


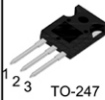
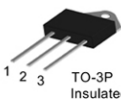
SB7560S 75A SCRs

FEATURES

- High thermal cycling performance
- High voltage capacity
- Very high current surge capability

APPLICATIONS

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control

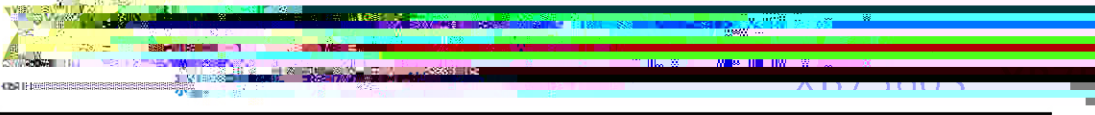
| Parameters Summary | |
|---|---|
|  |  TO-247  TO-3P Insulated |



| 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=25°C) | V _{DRM} | 1200/1000 | V |
| Repetitive peak reverse voltage (T=25°C) | V _{KRM} | 1200/1000 | V |
| Non repetitive surge peak Off-state voltage | V _{DSM} | V _{DRM} +100 | V |
| Non repetitive peak reverse voltage | V _{PKM} | V _{PRM} +100 | V |
| RMS on-state current (T=100°C) | I _{T(RMS)} | 75 | A |
| Non repetitive surge peak on-state current | I _{TSM} | 700 | A |
| I ² t value for fusing (tp=10ms) | I ² t | 2450 | A ² s |
| Critical rate of rise of on-state current (I=2×IGT, tr ≤ 100 ns) | di/dt | 150 | A/μS |
| Peak gate current | I _{GM} | 5 | A |
| Average gate power dissipation | P _{G(AV)} | 2 | W |

Thermal Resistances

| Symbol | Parameter | Value | Unit |
|----------|-----------------------|--------|------|
| Rth(j-c) | Junction to case (DC) | TO-3P | 0.60 |
| | | TO-247 | 0.55 |
| | | | °C/W |



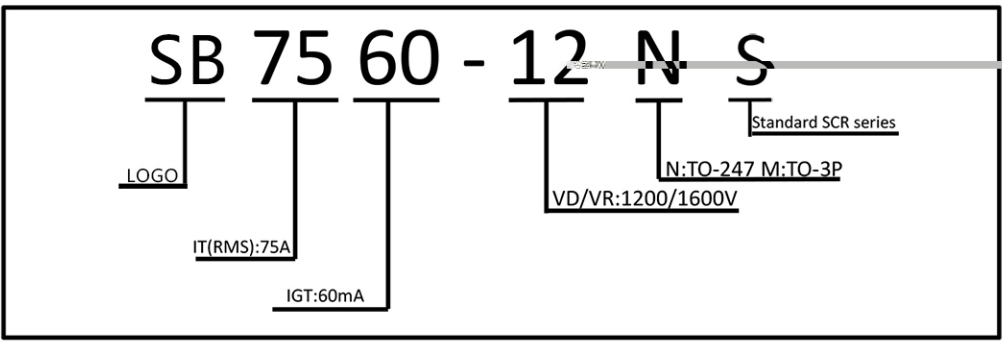
...THERMAL CHARACTERISTICS (unless otherwise specified)

| Symbol | Parameter | Value |
|--------------|-------------------------------|--------|
| V_{RM} | Reverse Repetitive Voltage | 12 V |
| $I_{T(RMS)}$ | Reverse Repetitive Current | 75 mA |
| $I_{T(AV)}$ | Reverse Average Current | 21 mA |
| $I_{T(M)}$ | Reverse Maximum Current | 100 mA |
| $I_{T(SM)}$ | Reverse Surge Maximum Current | 1.0 A |
| V_{DM} | Diode Forward Voltage | 1.0 V |
| V_{RM} | Reverse Repetitive Voltage | 12 V |
| V_{SM} | Reverse Surge Maximum Voltage | 15 V |
| V_{RRM} | Reverse Repetitive Voltage | 12 V |

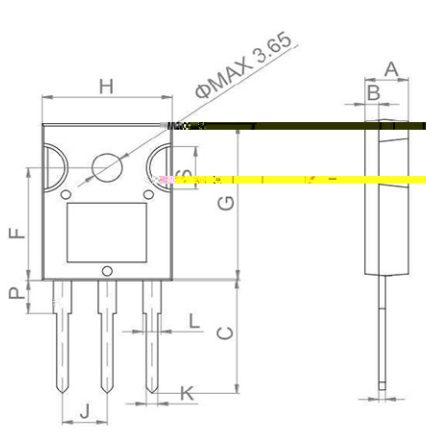
...THERMAL CHARACTERISTICS (unless otherwise specified)

| Symbol | Parameter | Value |
|-----------|-------------------------------|-------|
| V_{DM} | Diode Forward Voltage | 1.0 V |
| V_{RM} | Reverse Repetitive Voltage | 12 V |
| V_{SM} | Reverse Surge Maximum Voltage | 15 V |
| V_{RRM} | Reverse Repetitive Voltage | 12 V |

