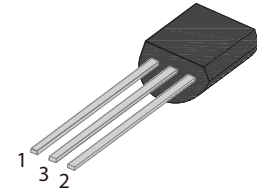


FEATURES

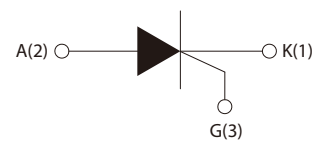
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 0.8A
- | RoHS (2002/95/EC) compliant packages



APPLICATIONS

- | Flash lamp
- | Electronic ballast
- | Igniter

TO-92



APPROVALS

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

Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Value | Unit |
|--|---------------------|----------|------------------------|
| Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$) | V_{DRM} | 400 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 400 | |
| RMS on-state current ($T_c=65^\circ\text{C}$) | $I_{\text{T(RMS)}}$ | 0.8 | A |
| Non repetitive surge peak on-state current ($t_p=10\text{ms}$) | I_{TSM} | 8 | |
| I^2t value for fusing ($t_p=10\text{ms}$) | I^2t | 0.32 | A^2S |
| Critical rate of rise of on-state current ($I_G=2*I_{GT}$) | d/d_t | 50 | $\text{A}/\mu\text{s}$ |
| Peak gate current | I_{GM} | 0.2 | A |
| Average gate power dissipation | $P_{\text{G(AV)}}$ | 0.1 | W |
| Storage junction temperature range | T_{STG} | -40~+150 | $^\circ\text{C}$ |
| Operating junction temperature range | T_j | -40~+125 | |

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

| Symbol | Test Condition | Value | | | Unit |
|-----------|--|-------|------|------|------------------------|
| | | Min. | Typ. | Max. | |
| I_{GT} | $V_D=12\text{V}, R_L=33\Omega$ | 20 | 50 | 200 | μA |
| V_{GT} | | - | 0.6 | 0.8 | V |
| V_{GD} | $V_D=V_{DRM}, R_L=3.3\text{K}\Omega, T_j=150^\circ\text{C}$ | 0.2 | - | - | |
| I_H | $I_T=500\text{mA}$ | - | - | 3 | mA |
| I_L | $I_G=1.2I_{GT}$ | - | - | 4 | |
| dV_D/dt | $V_D=400\text{V}, R_{GK}=1\text{K}\Omega, T_j=125^\circ\text{C}$ | 600 | - | - | $\text{V}/\mu\text{s}$ |

STATIC CHARACTERISTICS

| Symbol | Parameter | Value | Unit | |
|-----------|--|-------------------------|------------|---------------|
| V_{TM} | $I_{TM}=1.1\text{A}, t_p=380\mu\text{s}$ | $T_j=25^\circ\text{C}$ | ≤ 1.5 | V |
| I_{DRM} | $V_D=V_{DRM}, V_R=V_{RRM}$ | | ≤ 5 | μA |
| I_{RRM} | | $T_j=125^\circ\text{C}$ | ≤ 100 | μA |

THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|---------------|----------------------|-------|---------------------------|
| $R_{th(j-c)}$ | Junction to case(AC) | 75 | $^\circ\text{C}/\text{W}$ |

