

## isc Thyristors

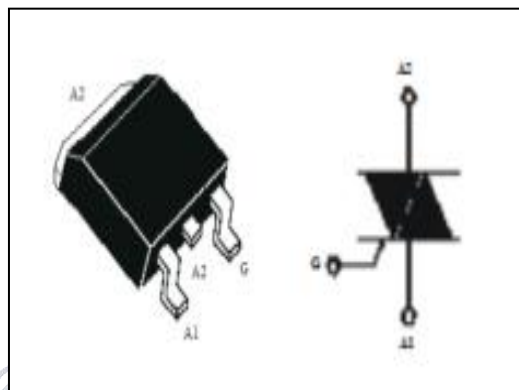
## USM8J48

### DESCRIPTION

- With TO-263( D2PAK ) packaging
- Operating in 3 quadrants
- High commutation capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Switching applications
- Phase control
- Static switching on inductive or resistive load



### ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL              | PARAMETER                                                |              | MAX      | UNIT               |
|---------------------|----------------------------------------------------------|--------------|----------|--------------------|
| $V_{\text{DRM}}$    | Repetitive peak off-state voltage                        |              | 600      | V                  |
| $V_{\text{RRM}}$    | Repetitive peak reverse voltage                          |              | 600      | V                  |
| $I_{\text{T(RSM)}}$ | Average on-state current                                 |              | 8        | A                  |
| $I_{\text{TSM}}$    | Surge non-repetitive on-state current                    | 50HZ<br>60HZ | 80<br>88 | A                  |
| $P_{\text{G(AV)}}$  | Average gate power dissipation ( over any 20 ms period ) |              | 0.5      | W                  |
| $T_j$               | Operating junction temperature                           |              | -40~125  | $^{\circ}\text{C}$ |
| $T_{\text{stg}}$    | Storage temperature                                      |              | -40~125  | $^{\circ}\text{C}$ |

### ELECTRICAL CHARACTERISTICS ( $T_c=25^{\circ}\text{C}$ unless otherwise specified)

| SYMBOL                 | PARAMETER                         | CONDITIONS                                                                         |                     | MIN | MAX  | UNIT |
|------------------------|-----------------------------------|------------------------------------------------------------------------------------|---------------------|-----|------|------|
| I <sub>RRM</sub>       | Repetitive peak reverse current   | V <sub>R</sub> =V <sub>RRM</sub> Rated;<br>V <sub>D</sub> =V <sub>DRM</sub> Rated; | T <sub>j</sub> =25℃ |     | 0.02 | mA   |
| I <sub>DRM</sub>       | Repetitive peak off-state current |                                                                                    |                     |     |      |      |
| V <sub>TM</sub>        | On-state voltage                  | I <sub>T</sub> =12A                                                                |                     |     | 1.5  | V    |
| I <sub>GT</sub>        | Gate-trigger current              | V <sub>D</sub> =12V;RL=20 Ω                                                        | I                   |     | 30   | mA   |
|                        |                                   |                                                                                    | II                  |     | 30   |      |
|                        |                                   |                                                                                    | III                 |     | 30   |      |
| V <sub>GT</sub>        | Gate-trigger voltage              | V <sub>D</sub> =12V;RL=20 Ω                                                        |                     |     | 1.5  | V    |
| R <sub>th</sub> (j-mb) | Junction to mounting base         | Half cycle                                                                         |                     |     | 2.8  | ℃/W  |

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