

|           |     |   |
|-----------|-----|---|
| $V_R$     | 60  | V |
| $I_o$     | 15  | A |
| $I_{FSM}$ | 100 | A |

### ● Features

- High reliability
- Power mold type
- Cathode common dual type
- Low  $V_F$

### ● Application

- Switching power supply

### ● Structure

- Silicon epitaxial planar

### ● Absolute Maximum Ratings ( $T_c=25^\circ\text{C}$ unless otherwise specified)

| Parameter                           | Symbol    | Conditions  | Limits    | Unit             |
|-------------------------------------|-----------|---|-----------|------------------|
| Repetitive peak reverse voltage     | $V_{RM}$  | Duty $\leq 0.5$   | 60        | V                |
| Reverse voltage                     | $V_R$     | Reverse direct voltage  | 60        | V                |
| Average rectified forward current   | $I_o$     | 60Hz half sin wave form, resistive load, $I_o/2$ per diode, $T_c=75^\circ\text{C Max.}$ | 15        | A                |
| Peak forward surge current          | $I_{FSM}$ | 60Hz half sin wave form, non-repetitive, per diode, $T_a=25^\circ\text{C}$              | 100       | A                |
| Junction temperature <sup>(1)</sup> | $T_j$     | -   | 150       | $^\circ\text{C}$ |
| Storage temperature                 | $T_{stg}$ | -   | -55 ~ 150 | $^\circ\text{C}$ |

Note(1) To avoid occurrence of thermal runaway, actual board is to be designed to fulfill  $dP_j/dT_j < 1/R_{\theta JA}$ .

### Attention

Compared with PN junction diodes, Schottky Barrier Diode is generally high reverse current (IR). The reverse loss of the diode might increase as temperature increasing that causes heat-up and further IR. This phenomenon might end up the thermal destruction(thermal runaway). Therefore please give consideration to the reverse loss and the ambient temperature when using this product.

### ● Outline



### ● Inner Circuit



### ● Packaging Specifications

| Packing          | Embossed Tape |
|------------------|---------------|
| Reel Size(mm)    | 330           |
| Taping Width(mm) | 16            |
| Quantity(pcs)    | 2500          |
| Taping Code      | TL            |
| Marking          | BR15BM60A     |

● Electrical Characteristics (T<sub>j</sub>=25°C unless otherwise specified)

| Parameter                      | Symbol         | Conditions           | Min. | Typ. | Max. | Unit |
|--------------------------------|----------------|----------------------|------|------|------|------|
| Forward voltage <sup>(1)</sup> | V <sub>F</sub> | I <sub>F</sub> =7.5A | -    | -    | 0.58 | V    |
| Reverse current <sup>(1)</sup> | I <sub>R</sub> | V <sub>R</sub> =60V  | -    | -    | 400  | μA   |

Note (1) Value per diode

● Thermal Characteristics

| Parameter   | Symbol           | Min. | Typ. | Max. | Unit |
|---|------------------|------|------|------|------|
| Thermal Resistance (Junction to case) <sup>(1) (2)</sup>    | Per diode        | -    | -    | 1.9  | °C/W |
|   | Per device       | -    | -    | 1.1  | °C/W |
| Thermal Resistance (Junction to ambient) <sup>(1) (3)</sup> | R <sub>θJA</sub> | -    | -    | 75   | °C/W |

Notes (1) Value is guaranteed by design.

(2) Transient dual interface measurement (TDIM) method.