PARAMETER CHARACTERISTIC CURVE

FIG.1 Maximum power dissipation versus RMS on-state current

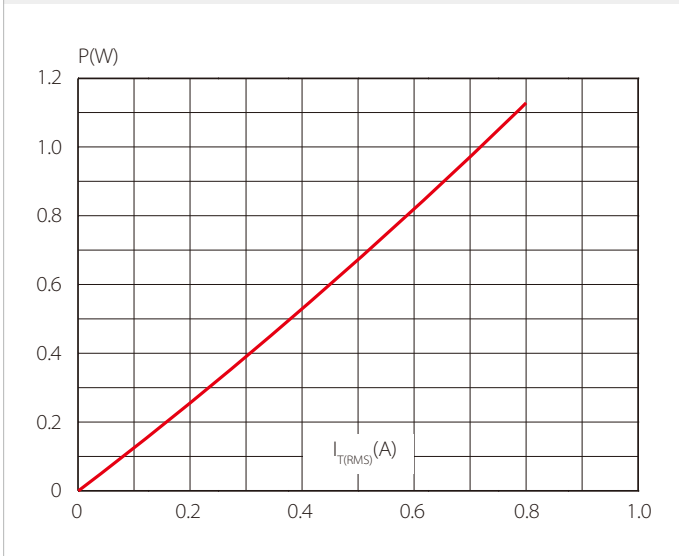


FIG.2: RMS on-state current versus case temperature

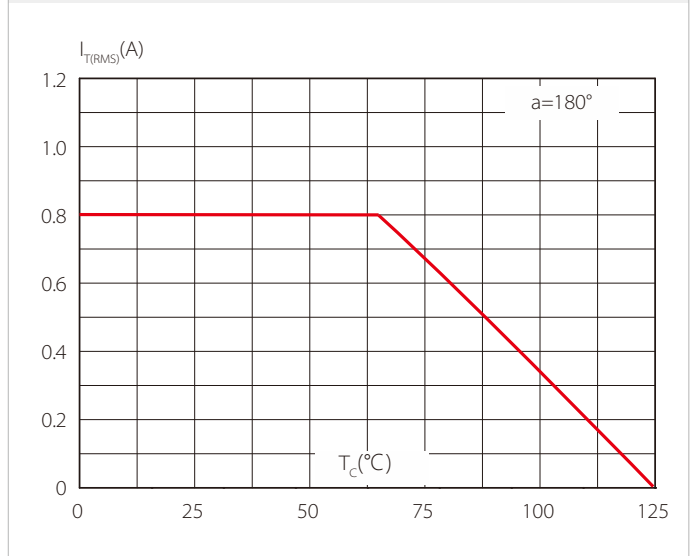


FIG.3: Surge peak on-state current versus number of cycles

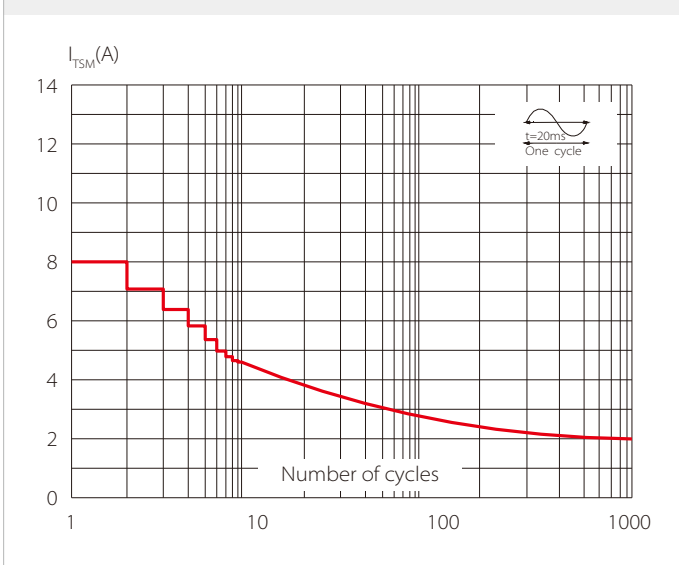


FIG.4 On-state characteristics (maximum values)

