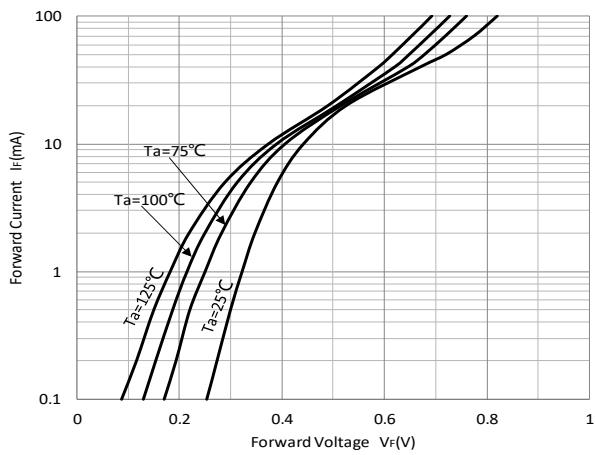
**Fig 1:  $P_D$ - $T_a$  Curve**



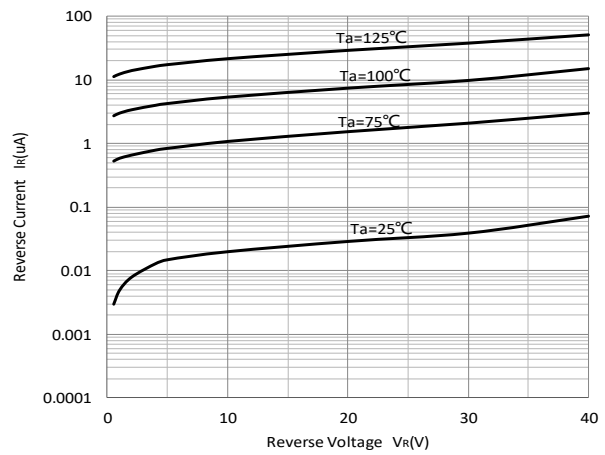
**Fig 2: Capacitance Capability**



**Fig 3: Typical Forward Characteristics**



**Fig 4: Typical Reverse Characteristics**





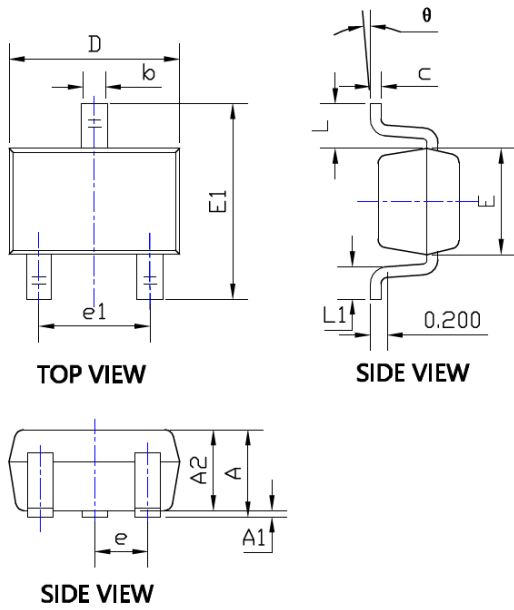
# BAS40WT THRU BAS40WT-06

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## Ordering Information

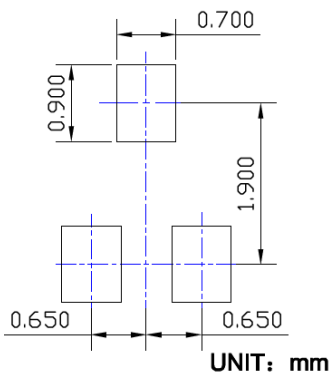
| Preferred P/N              | Packing code | Unit weight(g)    | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity (pcs) | Delivery mode |
|----------------------------|--------------|-------------------|----------------------|-------------------------|-----------------------------|---------------|
| BAS40WT THRU<br>BAS40WT-06 | F2           | Approximate 0.005 | 3000                 | 30000                   | 120000                      | 7" reel       |

## Outline Dimensions



| SYMBOL | DIMENSIONS |       |            |       |
|--------|------------|-------|------------|-------|
|        | INCHES     |       | Millimeter |       |
|        | MIN.       | MAX.  | MIN.       | MAX.  |
| A      | 0.035      | 0.043 | 0.900      | 1.100 |
| A1     | 0.000      | 0.004 | 0.000      | 0.100 |
| A2     | 0.035      | 0.039 | 0.900      | 1.000 |
| b      | 0.006      | 0.016 | 0.150      | 0.400 |
| c      | 0.004      | 0.010 | 0.100      | 0.250 |
| D      | 0.071      | 0.087 | 1.800      | 2.200 |
| E      | 0.045      | 0.053 | 1.150      | 1.350 |
| E1     | 0.085      | 0.096 | 2.150      | 2.450 |
| e      | 0.026 TYP  |       | 0.650 TYP  |       |
| e1     | 0.047      | 0.055 | 1.200      | 1.400 |
| L      | 0.021 REF  |       | 0.525 REF  |       |
| L1     | 0.010      | 0.018 | 0.260      | 0.460 |
| theta  | 0°         | 8°    | 0°         | 8°    |

## Suggested Pad Layout





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