

BCR08AM-14A

700V - 0.8A - Triac

R07DS1226EJ0600

Low Power Use

Rev.6.00

Feb. 22, 2022

Features

- $I_T (RMS)$: 0.8 A
- V_{DRM} : 700 V
- $I_{RGT I}$, $I_{RGT II}$, $I_{RGT III}$: 5 mA
- T_j : 125 °C
- Planar Passivation Type
- RoHS Compliant
- Halogen-free (PRSS0003DJ-A)
- Completely Pb-free (PRSS0003DJ-A)

Outline

| | | | | | |
|---|---|--|--|--|--|
| RENESAS Package code: PRSS0003EA-A (Package name: TO-92*) Ordering code: #B00 | PRSS0003DJ-A (Package name: TO-92) #BD0 | | | | 1. T_1 Terminal 2. T_2 Terminal 3. Gate Terminal |
|---|---|--|--|--|--|

Application

Washing machine, electric fan, air cleaner, Solid State Relay and other general purpose AC control applications.

Maximum Ratings

| Parameter | Symbol | Voltage class | | Unit |
|--|-----------|---------------|--|------|
| | | 14 | | |
| Repetitive peak off-state voltage ^{Note1} | V_{DRM} | 700 | | V |
| Non-repetitive peak off-state voltage ^{Note1} | V_{DSM} | 840 | | V |

Notes: 1. Gate open.

| Parameter | Symbol | Ratings | Unit | Conditions |
|--------------------------------|-------------|-------------|------------------|---|
| RMS on-state current | $I_T (RMS)$ | 0.8 | A | Commercial frequency, sine full wave 360° conduction, $T_c = 67^\circ C$ |
| Surge on-state current | I_{TSM} | 8 | A | 60 Hz sinewave 1 full cycle, peak value, non-repetitive |
| I^2t for fusing | I^2t | 0.26 | A ² s | Value corresponding to 1 cycle of half wave 60 Hz, surge on-state current |
| Peak gate power dissipation | P_{GM} | 1 | W | |
| Average gate power dissipation | $P_G (AV)$ | 0.1 | W | |
| Peak gate voltage | V_{GM} | 6 | V | |
| Peak gate current | I_{GM} | 0.5 | A | |
| Junction Temperature | T_j | -40 to +125 | °C | |
| Storage temperature | T_{stg} | -40 to +125 | °C | |

Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test conditions |
|---|---------------|--------------|------|------|------------------------|---|
| Repetitive peak off-state current | I_{DRM} | — | — | 1.0 | mA | $T_j = 125^\circ\text{C}$, V_{DRM} applied |
| On-state voltage | V_{TM} | — | — | 2.0 | V | $T_c = 25^\circ\text{C}$, $I_{TM} = 1.2\text{ A}$, instantaneous measurement |
| Gate trigger voltage ^{Note2} | I | V_{FGTI} | — | — | 2.0 | $T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$ |
| | II | V_{RGTI} | — | — | 2.0 | |
| | III | V_{RGTIII} | — | — | 2.0 | |
| Gate trigger current ^{Note2} | I | I_{FGTI} | — | — | 5 | $T_j = 25^\circ\text{C}$, $V_D = 6\text{ V}$, $R_L = 6\ \Omega$, $R_G = 330\ \Omega$ |
| | II | I_{RGTI} | — | — | 5 | |
| | III | I_{RGTIII} | — | — | 5 | |
| Gate non-trigger voltage | V_{GD} | 0.1 | — | — | V | $T_j = 125^\circ\text{C}$, $V_D = 1/2 V_{DRM}$ |
| Thermal resistance | $R_{th(j-c)}$ | — | — | 50 | $^\circ\text{C/W}$ | Junction to case ^{Note3} |
| Critical-rate of rise of off-state commutating voltage ^{Note4} | $(dv/dt)_c$ | 0.5 | — | — | $\text{V}/\mu\text{s}$ | $T_j = 125^\circ\text{C}$ |