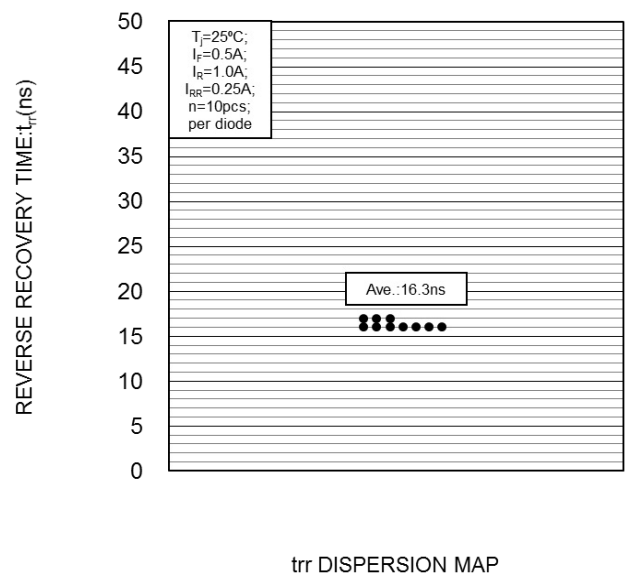
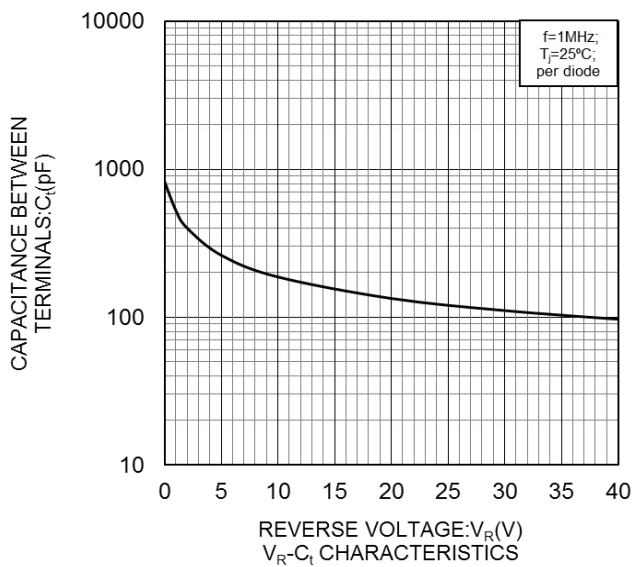
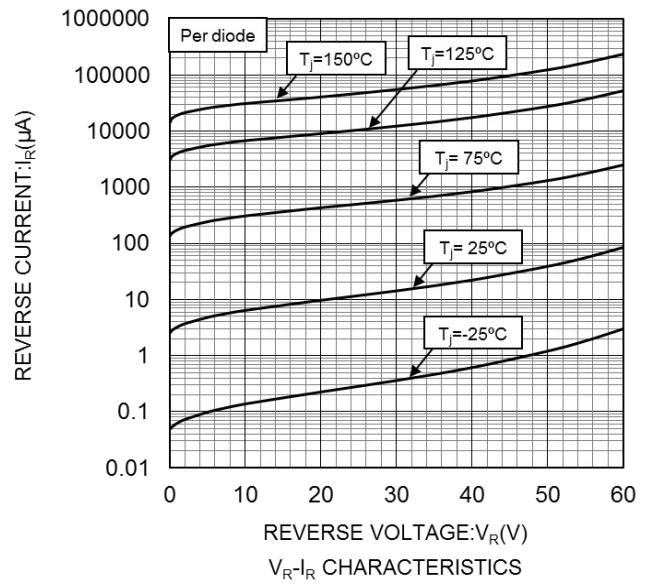
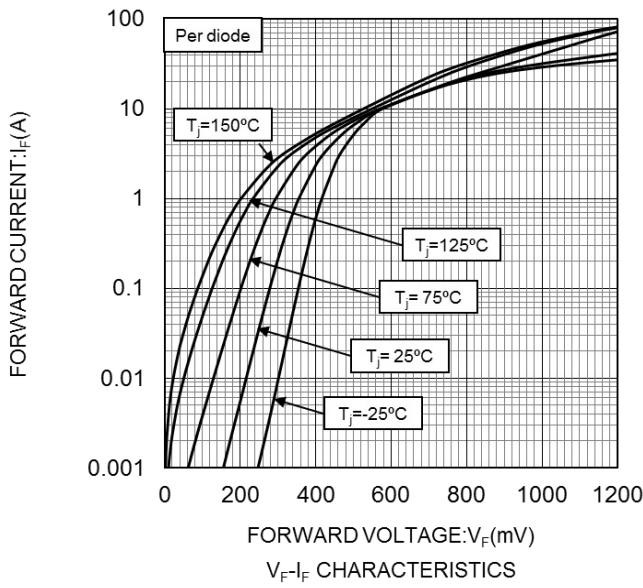
(3) Mounted on 50 x 50 x 1.6mm FR4 board, single-sided copper, 35μm thickness, reference footprint.