Ordering Information Scheme

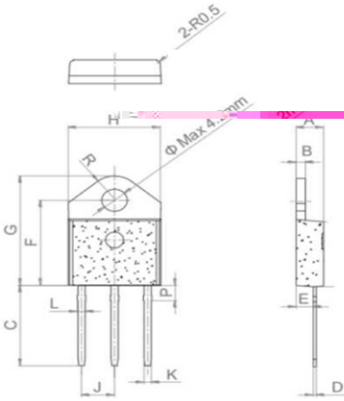


TO-247 Package Mechanical Data



| Dimensions | Millimeters | Inches |
|------------|-------------|--------|
| A | 1.27 | 0.050 |
| B | 0.8 | 0.031 |
| C | 1.44 | 0.057 |
| D | 1.07 | 0.042 |
| E | 1.57 | 0.062 |
| F | 3.6 | 0.142 |
| G | 1.5 | 0.059 |
| H | 7.14 | 0.281 |
| J | 0.3 | 0.012 |
| K | 0.7 | 0.028 |
| L | 0.42 | 0.017 |
| M | 0.3 | 0.012 |
| N | 0.3 | 0.012 |

TO-3P Package Mechanical Data



| Ref. | Dimensions | | | | | |
|------|-------------|-------|-------|--------|--|-------|
| | Millimeters | | | Inches | | |
| A | 4.40 | 4.60 | 0.173 | 0.181 | | |
| B | 1.40 | 1.60 | 0.055 | 0.062 | | |
| C | 15.48 | 15.88 | 0.609 | 0.625 | | |
| D | 0.50 | 0.70 | 0.019 | 0.027 | | |
| E | 2.70 | 2.90 | 0.106 | 0.114 | | |
| F | 15.92 | 16.32 | 0.626 | 0.642 | | |
| G | 20.27 | 20.67 | 0.802 | 0.814 | | |
| H | 15.15 | 15.35 | 0.590 | 0.604 | | |
| J | | 5.45 | | 0.214 | | 0.216 |
| K | 1.10 | 1.30 | 0.043 | 0.051 | | |
| L | 1.15 | 1.35 | 0.045 | 0.053 | | |
| P | 2.68 | 3.08 | 0.105 | 0.121 | | |
| R | | 4.20 | | 0.165 | | |

FIG.1 Maximum power dissipation versus on-state current

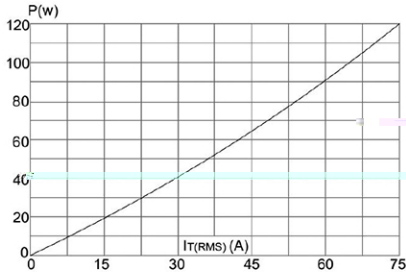


FIG.2: on-state current versus case temperature

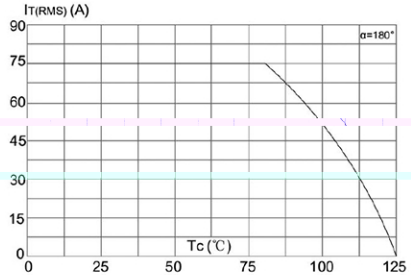


FIG.3: Surge peak on-state current versus number of cycles

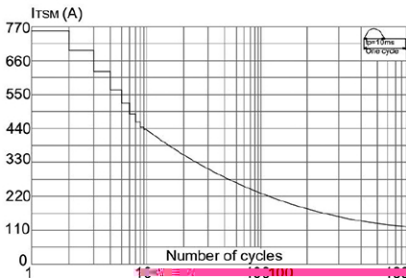


FIG.4: On-state characteristics (maximum value)

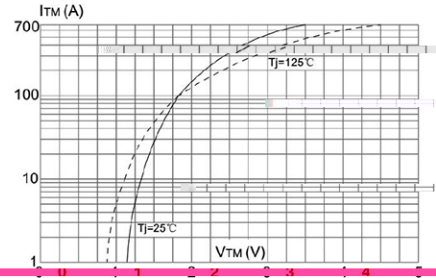


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

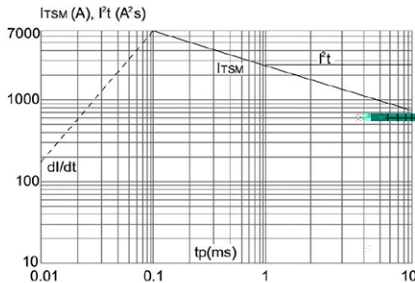


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

