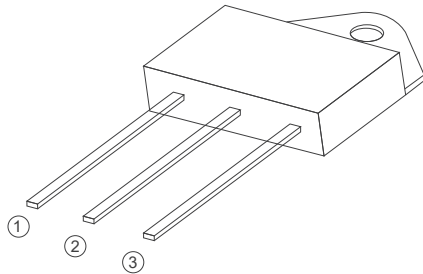
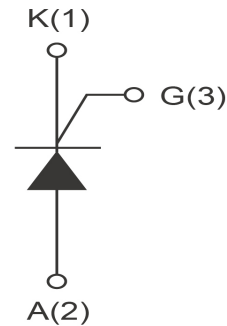


Standard SCRS



TO-3P Insulated



FEATURES

> IT(RMS):40A > VGT: 1.5V > VDRM VRRM:1200Vand1600V

APPLICATIONS

Washing machine,vacuums, massager,solid state relay , AC Motor speed regulation and so on.

Absolute Maximum Ratings (T_j=25°C unless otherwise specified)

| Symbol | Parameter | Conditions | Ratings | Unit |
|------------------|-----------------------------------|-----------------------|---------|------------------|
| VDRM VRRM | Repetitive Peak Off-State Voltage | SCR40 -1200B | 1200 | V |
| | | SCR40 -1600B | 1600 | V |
| IT(RMS) | R.M.S On-State Current | | 40 | A |
| ITSM | Surge On-State Current | F=50Hz, tp=10ms/8.3ms | 460 | A |
| I ² t | I ² t for fusing | Tp=10ms | 1060 | A ² s |
| PG(AV) | Average Gate Power Dissipation | Tj=125°C | 1 | W |
| PGM | Peak Gate Current | Tj=125°C | 5 | W |
| IGM | Peak Gate Current | tp=10us | 4 | A |
| Tj | Operating Junction Temperature | | ~40~125 | °C |
| TSTG | Storage Temperature | | ~40~150 | °C |

Electrical Characteristics (T_j=25°C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Value | Unit |
|----------------------|--|---|-------|------|
| IDRM | Repetitive Peak Off-State Current | T _c =25°C | ≤10 | μA |
| | | T _c =125°C | ≤4 | mA |
| IRRM | Repetitive Peak Reverse Current | T _c =25°C | ≤10 | μA |
| | | T _c =125°C | ≤4 | mA |
| VTM | Forward "on" voltage | I _T =80A t _p =380us | ≤1.55 | V |
| VGD | Gate nontrigger voltage | V _D =V _{DRM} , T _j =125°C, R _L =3.3KΩ | ≥0.2 | V |
| IL | Latching current | I _G =1.2I _{GT} | ≤90 | mA |
| IH | Holding current | V _D =12V, I _{GT} =0.1A | ≤70 | mA |
| VGT | Gate trigger voltage | V _D =12V | ≤1.5 | V |
| IGT | Gate trigger current | V _D =12V, I _T =0.1A | ≤35 | mA |
| dv/dt | Critical-rate of rise of commutation voltage | V _D =2/3V _{DRM} , T _j =125°C, gate open circuit | ≥200 | V/us |
| di/dt | Critical-rate of rise of commutation current | I _G =2XIG, t _r 100us, T _j =125°C | ≥120 | A/us |
| R _{th(j-c)} | Thermal resistance | Junction to case | 1.1 | °C/W |

FIG1

Maximum power dissipation versus RMS on-state current

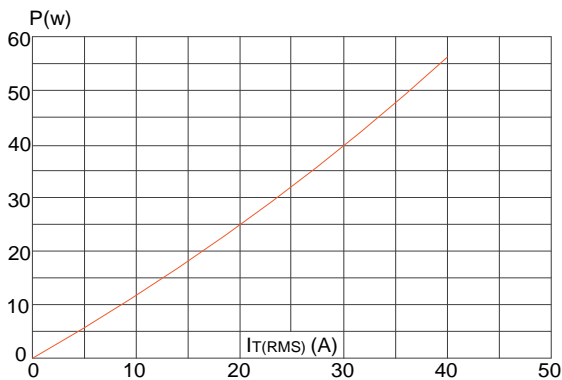


FIG2

RMS on-state current versus case temperature

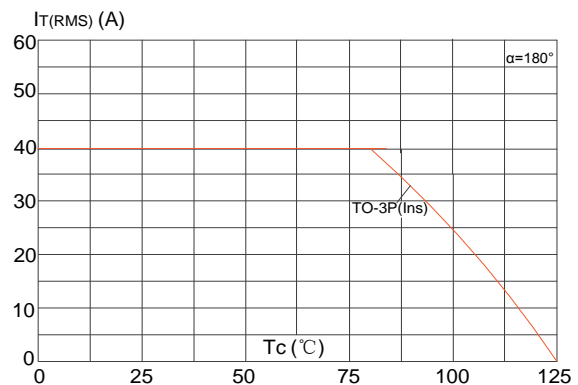


FIG3

Surge peak on-state current versus number of cycles

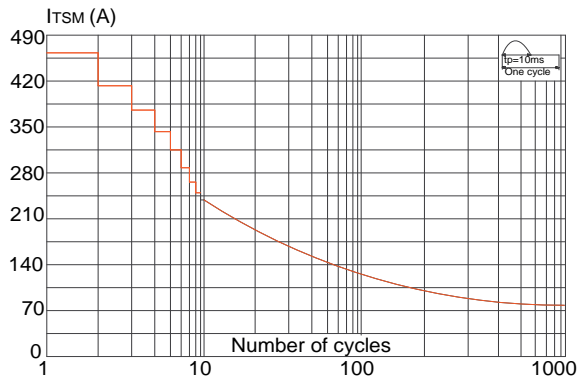


FIG4

On-state characteristics (maximum values)

