

DESCRIPTION:

The BT134-800D SCR series with the parallel resistor between Gate and Cathode are especially recommended for use on straight hair, igniter, anion generator, etc.



TO-220C



TO-92



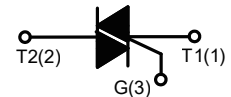
TO-220A



TO-126



TO-251



MAIN FEATURES

| Symbol | Value | Unit |
|-------------------|---------|------|
| $I_{T(RMS)}$ | 4 | A |
| V_{DRM}/V_{RRM} | 600/800 | V |

ABSOLUTE MAXIMUM RATINGS

| Parameter | | Symbol | Value | Unit |
|--|--|--------------|-----------------|------|
| Storage junction temperature range | | T_{stg} | -40 - 150 | °C |
| Operating junction temperature range | | T_j | -40 - 125 | °C |
| Repetitive peak off-state voltage($T_j=25^{\circ}C$) | | V_{DRM} | 600/800 | V |
| Repetitive peak reverse voltage($T_j=25^{\circ}C$) | | V_{RRM} | 600/800 | V |
| Non repetitive surge peak Off-state voltage | | V_{DSM} | $V_{DRM} + 100$ | V |
| Non repetitive peak reverse voltage | | V_{RSM} | $V_{RRM} + 100$ | V |
| RMS on-state current | TO-251 ($T_C=100^{\circ}C$) | $I_{T(RMS)}$ | 4 | A |
| | TO-220A(Non-Ins)/ TO-220C($T_C=103^{\circ}C$) | | | |
| | TO-202-3 ($T_C=95^{\circ}C$) | | | |
| | SOT-82 /TO-126 ($T_C=97^{\circ}C$) | | | |
| | TO-92 ($T_C=50^{\circ}C$) | | | |

| | | | | |
|--|--------------|-------------|-----|-----------|
| Non repetitive surge peak on-state current (full cycle, F=50Hz) | | I_{TSM} | 25 | A |
| I^2t value for fusing ($t_p=10ms$) | | I^2t | 3.1 | A^2s |
| Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$) | I - II - III | di/dt | 50 | $A/\mu s$ |
| | IV | | 10 | |
| Peak gate current | | I_{GM} | 2 | A |
| Average gate power dissipation | | $P_{G(AV)}$ | 0.5 | W |
| Peak gate power | | P_{GM} | 5 | W |

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

| Symbol | Test Condition | Quadrant | | Value | | | Unit |
|-------------|---|--------------|-----|-------|----|-----|-----------|
| | | | | T | D | E | |
| I_{GT} | $V_D=12V$ $R_L=33\Omega$ | I - II - III | MAX | 5 | 5 | 10 | mA |
| | | IV | | 5 | 10 | 25 | |
| V_{GT} | | ALL | MAX | 1.3 | | | V |
| V_{GD} | $V_D=V_{DRM}$ $T_j=125^\circ C$ $R_L=3.3K\Omega$ | ALL | MIN | 0.2 | | | V |
| I_L | $I_G=1.2I_{GT}$ | I - III - IV | MAX | 8 | 10 | 20 | mA |
| | | II | | 12 | 15 | 35 | |
| I_H | $I_T=100mA$ | | MAX | 5 | 10 | 20 | mA |
| dV/dt | $V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ C$ | | MIN | 20 | 50 | 100 | $V/\mu s$ |
| $(dV/dt)_c$ | $(di/dt)_c=1.1A/ms$ $T_j=125^\circ C$ | | MIN | 0.5 | 1 | 5 | $V/\mu s$ |

STATIC CHARACTERISTICS

| Symbol | Parameter | | Value(MAX) | Unit |
|-----------|-----------------------------|-------------------|------------|---------|
| V_{TM} | $I_{TM}=5A$ $t_p=380\mu s$ | $T_j=25^\circ C$ | 1.7 | V |
| I_{DRM} | $V_D=V_{DRM}$ $V_R=V_{RRM}$ | $T_j=25^\circ C$ | 5 | μA |
| I_{RRM} | | $T_j=125^\circ C$ | 0.5 | mA |

THERMAL RESISTANCES

| Symbol | Parameter | | Value | Unit |
|---------------|----------------------|------------------------------|-------|-----------------------------|
| $R_{th(j-c)}$ | junction to case(AC) | TO-251 | 3.7 | $^{\circ}\text{C}/\text{W}$ |
| | | TO-220A(Non-Ins)/ TO-220C | 3.1 | |
| | | TO-202-3 | 4.5 | |
| | | SOT-82/TO-126 | 4.1 | |
| | | TO-92 | 11.2 | |

