

## FEATURES

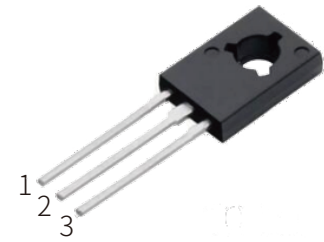
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 2.0 A

## APPLICATIONS

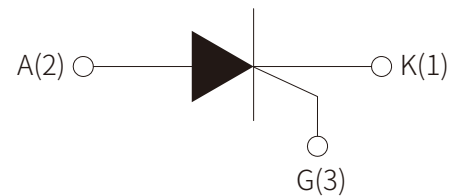
- | Flash lamp
- | Electronic ballast
- | Igniter

## APPROVALS

|             |                                    |
|-------------|------------------------------------|
| <b>RoHS</b> | Compliance with 2011/65/EU         |
| <b>HF</b>   | Compliance with IEC61249-2-21:2003 |



TO-126



Schematic Symbol

## ABSOLUTE MAXIMUM RATINGS

| Parameter   | Symbol              | Value    | Unit                   |
|---|---------------------|----------|------------------------|
| Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )              | $V_{\text{DRM}}$    | 600      | V                      |
| Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )                | $V_{\text{RRM}}$    | 600      |                        |
| RMS on-state current  | $I_{\text{T(RMS)}}$ | 2        | A                      |
| Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$ ) | $I_{\text{TSM}}$    | 20       |                        |
| $I^2t$ value for fusing ( $t_p=10\text{ms}$ )                             | $I^2t$              | 2        | $\text{A}^2\text{S}$   |
| Critical rate of rise of on-state current ( $I_G=2 \cdot I_{\text{GT}}$ ) | $di/dt$             | 50       | $\text{A}/\mu\text{s}$ |
| Peak gate current   | $I_{\text{GM}}$     | 0.2      | A                      |
| Average gate power dissipation  | $P_{\text{G(AV)}}$  | 0.1      | W                      |
| Peak gate power   | $P_{\text{GM}}$     | 0.5      | W                      |
| Storage junction temperature range  | $T_{\text{STG}}$    | -40~+150 | $^\circ\text{C}$       |
| Operating junction temperature range                                      | $T_j$               | -40~+110 |                        |

## ELECTRICAL CHARACTERISTICS (T<sub>j</sub>=25°C unless otherwise specified)

| Symbol              | Test Condition   | Min. | Typ. | Max. | Unit |
|---------------------|--|------|------|------|------|
| I <sub>GT</sub>     | V <sub>D</sub> =12V, R <sub>L</sub> =33Ω   |      | 50   | 200  | μA   |
| V <sub>GT</sub>     |  |      | 0.6  | 0.8  | V    |
| V <sub>GD</sub>     | V <sub>D</sub> =V <sub>DRM</sub> , T <sub>j</sub> =110°C                           | 0.2  |      |      |      |
| I <sub>H</sub>      | I <sub>T</sub> =50mA   |      |      | 5    | mA   |
| I <sub>L</sub>      | I <sub>G</sub> =1.2I <sub>GT</sub>   |      |      | 6    |      |
| dV <sub>D</sub> /dt | V <sub>D</sub> =2/3×V <sub>DRM</sub> , T <sub>j</sub> =110°C, R <sub>GK</sub> =1KΩ | 20   |      |      | V/μs |

## STATIC CHARACTERISTICS

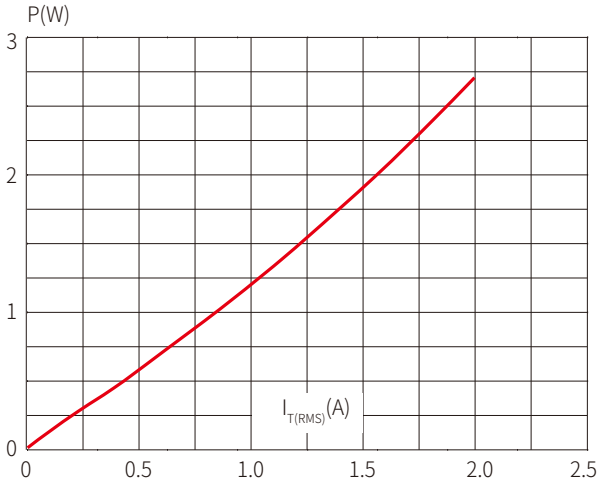
| Symbol           | Parameter  | Value                 | Unit |
|------------------|--|-----------------------|------|
| V <sub>TM</sub>  | I <sub>TM</sub> =4A, tp=380μs  | ≤1.5                  | V    |
| I <sub>DRM</sub> | V <sub>D</sub> =V <sub>DRM</sub> =V <sub>RRM</sub><br>R <sub>GK</sub> =1KΩ | ≤5                    | μA   |
| I <sub>RRM</sub> |  | T <sub>j</sub> =110°C | ≤0.1 |