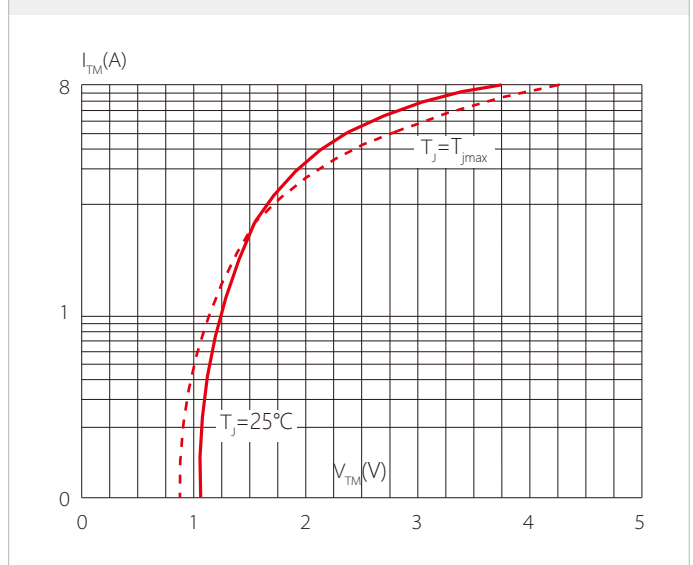


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$ and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