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

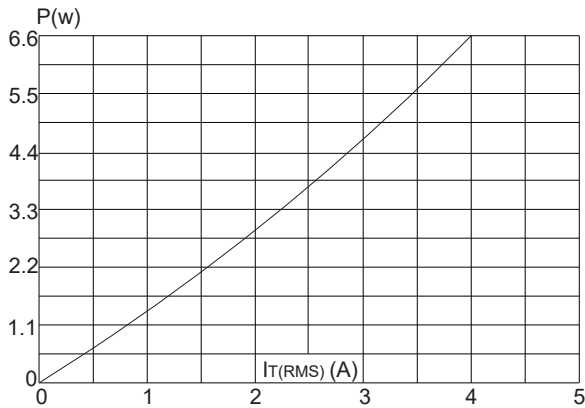


FIG.3: Surge peak on-state current versus number of cycles

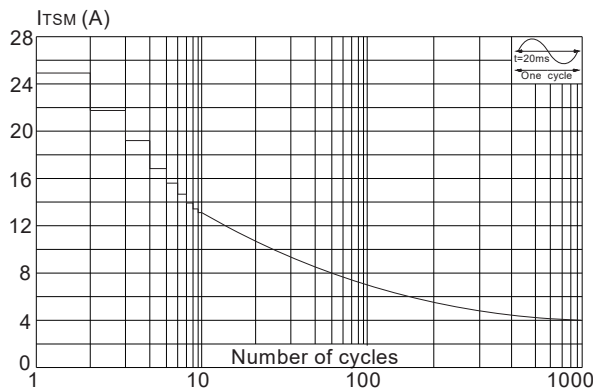


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of I^2t (I - II - III: $dI/dt < 50\text{A}/\mu\text{s}$; IV: $dI/dt < 10\text{A}/\mu\text{s}$)

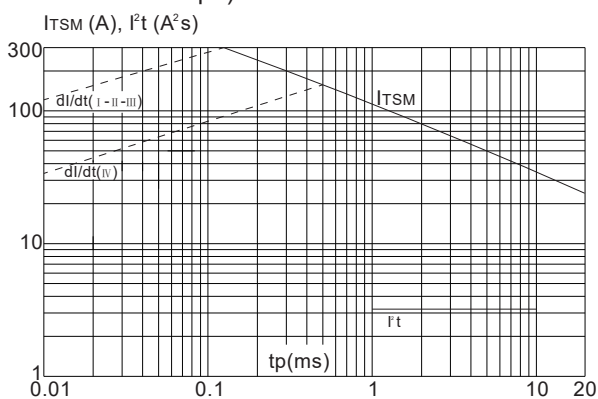


FIG.2: RMS on-state current versus case temperature

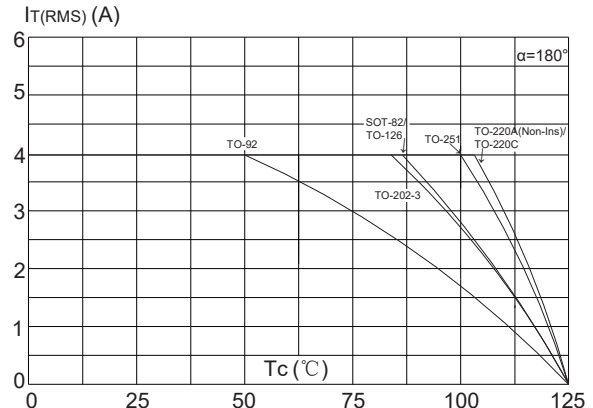


FIG.4: On-state characteristics (maximum values)

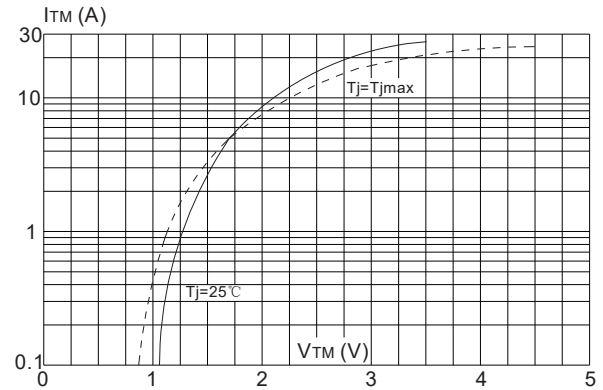


FIG.6: Relative variations of gate trigger current versus junction temperature

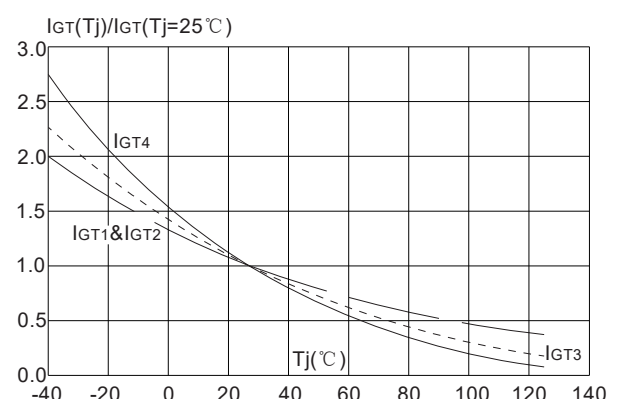


FIG.7: Relative variations of holding current versus junction temperature

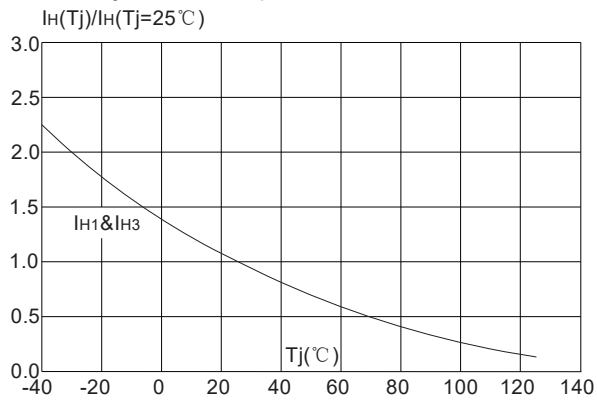


FIG.8: Relative variations of latching current versus junction temperature