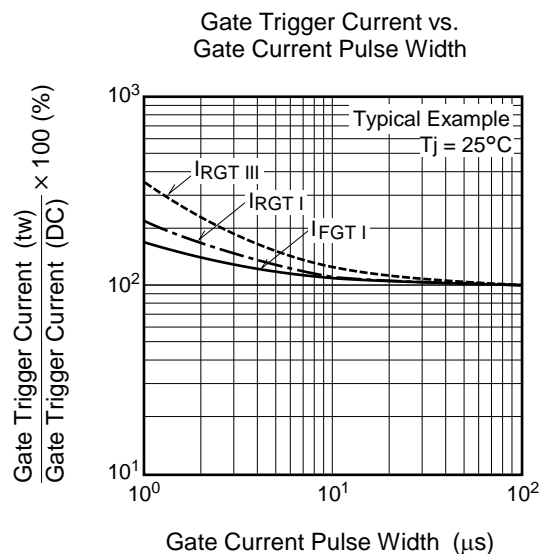
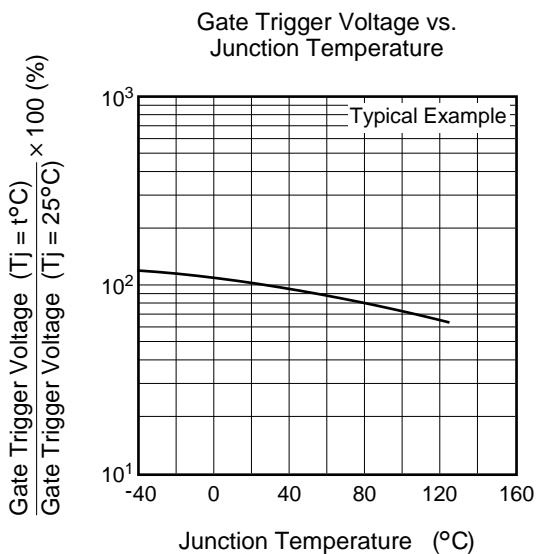
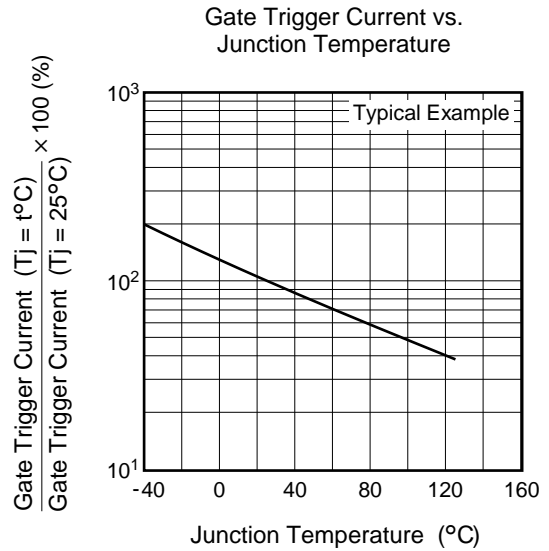
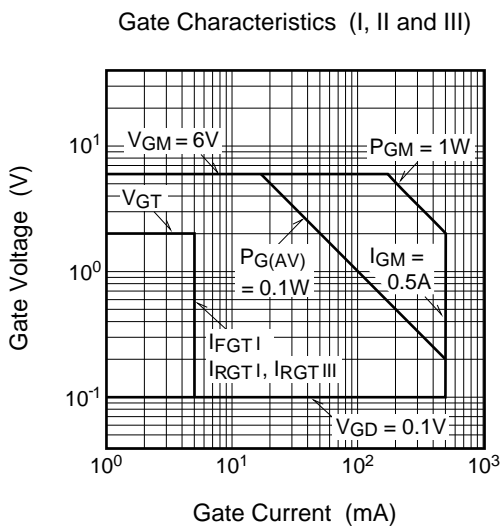
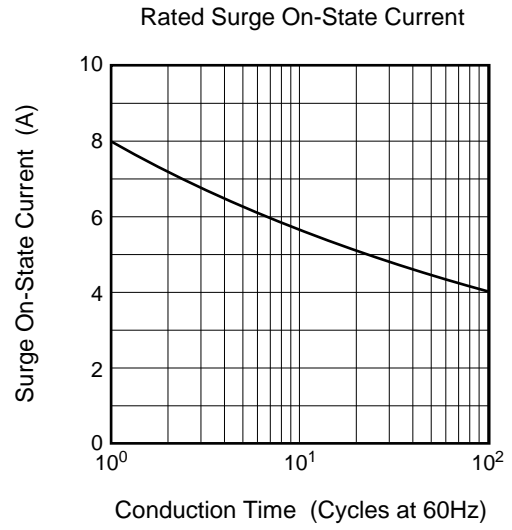
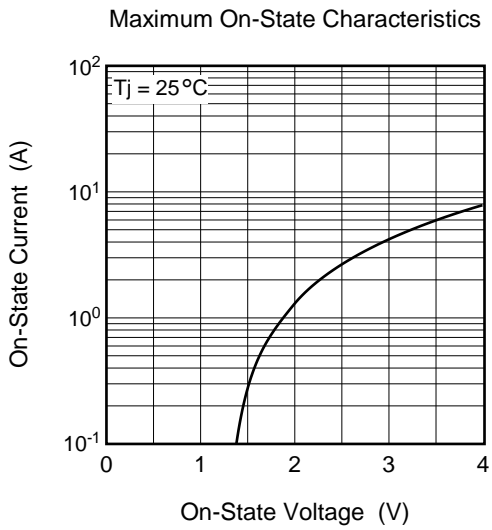
Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