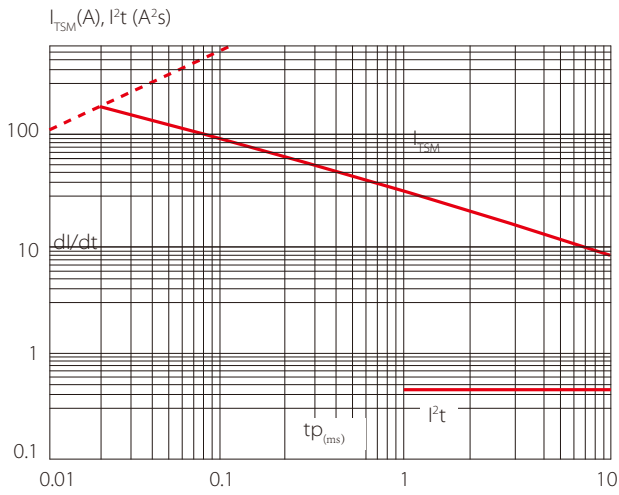


FIG.6 Relative variations of gate trigger current versus junction temperature

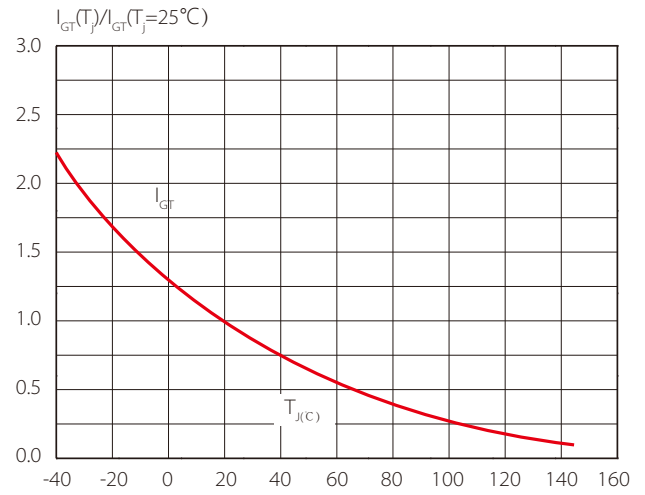


FIG.7 Relative variations of holding current versus junction temperature

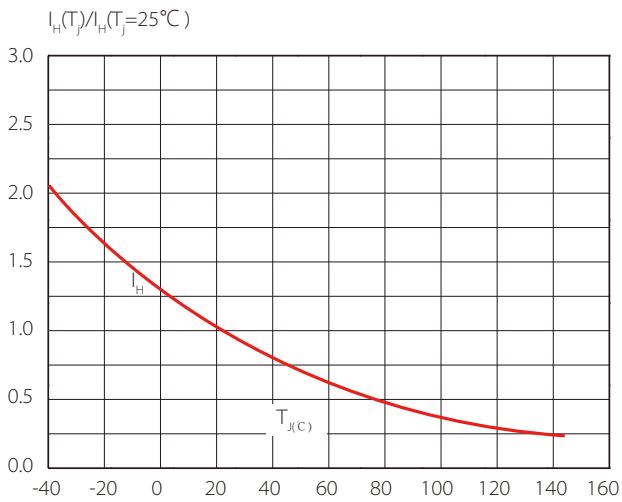
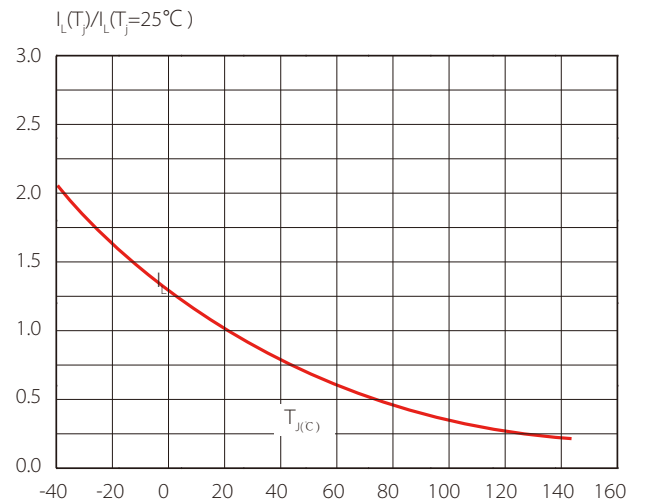
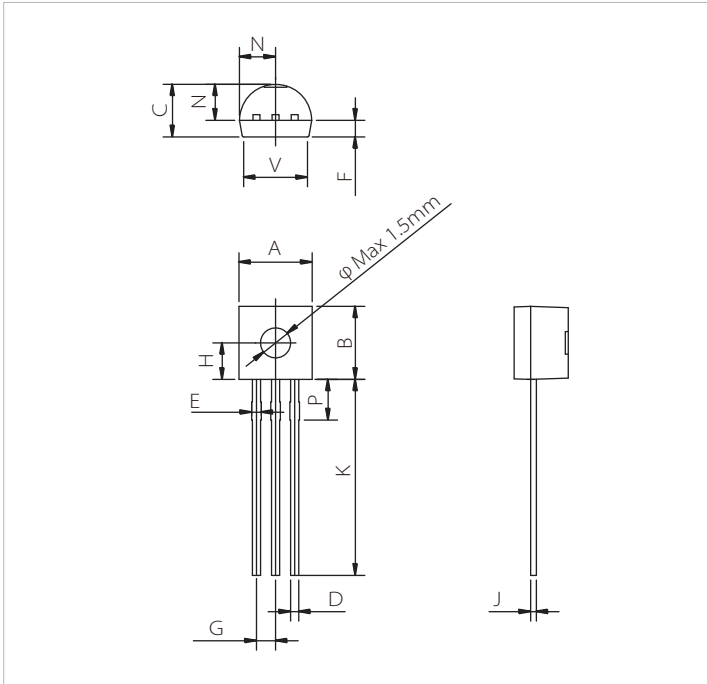


FIG.8 Relative variations of latching current versus junction temperature



TO-92 PACKAGE DIMENSIONS



| Ref. | Dimensions | | | | | |
|------|-------------|------|------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.45 | | 5.20 | 0.175 | | 0.205 |
| B | 4.32 | | 5.33 | 0.170 | | 0.210 |
| C | 3.18 | | 4.19 | 0.125 | | 0.165 |
| D | 0.40 | | 0.54 | 0.016 | | 0.021 |
| E | 0.60 | | 0.80 | 0.024 | | 0.031 |
| F | | 1.10 | | | 0.043 | |
| G | | 1.27 | | | 0.050 | |
| H | | 2.30 | | | 0.091 | |
| J | 0.36 | | 0.50 | 0.014 | | 0.020 |
| K | 12.7 | | 15.0 | 0.500 | | 0.591 |
| N | 2.04 | | 2.66 | 0.080 | | 0.105 |
| P | 1.86 | | 2.06 | 0.073 | | 0.081 |
| V | | | 4.30 | | | 0.169 |

ORDERING INFORMATION

| Part Number | Package | Qty/pcs | | |
|-------------|---------|---------------|-----------|--------|
| | | Shielding Bag | Inner Box | Carton |
| BT169D | TO-92 | 1000 | 10000 | 30000 |

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