

# SCHOTTKY BARRIER DIODE

## Features

- Low forward current
- Guard ring protected
- Low diode capacitance.

## APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits.
- Blocking diodes.

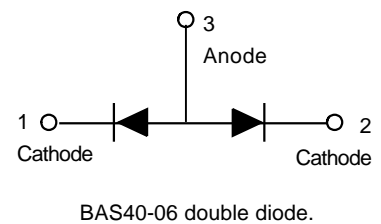
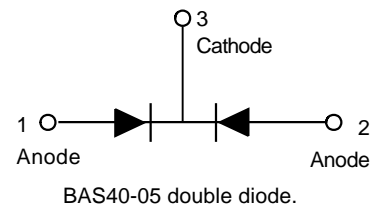
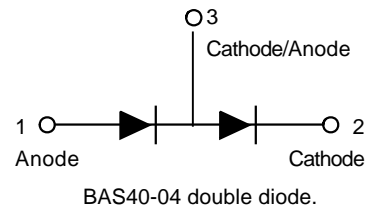
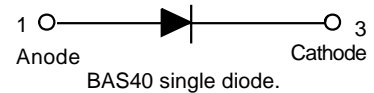
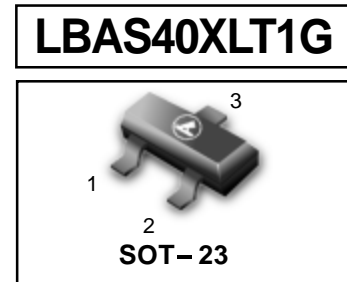
## DESCRIPTION

Planar Schottky barrier diodes with an integrated guard ring for stress protection.

We declare that the material of product compliance with RoHS requirements.

## ORDERING INFORMATION

| Device        | Marking | Shipping          |
|---------------|---------|-------------------|
| LBAS40LT1G    | B1      | 3000 Tape & Reel  |
| LBAS40LT3G    | B1      | 10000 Tape & Reel |
| LBAS40-04LT1G | CB      | 3000 Tape & Reel  |
| LBAS40-04LT3G | CB      | 10000 Tape & Reel |
| LBAS40-05LT1G | 45      | 3000 Tape & Reel  |
| LBAS40-05LT3G | 45      | 10000 Tape & Reel |
| LBAS40-06LT1G | L2      | 3000 Tape & Reel  |
| LBAS40-06LT3G | L2      | 10000 Tape & Reel |



## LBAS40XLT1G

### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

| Parameter                             | Symbol           | Min. | Max. | Unit | Conditions                   |
|---------------------------------------|------------------|------|------|------|------------------------------|
| Continuous reverse voltage            | V <sub>R</sub>   | -    | 40   | V    |                              |
| Continuous forward current            | I <sub>F</sub>   | -    | 120  | mA   |                              |
| Repetitive Peak forward surge current | I <sub>FSM</sub> | -    | 120  | mA   | t <sub>p</sub> ≤ 1s; δ ≤ 0.5 |
| Non-repetitive peak forward current   | I <sub>FSM</sub> | -    | 200  | mA   | t <sub>p</sub> < 10ms        |
| Storage temperature                   | T <sub>stg</sub> | -65  | +150 | °C   |                              |
| Junction temperature                  | T <sub>j</sub>   | -    | 150  | °C   |                              |
| Operating ambient temperature         | T <sub>amb</sub> | -65  | +150 | °C   |                              |

### DEVICE MARKING

LBAS40LT1G=B1 LBAS40-04LT1G=CB LBAS40-05LT1G=45 LBAS40-06LT1G=L2

### ELECTRICAL CHARACTERISTICS(T<sub>A</sub> = 25°C)

| Parameter                     | Symbol         | Max. | Unit | Conditions                |
|-------------------------------|----------------|------|------|---------------------------|
| Forward voltage(Fig.1)        | V <sub>F</sub> | 400  | mV   | I <sub>F</sub> =1mA       |
|                               |                | 560  | mv   | I <sub>F</sub> =10mA      |
|                               |                | 1    | v    | I <sub>F</sub> =40mA      |
| Reverse current(Fig.2 :note1) | I <sub>R</sub> | 1    | μA   | V <sub>R</sub> =30V       |
|                               |                | 10   | μA   | V <sub>R</sub> =40V       |
| Diode capacitance(Fig.4)      | C <sub>d</sub> | 5    | pF   | f=1MHz; V <sub>R</sub> =0 |

Note:

1. Pulse test;t<sub>p</sub>=300μs;δ=0.02.

### THERMAL CHARACTERISTICS

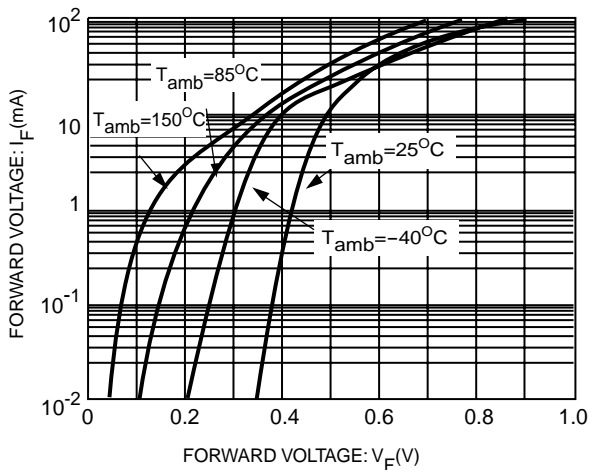
| PARAMETER                                   | SYMBOL              | VALUE | UNIT | CONDITIONS |
|---|---------------------|-------|------|------------|
| Thermal resistance from junction to ambient | R <sub>th j-a</sub> | 500   | k/w  | note1      |