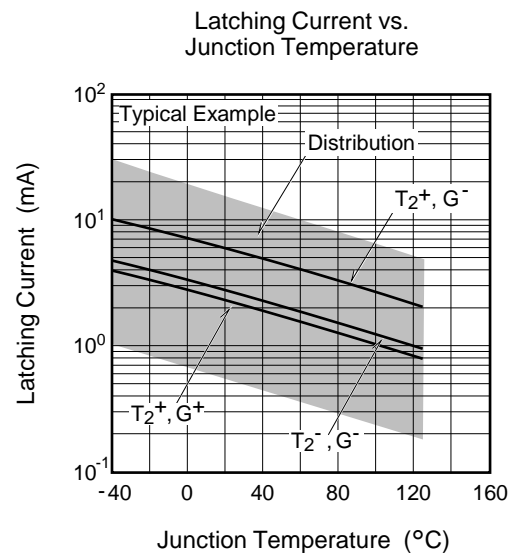
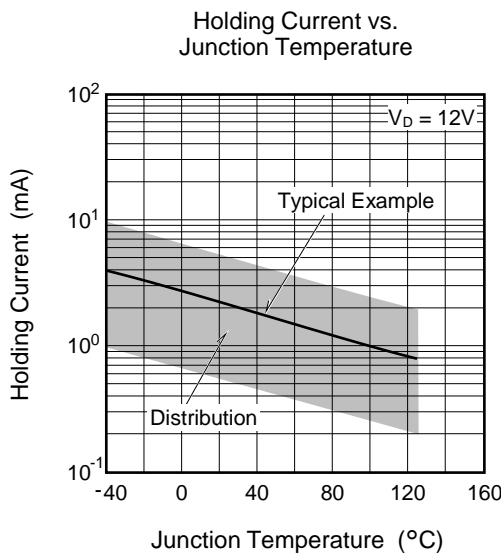
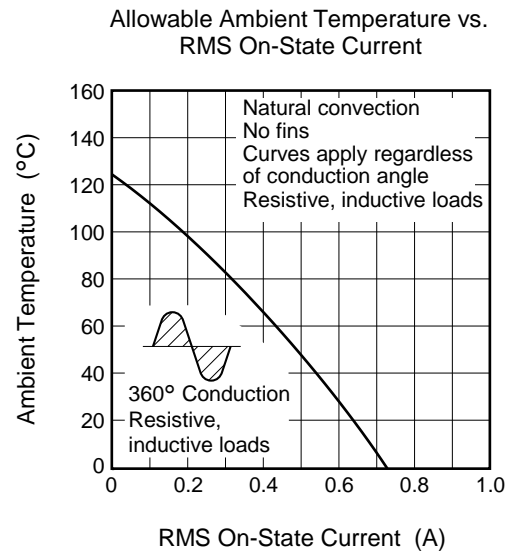
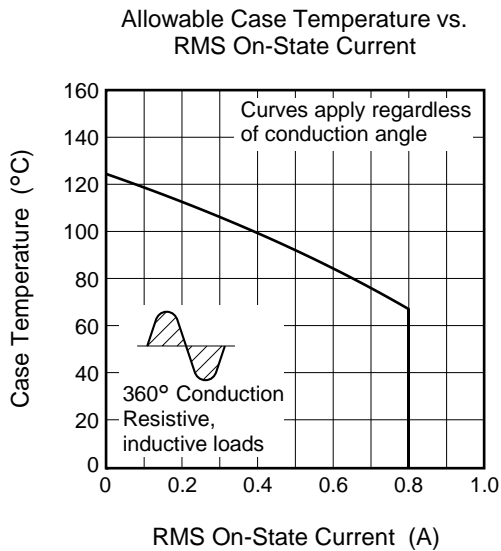