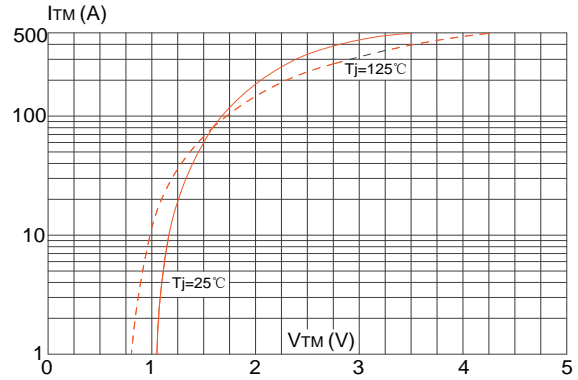


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

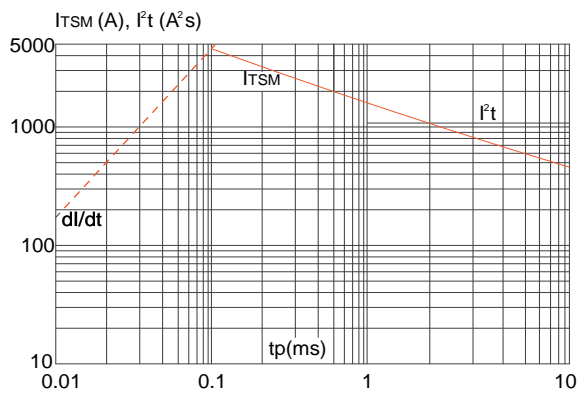
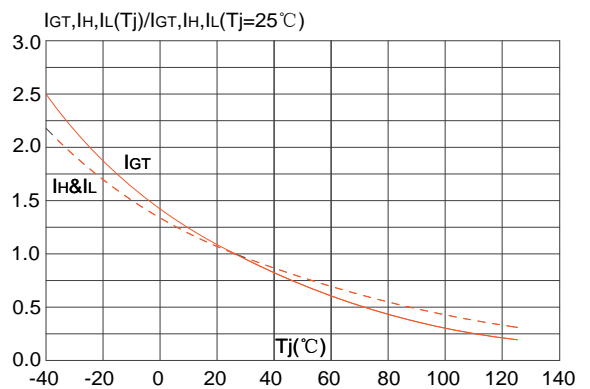
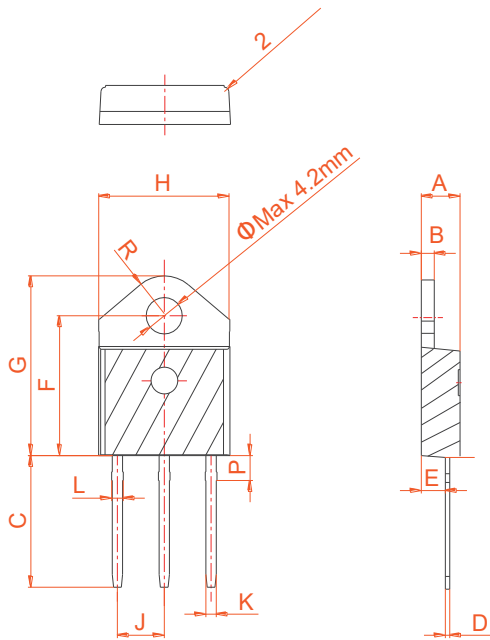


FIG6

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



PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | | | |
|------|-------------|------|-------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.40 | | 4.60 | 0.173 | | 0.181 |
| B | 1.45 | | 1.55 | 0.057 | | 0.061 |
| C | 14.35 | | 15.60 | 0.565 | | 0.614 |
| D | 0.50 | | 0.70 | 0.020 | | 0.028 |
| E | 2.70 | | 2.90 | 0.106 | | 0.114 |
| F | 15.80 | | 16.50 | 0.622 | | 0.650 |
| G | 20.40 | | 21.10 | 0.803 | | 0.831 |
| H | 15.10 | | 15.50 | 0.594 | | 0.610 |
| J | 5.40 | | 5.65 | 0.213 | | 0.222 |
| K | 1.10 | | 1.40 | 0.043 | | 0.055 |
| L | 1.35 | | 1.50 | 0.053 | | 0.059 |
| P | 2.80 | | 3.00 | 0.110 | | 0.118 |
| R | | 4.35 | | | 0.171 | |

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