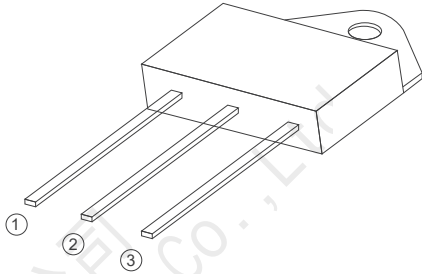


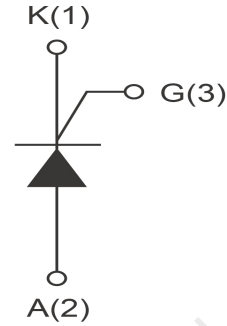
BTW69 Series
55A SCRs
Standard SCRs



ShenZhenHanKingyuan
Electronic CO.,Ltd



TO-3P Insulated



FEATURES

> IT(RMS):55A > VGT: 1.5V > VDRM VRRM:1000Vand1200V

APPLICATIONS

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

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

| Symbol | Parameter | Conditions | Ratings | Unit |
|------------------|-----------------------------------|-----------------------|---------|------------------|
| VDRM VRRM | Repetitive Peak Off-State Voltage | BTW69-1200B | 1200 | V |
| | | BTW69-1600B | 1600 | V |
| IT(RMS) | R.M.S On-State Current | | 55 | A |
| IT(AV) | average On-State Current | | 35 | A |
| ITSM | Surge On-State Current | F=50Hz, tp=10ms/8.3ms | 550 | A |
| I ² t | I ² t for fusing | tp=10ms | 1500 | A ² s |
| PG(AV) | Average Gate Power Dissipation | Tj=125°C | 1 | W |
| PGM | Peak Gate Current | Tj=125°C | 10 | W |
| IGM | Peak Gate Current | tp=10us | 5 | A |
| Tj | Operating Junction Temperature | | ~40~125 | °C |
| TSTG | Storage Temperature | | ~40~150 | °C |

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

| Symbol | Parameter | Test Conditions | Value | Unit |
|----------|--|---|-------|------|
| IDRM | Repetitive Peak Off-State Current | Tc=25°C | ≤10 | uA |
| | | Tc=125°C | ≤8 | mA |
| IRRM | Repetitive Peak Reverse Current | Tc=25°C | ≤10 | uA |
| | | Tc=125°C | ≤8 | mA |
| VTM | Forward "on" voltage | IT=60A tp=380us | ≤1.8 | V |
| VGD | Gate nontrigger voltage | VD=VDRM, Tj=125°C, RL=3.3KΩ | ≥0.2 | V |
| IL | Latching current | IG=1.2IGT | ≤250 | mA |
| IH | Holding current | VD=12V, IGT=0.1A | ≤200 | mA |
| VGT | Gate trigger voltage | VD=12V | ≤1.5 | V |
| IGT | Gate trigger current | VD=12V, IT=0.1A | ≤70 | mA |
| dv/dt | Critical-rate of rise of commutation voltage | VD=2/3VDRM, Tj=125°C, gate open circuit | ≥100 | V/us |
| di/dt | Critical-rate of rise of commutation current | IG=2XIG, tr100us, Tj=125°C | ≥150 | A/us |
| Rth(j-c) | Thermal resistance | Junction to case | 0.65 | °C/W |