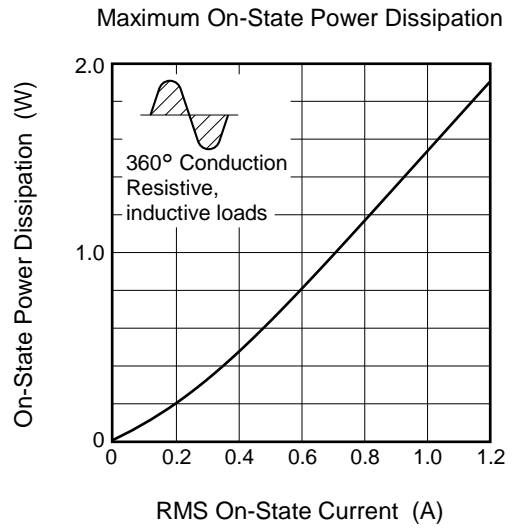
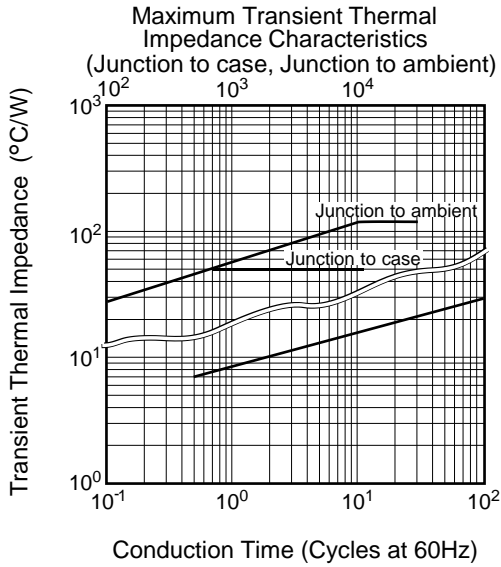
3. Case temperature is measured at the T_2 terminal 1.5 mm away from the molded case.