## THERMAL RESISTANCES

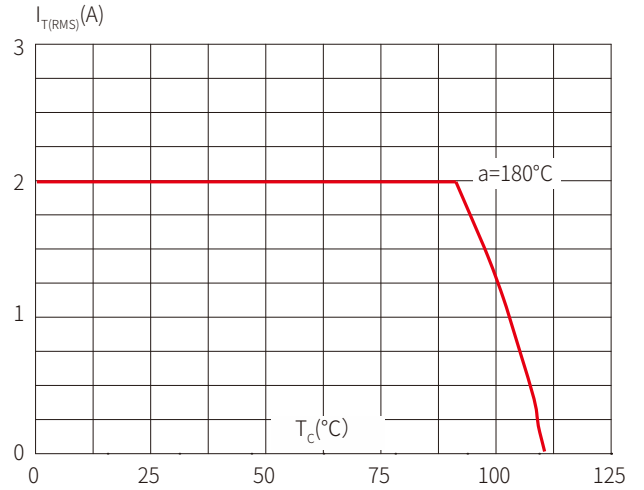
| Symbol               | Parameter            | Value | Unit |
|----------------------|----------------------|-------|------|
| R <sub>th(j-c)</sub> | Junction to case(AC) | 7.0   | °C/W |

# PARAMETER CHARACTERISTIC CURVE

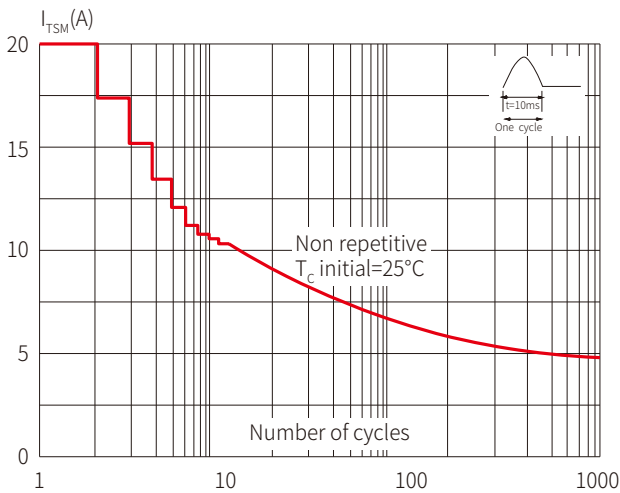
**FIG.1 Maximum Average power Dissipation Versus Average On-State Current**



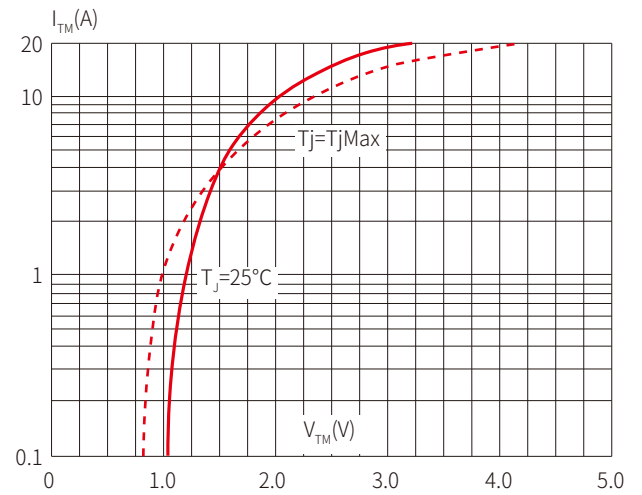
**FIG.2: RMS On-state Current Versus Case Temperature**



