

RKR103BKU

R07DS0686EJ0100

Silicon Schottky Barrier Diode for Rectifying

Rev.1.00

Jun 12, 2012

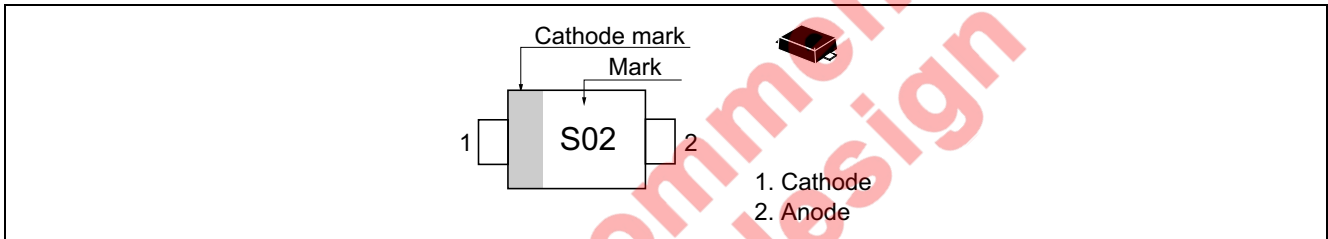
Features

- Low reverse current and suitable for high efficiency rectifying.
- Ultra small Resin Package (TURP-FM) is suitable for compact and high-density surface mount design.

Ordering Information

| Part No | Laser Mark | Package Name | Package Code | Taping Abbreviation (Quantity) |
|----------------|------------|--------------|--------------|--------------------------------|
| RKR103BKU # P6 | S02 | TURP-FM | PUSF0002ZD-A | P6 (4,000pcs / reel) |

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Value | Unit |
|---|----------------|-------------|------|
| Repetitive peak reverse voltage | V_{RRM} | 30 | V |
| Reverse voltage | V_R | 30 | V |
| Average rectified current | I_O^{*1*2} | 1 | A |
| Non-Repetitive peak forward surge current | I_{FSM}^{*3} | 4 | A |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

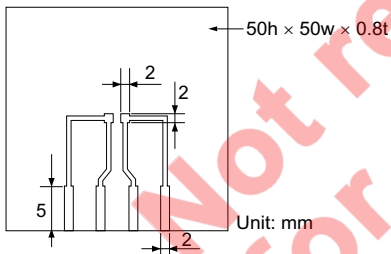
- Notes: 1. See Fig.6. With Ceramics board.
 2. Ta = 40°C, With Ceramics board (board size: 50 mm × 50 mm, Land size 2 mm × 2 mm)
 Short form wave ($\theta = 180^\circ$) $V_R = 15$ V.
 3. 10 ms sin wave 1 pulse.

Electrical Characteristics

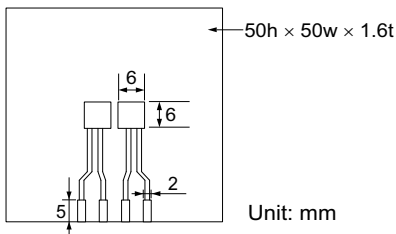
(Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------|---------------|-----|-----|------|---------|---------------------------------|
| Forward voltage | V_{F1} | — | — | 0.38 | V | $I_F = 100$ mA |
| | V_{F3} | — | — | 0.52 | V | $I_F = 700$ mA |
| Reverse current | I_{R1} | — | — | 5 | μ A | $V_R = 5$ V |
| | I_{R2} | — | — | 25 | μ A | $V_R = 30$ V |
| Capacitance | C | — | — | 30 | pF | $V_R = 10$ V $f = 1$ MHz |
| Thermal resistance | $R_{th(j-a)}$ | — | 110 | — | °C/W | Ceramics board ^{*1} |
| | | — | 220 | — | °C/W | Glass epoxy board ^{*2} |