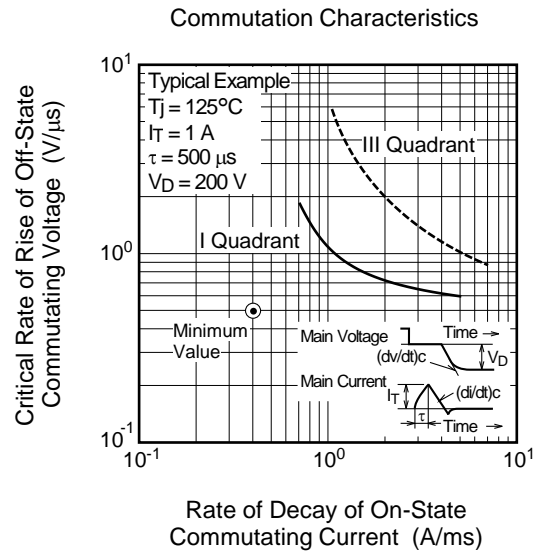
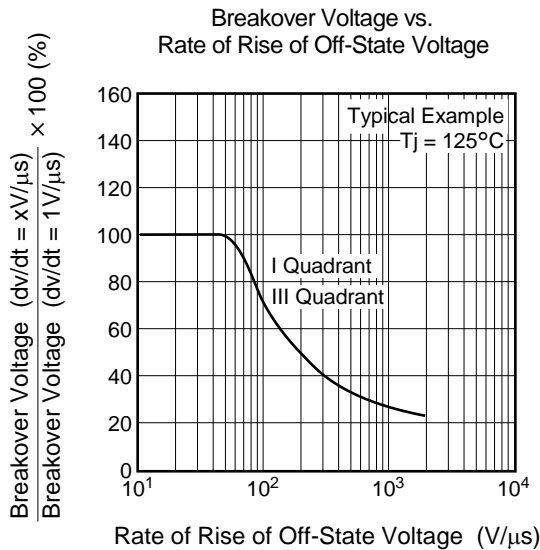
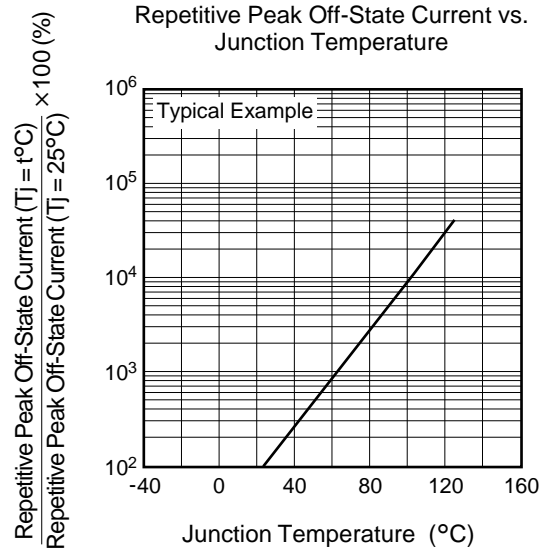
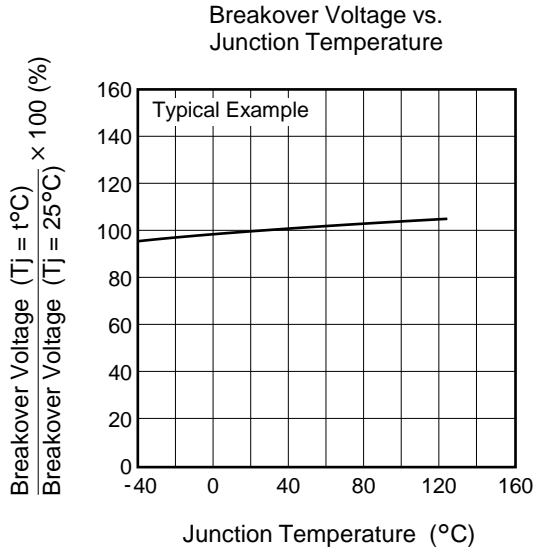
4. Test conditions of the critical-rate of rise of off-state commutating voltage is shown in the table below.