● Characteristic Curves

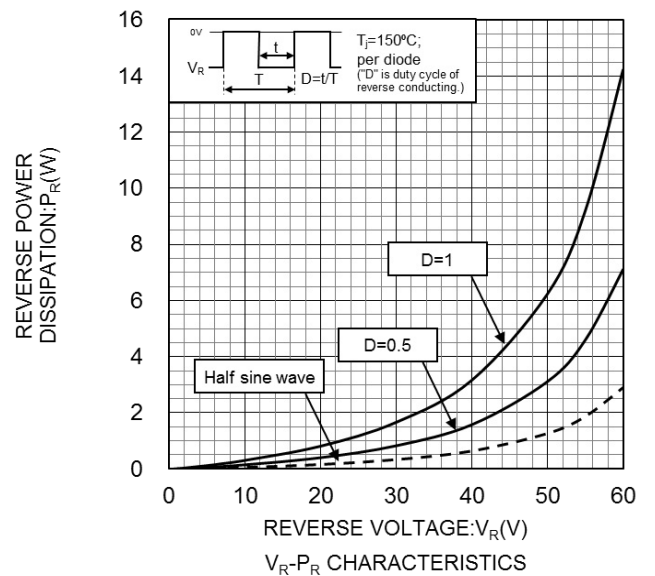
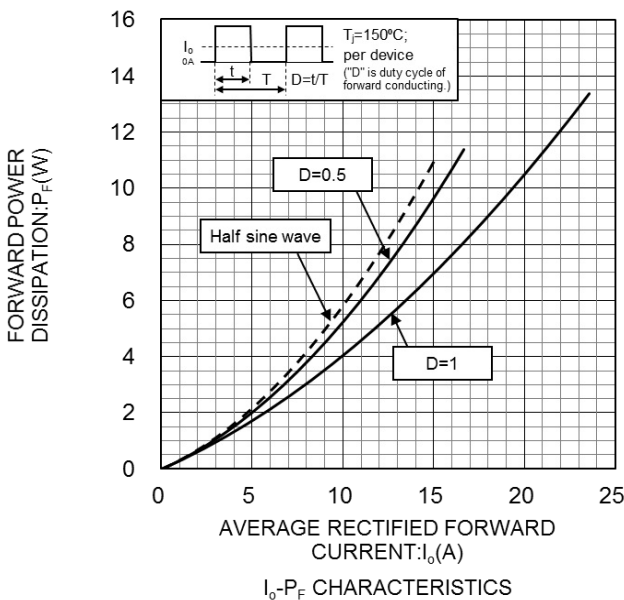
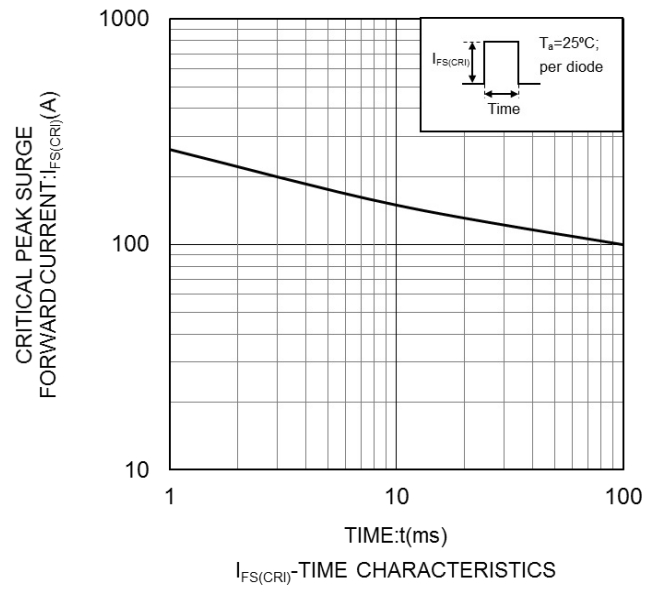
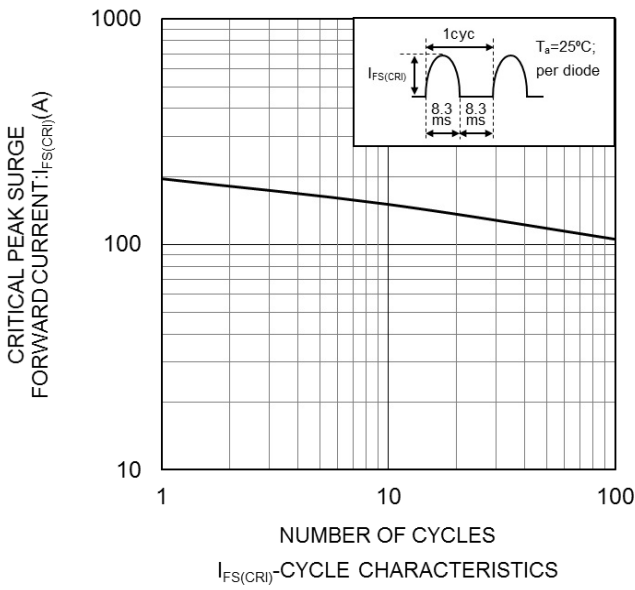


NORMALIZED TRANSIENT THERMAL IMPEDANCE FROM JUNCTION TO CASE (PER DEVICE)