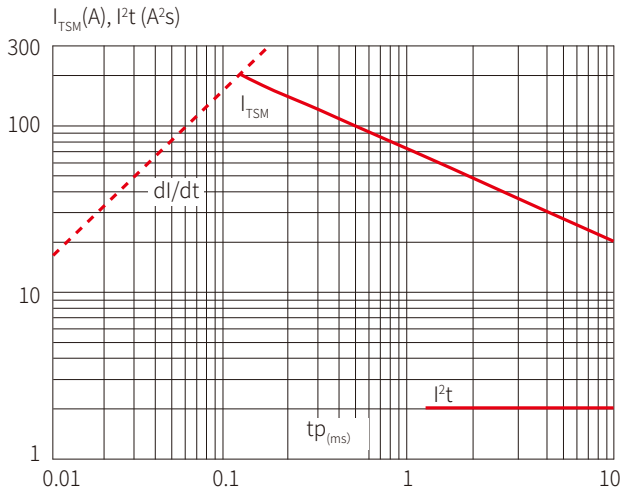
**FIG.3: Surge peak on-state current versus Number of cycles**



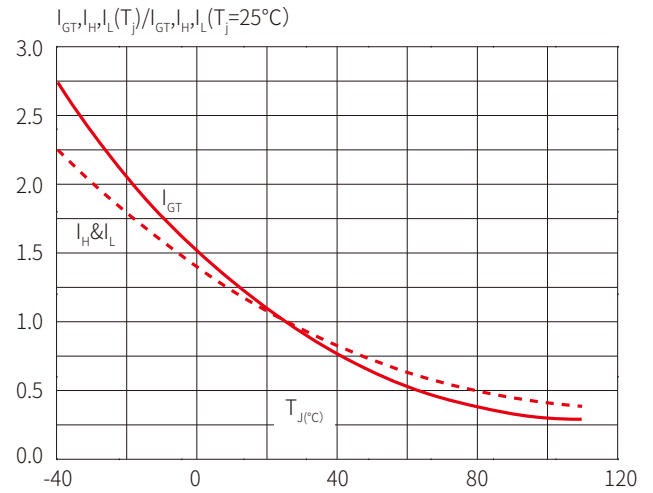
**FIG.4 On-State Characteristics (Maximum Values)**



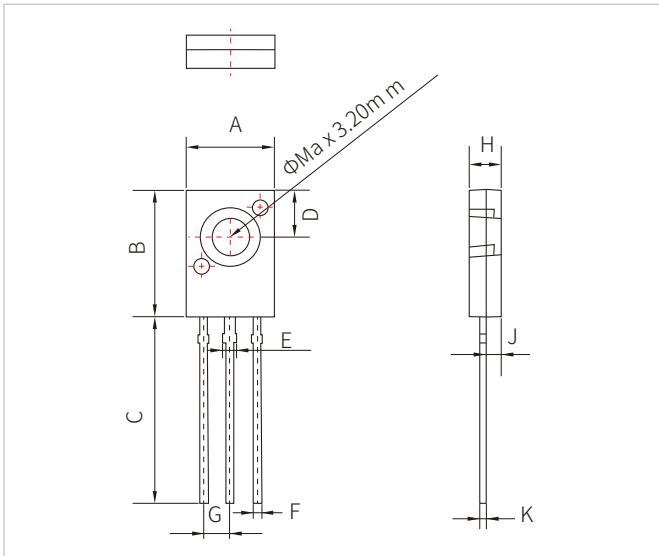
**FIG.5: Non-Repetitive Surge Peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$  and corresponding value of  $I^2t$**



**FIG.6 Relative Variations Of Gate Trigger Current, Holding Current And Latching Current Versus Junction Temperature**



## TO-126 ACKAGE MECHANICAL DATA



| Ref. | Dimensions  |      |      |        |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Millimeters |      |      | Inches |       |       |
|      | Min.        | Typ. | Max. | Min.   | Typ.  | Max.  |
| A    | 7.40        |      | 7.80 | 0.291  |       | 0.307 |
| B    | 10.6        |      | 11.2 | 0.417  |       | 0.441 |
| C    | 15.3        |      | 16.3 | 0.602  |       | 0.642 |
| D    | 3.90        |      | 4.10 | 0.154  |       | 0.161 |
| E    | 1.17        |      | 1.47 | 0.046  |       | 0.058 |
| F    | 0.66        |      | 0.86 | 0.026  |       | 0.034 |
| G    |             | 2.29 |      |        | 0.090 |       |
| H    | 2.50        |      | 2.90 | 0.098  |       | 0.114 |
| J    | 1.10        |      | 1.50 | 0.043  |       | 0.059 |
| K    | 0.45        |      | 0.60 | 0.018  |       | 0.024 |

## ORDERING INFORMATION

| Part Number | Marking  | Package | Qty/pcs |
|-------------|--|---------|---------|
|             |  |         | Bag     |
| SCQ2C60     |  SCQ2C60 XXXX | TO-126  | 500     |

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