| Test conditions | Commutating voltage and current waveforms (inductive load) |
|---|--|
| 1. Junction temperature $T_j = 125^\circ\text{C}$ 2. Rate of decay of on-state commutating current $(di/dt)_c = -0.4\text{ A/ms}$ 3. Peak off-state voltage $V_D = 400\text{ V}$ | |

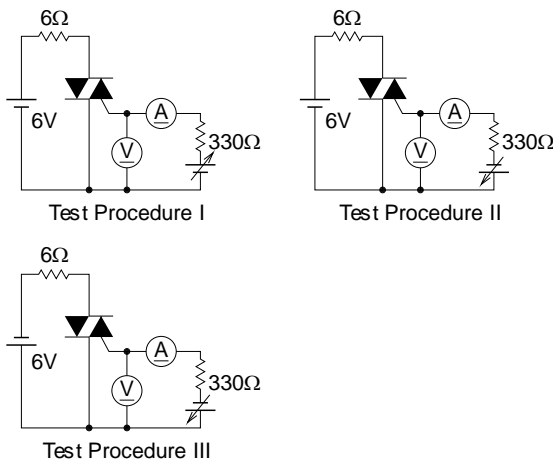
Performance Curves





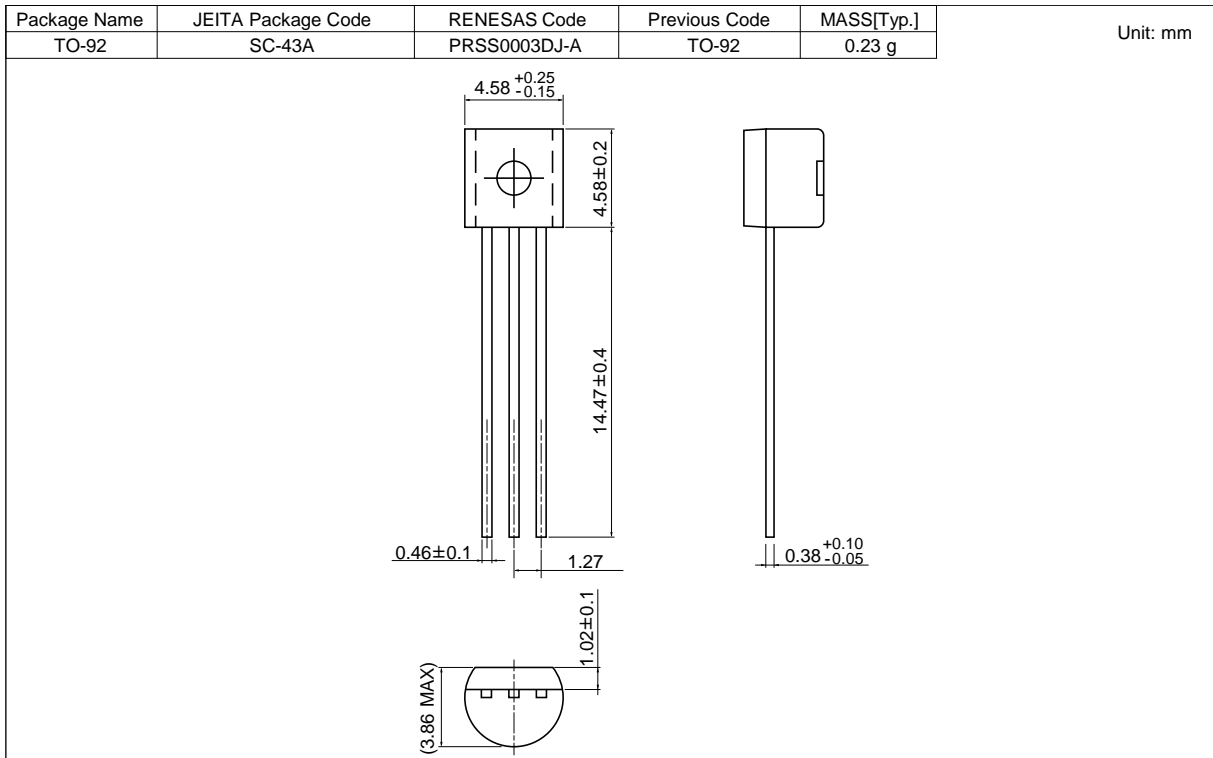


Gate Trigger Characteristics Test Circuits

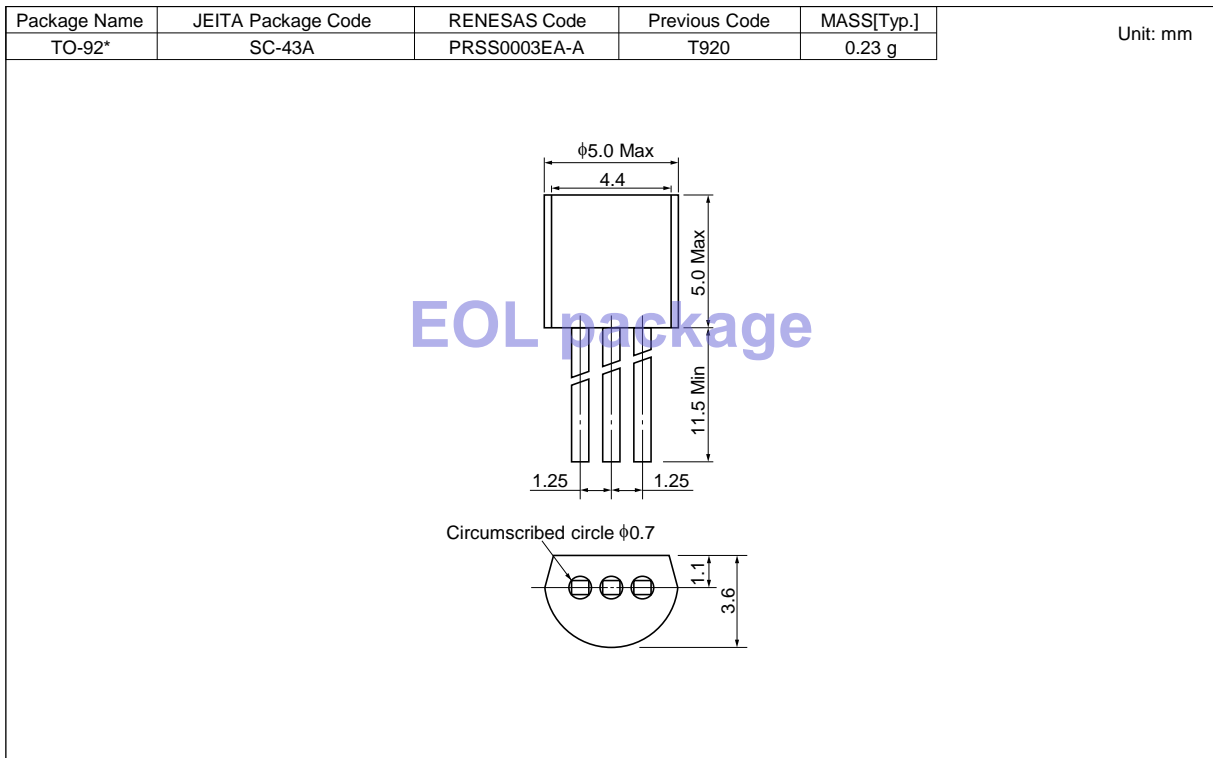


Package Dimensions

Ordering code: #BD0 <Active>



Ordering code: #B00 <Obsolete>



Ordering Information

| Orderable Part Number | Package | Packing ^{Note5} | Quantity | Remark | Status |
|-----------------------|---------|--------------------------|-----------|---------------|----------|
| BCR08AM-14A#BD0 | TO-92 | Plastic Bag | 1000 pcs. | Straight type | Active |
| BCR08AM-14A-A6#BD0 | TO-92 | Plastic Bag | 1000 pcs. | A6 Lead form | |
| BCR08AM-14A-TB#BD0 | TO-92 | Adhesive Tape | 2000 pcs. | A8 Lead form | |
| BCR08AM-14A#B00 | TO-92* | Plastic Bag | 500 pcs. | Straight type | Obsolete |
| BCR08AM-14A-A6#B00 | TO-92* | Plastic Bag | 500 pcs. | A6 Lead form | |
| BCR08AM-14A-TB#B00 | TO-92* | Adhesive Tape | 2000 pcs. | A8 Lead form | |

Note: 5. Please confirm the specification about the shipping in detail.

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