- Notes: 1. Ceramics board



2. Glass epoxy board



Main Characteristics

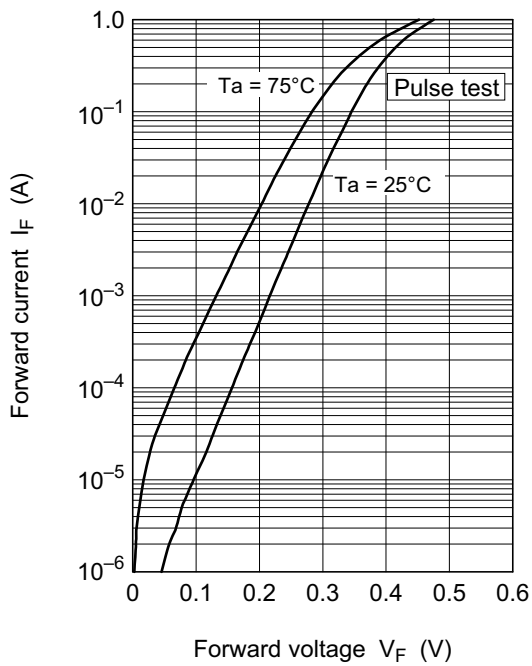


Fig.1 Forward current vs. Forward voltage

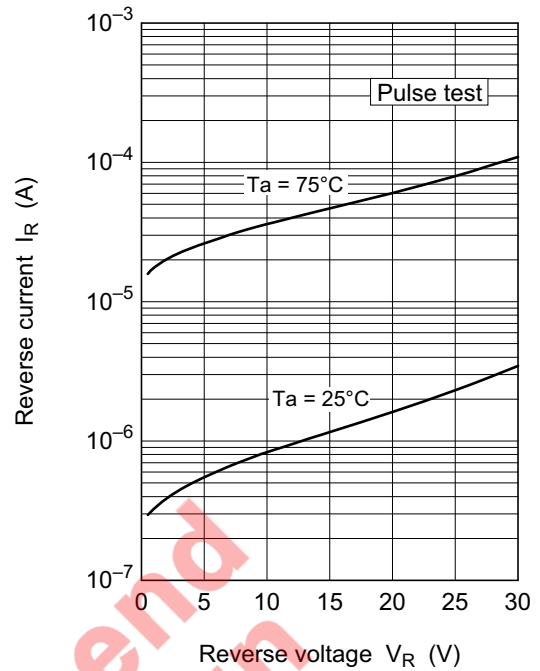


Fig.2 Reverse current vs. Reverse voltage

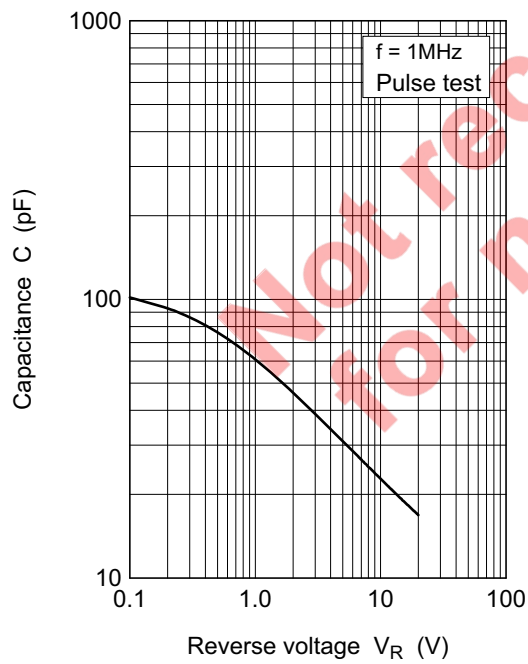


Fig.3 Capacitance vs. Reverse voltage

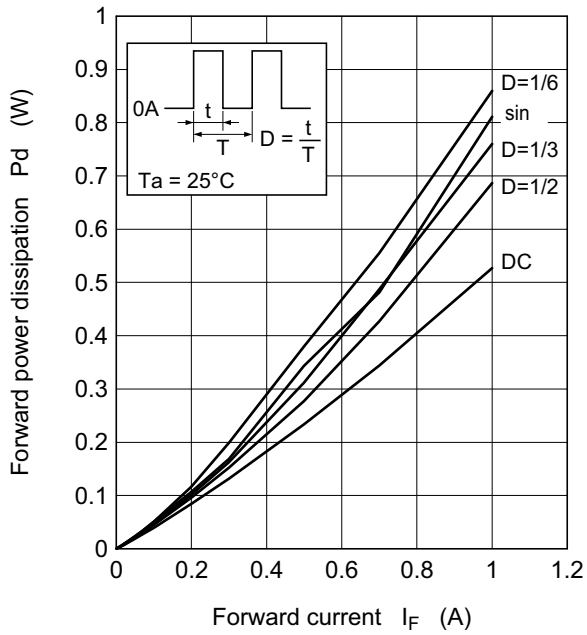


Fig.4 Forward power dissipation vs. Forward current

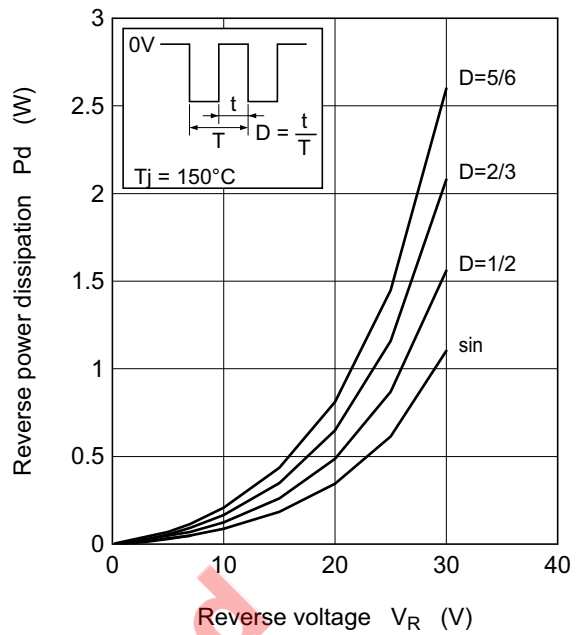


Fig.5 Reverse power dissipation vs. Reverse voltage

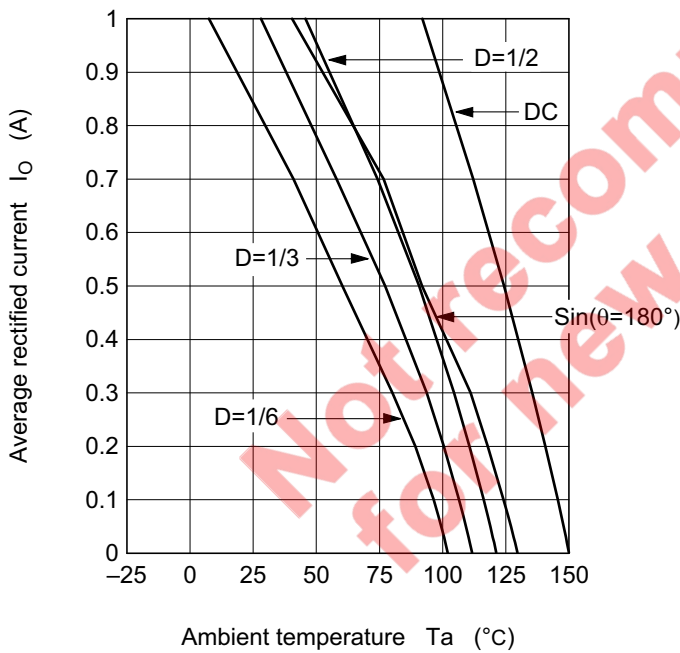
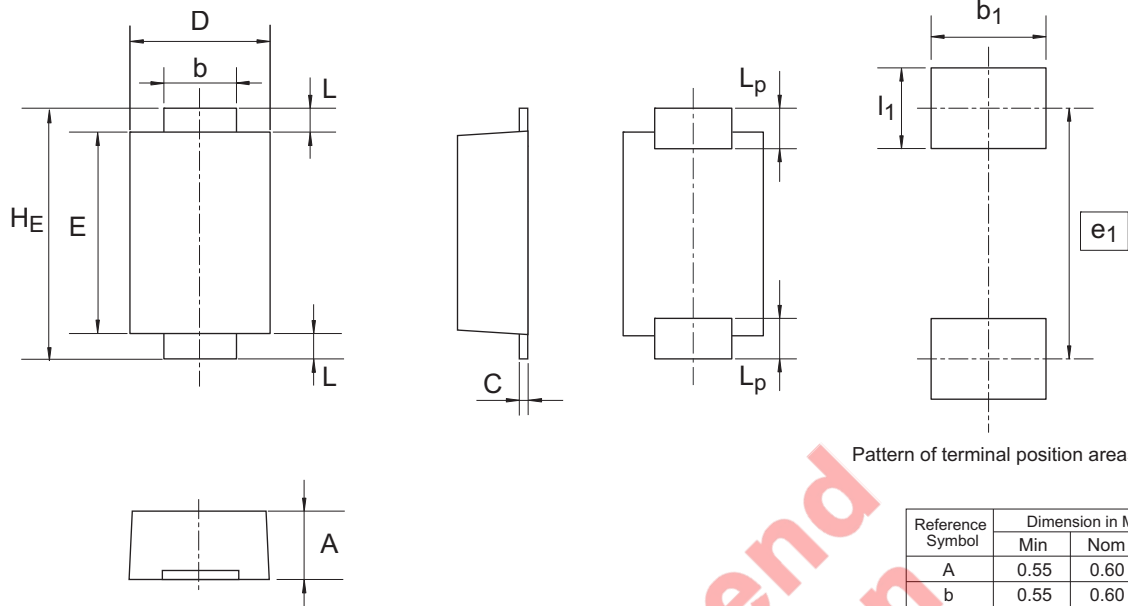


Fig.6 Average rectified current vs. Ambient temperature
 (VR=VRRM/2, Tj=150°C, Rth(j-a)=110°C/W, With Ceramics board)

Package Dimensions

| | | | | |
|--------------|--------------------|--------------|---------------|------------|
| Package Name | JEITA Package Code | RENESAS Code | Previous Code | MASS[Typ.] |
| TURP-FM | — | PUSF0002ZD-A | TURP-FM | 0.004g |



Pattern of terminal position areas

| Reference Symbol | Dimension in Millimeters | | |
|------------------|--------------------------|------|------|
| | Min | Nom | Max |
| A | 0.55 | 0.60 | 0.65 |
| b | 0.55 | 0.60 | 0.65 |
| C | 0.08 | 0.13 | 0.18 |
| D | 1.20 | 1.30 | 1.40 |
| E | 1.80 | 1.90 | 2.00 |
| L | 0.25 | 0.30 | 0.35 |
| HE | 2.40 | 2.50 | 2.60 |
| Lp | - | 0.4 | - |
| b1 | - | 0.9 | - |
| e1 | - | 2.3 | - |
| l1 | - | 0.8 | - |

Not recommend for new design

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