

# **CR3AS-8ME**

400V - 3A - Thyristor Low Power Use

#### **Features**

- I<sub>T (AV)</sub>: 3 A
- V<sub>DRM</sub> : 400 V
- I<sub>GT</sub>: 30 mA

## Outline

RENESAS Package code: PRSS0004ZG-A (Package name: MP-3A)



1. Cathode 2, 4 2. Anode

Non-Insulated Type

Planar Type

#### 3. Gate 4. Anode

## **Maximum Ratings**

| Parameter                               | Symbol           | Voltage class | Unit |  |
|---|------------------|---------------|------|--|
| Farameter                               | Symbol           | 8             |      |  |
| Repetitive peak reverse voltage         | V <sub>RRM</sub> | 400           | V    |  |
| Non-repetitive peak reverse voltage     | V <sub>RSM</sub> | 500           | V    |  |
| Repetitive peak off-state voltage Note1 | V <sub>DRM</sub> | 400           | V    |  |

| Parameter                      | Symbol              | Ratings      | Unit             | Conditions  |
|--------------------------------|---------------------|--------------|------------------|---|
| RMS on-state current           | I <sub>T(RMS)</sub> | 4.7          | А                |   |
| Average on-state current       | $I_{T(AV)}$         | 3            | A                | Commercial frequency, sine half wave 180° conduction, Tc = 95°C         |
| Surge on-state current         | I <sub>TSM</sub>    | 70           | A                | 60Hz sine half wave, 1full cycle, peak value, non-repetitive            |
| I <sup>2</sup> t for fusing    | l <sup>2</sup> t    | 20           | A <sup>2</sup> s | Value corresponding to 1cycle of half wave 60Hz, surge on-state current |
| Peak gate power dissipation    | P <sub>GM</sub>     | 3            | W                |   |
| Average gate power dissipation | P <sub>G(AV)</sub>  | 0.5          | W                |   |
| Peak gate forward voltage      | V <sub>FGM</sub>    | 10           | V                |   |
| Peak gate reverse voltage      | V <sub>RGM</sub>    | 10           | V                |   |
| Peak gate forward current      | I <sub>FGM</sub>    | 0.5          | А                |   |
| Junction temperature           | Tj                  | - 40 to +125 | °C               |   |
| Storage temperature            | Tstg                | - 40 to +125 | °C               |   |
| Mass                           | _                   | 0.32         | g                | Typical value   |



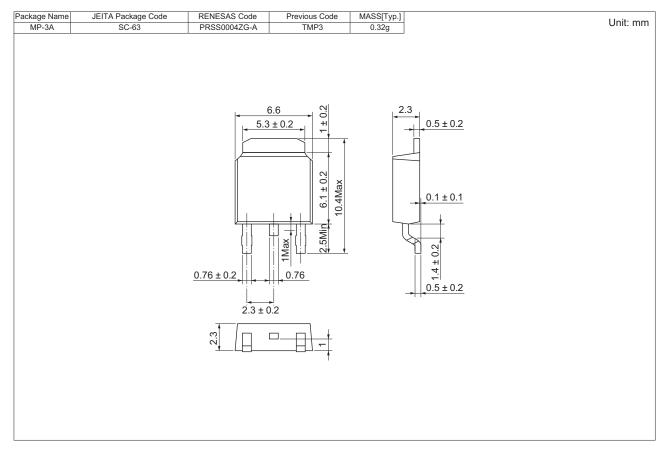
R07DS1230EJ0100 Rev.1.00 Oct 14, 2014

## **Electrical Characteristics**

| Parameter                         | Symbol               | Min. | Тур. | Max. | Unit | Test conditions                          |
|-----------------------------------|----------------------|------|------|------|------|--|
| Repetitive peak reverse current   | I <sub>RRM</sub>     | —    | _    | 2.5  | mA   | Tj = 125°C, V <sub>RRM</sub> applied     |
| Repetitive peak off-state current | I <sub>DRM</sub>     | —    | _    | 2.5  | mA   | Tj = 125°C, V <sub>DRM</sub> applied     |
| On-state voltage                  | V <sub>TM</sub>      | —    | —    | 2.0  | V    | $Tj = 25^{\circ}C, I_{TM} = 3 A$         |
|                                   |                      |      |      |      |      | instantaneous value                      |
| Gate trigger voltage              | V <sub>GT</sub>      | —    | _    | 2.0  | V    | $Tj = 25^{\circ}C, V_D = 6 V, I_T = 1 A$ |
| Gate non-trigger voltage          | $V_{GD}$             | 0.2  |      | _    | V    | $Tj = 125^{\circ}C, V_D = 1/2 V_{DRM}$   |
| Gate trigger current              | I <sub>GT</sub>      | 1    |      | 30   | mA   | $Tj = 25^{\circ}C, V_D = 6 V, I_T = 1 A$ |
| Holding current                   | Iн                   | —    | 30   |      | mA   | $Tj = 25^{\circ}C, V_{D} = 12 V$         |
| Thermal resistance                | R <sub>th(j-c)</sub> | —    |      | 2.8  | °C/W | Junction to case Note1                   |

Notes: 1. The measurement point for case temperature is at anode tab.

## Package dimensions



#### **Ordering Information**

| Orderable Part Number | Packing       | Quantity  | Remark                |
|-----------------------|---------------|-----------|-----------------------|
| CR3AS-8ME#B00         | Tube          | 75 pcs.   |                       |
| CR3AS-8ME-T13#B00     | Embossed Tape | 3000 pcs. | Taping direction "T1" |

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



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