Note

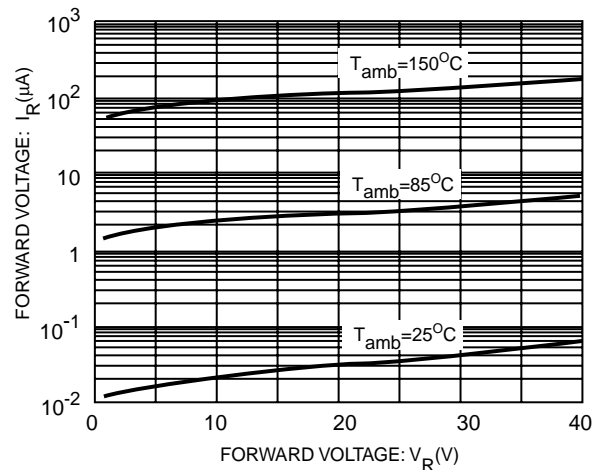
1. Refer to SOT23 or SOT143B standard mounting conditions.

# LBAS40XLT1G

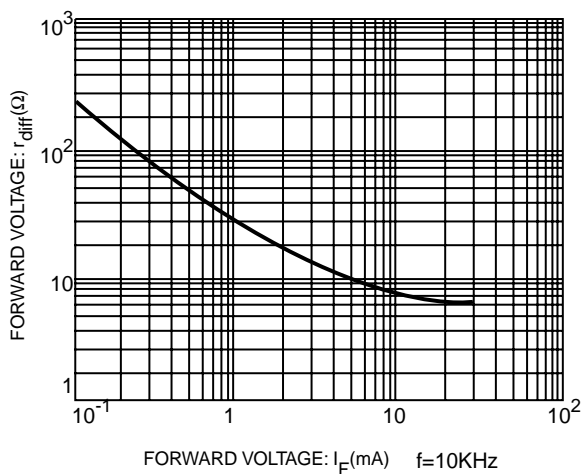
Electrical characteristic curves ( $T_A = 25^\circ\text{C}$ )



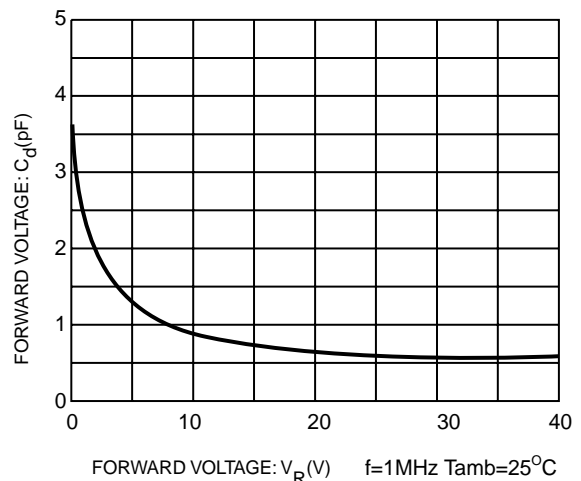
**Fig.1 Forward current as a function of forward voltage; typical values.**



**Fig.2 Reverse current as a function of reverse voltage; typical values.**



**Fig.3 Differential forward resistance as a function of forward current; typical values.**



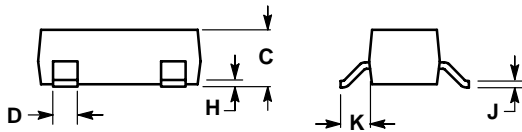
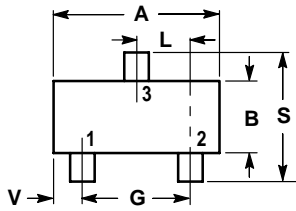
**Fig.4 Diode capacitance as a function of reverse voltage; typical values.**

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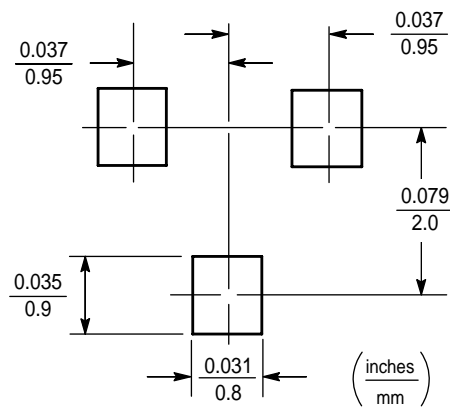
## SOT-23

### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



| DIM | INCHES |        | MILLIMETERS |       |
|-----|--------|--------|-------------|-------|
|     | MIN    | MAX    | MIN         | MAX   |
| A   | 0.1102 | 0.1197 | 2.80        | 3.04  |
| B   | 0.0472 | 0.0551 | 1.20        | 1.40  |
| C   | 0.0350 | 0.0440 | 0.89        | 1.11  |
| D   | 0.0150 | 0.0200 | 0.37        | 0.50  |
| G   | 0.0701 | 0.0807 | 1.78        | 2.04  |
| H   | 0.0005 | 0.0040 | 0.013       | 0.100 |
| J   | 0.0034 | 0.0070 | 0.085       | 0.177 |
| K   | 0.0140 | 0.0285 | 0.35        | 0.69  |
| L   | 0.0350 | 0.0401 | 0.89        | 1.02  |
| S   | 0.0830 | 0.1039 | 2.10        | 2.64  |
| V   | 0.0177 | 0.0236 | 0.45        | 0.60  |



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