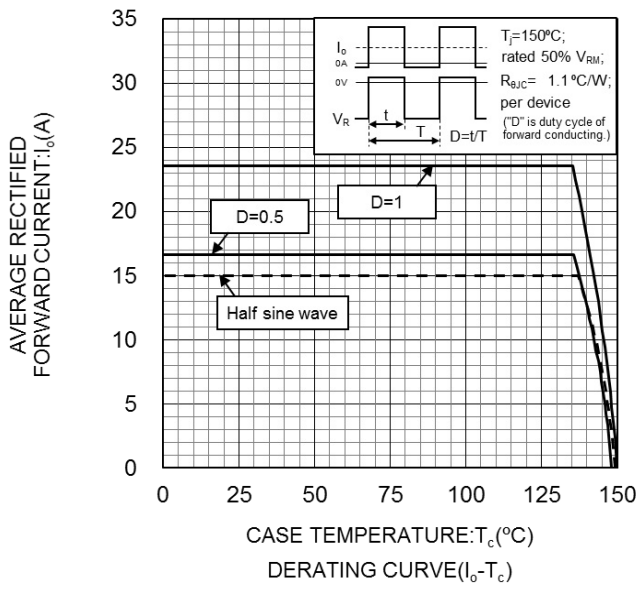
● Characteristic Curves



● Characteristic Curves



● Characteristic Curves



● Dimensions

TO-252, (TO-252)



| DIM | Millimeters |         |       | Inches |         |       |
|-----|-------------|---------|-------|--------|---------|-------|
|     | Min.        | Average | Max.  | Min.   | Average | Max.  |
| A   | 2.10        | 2.20    | 2.30  | 0.083  | 0.087   | 0.091 |
| A1  | -           | 0.10    | -     | -      | 0.004   | -     |
| A2  | 0.70        | 0.90    | 1.10  | 0.028  | 0.035   | 0.043 |
| b   | 0.65        | 0.75    | 0.85  | 0.026  | 0.030   | 0.033 |
| b2  | -           | 0.85    | -     | -      | 0.033   | -     |
| b3  | 5.10        | 5.20    | 5.40  | 0.201  | 0.205   | 0.213 |
| c   | 0.40        | 0.50    | 0.60  | 0.016  | 0.020   | 0.024 |
| c2  | 0.40        | 0.50    | 0.60  | 0.016  | 0.020   | 0.024 |
| D   | 6.00        | 6.10    | 6.40  | 0.236  | 0.240   | 0.252 |
| D1  | -           | 5.30    | -     | -      | 0.209   | -     |
| E   | 6.40        | 6.60    | 6.80  | 0.252  | 0.260   | 0.268 |
| E1  | -           | 5.10    | -     | -      | 0.201   | -     |
| e   | -           | 2.30    | -     | -      | 0.091   | -     |
| H   | 9.50        | 10.00   | 10.50 | 0.374  | 0.394   | 0.413 |
| L1  | -           | 2.90    | -     | -      | 0.114   | -     |
| L3  | 0.70        | 1.00    | 1.30  | 0.028  | 0.039   | 0.051 |
| L4  | 0.70        | 0.80    | 0.90  | 0.028  | 0.031   | 0.035 |

| DIM | Millimeters |         |      | Inches |         |      |
|-----|-------------|---------|------|--------|---------|------|
|     | Min.        | Average | Max. | Min.   | Average | Max. |
| b4  | -           | 1.60    | -    | -      | 0.063   | -    |
| b5  | -           | 6.00    | -    | -      | 0.236   | -    |
| l1  | -           | 3.00    | -    | -      | 0.118   | -    |
| l2  | -           | 2.00    | -    | -      | 0.079   | -    |
| l3  | -           | 6.00    | -    | -      | 0.236   | -    |

● Taping (Unit:mm)



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| JAPAN     | USA       | EU         | CHINA     |
|-----------|-----------|------------|-----------|
| CLASS III | CLASS III | CLASS II b | CLASS III |
| CLASS IV  |           | CLASS III  |           |

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  - Use of the Products in places subject to dew condensation
- The Products are not subject to radiation-proof design.
- Please verify and confirm characteristics of the final or mounted products in using the Products.
- In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse, is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
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- Confirm that operation temperature is within the specified range described in the product specification.
- ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

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- In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

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### Precaution for Electrostatic

This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding the Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of Ionizer, friction prevention and temperature / humidity control).

### Precaution for Storage / Transportation

1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
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  - [b] the temperature or humidity exceeds those recommended by ROHM
  - [c] the Products are exposed to direct sunshine or condensation
  - [d] the Products are exposed to high Electrostatic
2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.
3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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## RBR15BM60A - Web Page

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|                             |            |
|-----------------------------|------------|
| Part Number                 | RBR15BM60A |
| Package                     | TO-252     |
| Unit Quantity               | 2500       |
| Minimum Package Quantity    | 2500       |
| Packing Type                | Taping     |
| Constitution Materials List | inquiry    |
| RoHS                        | Yes        |

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