FIG1

Maximum power dissipation versus RMS on-state current

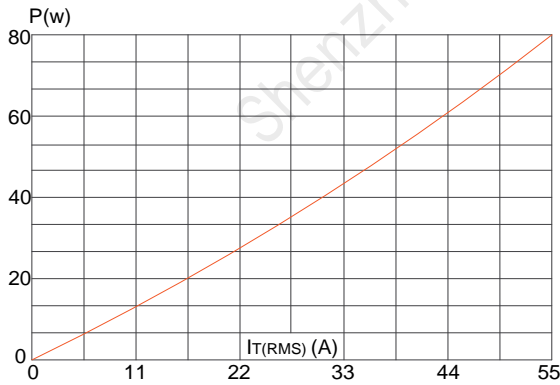


FIG2

RMS on-state current versus case temperature

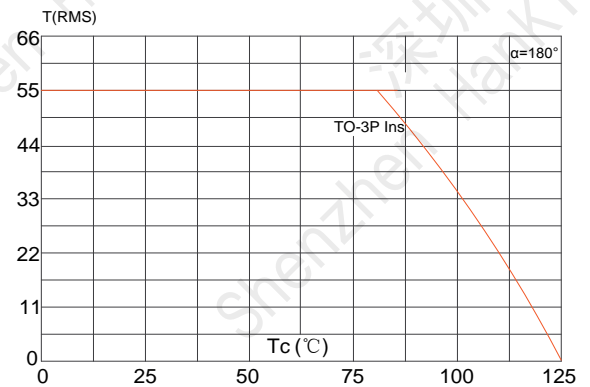


FIG3

Surge peak on-state current versus number of cycles

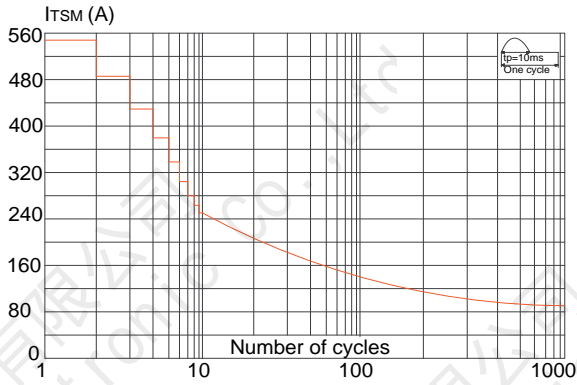


FIG4

On-state characteristics (maximum values)

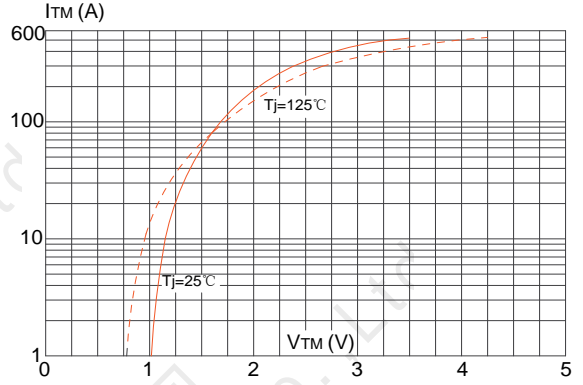


FIG5

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

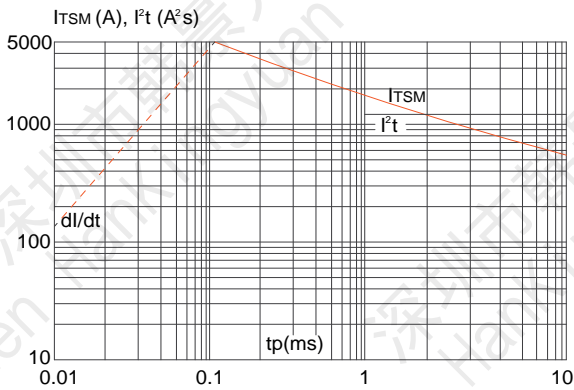
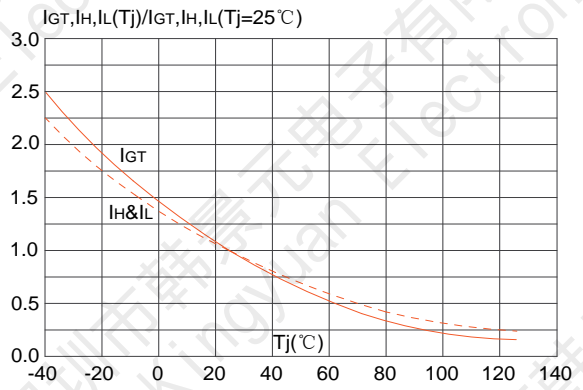
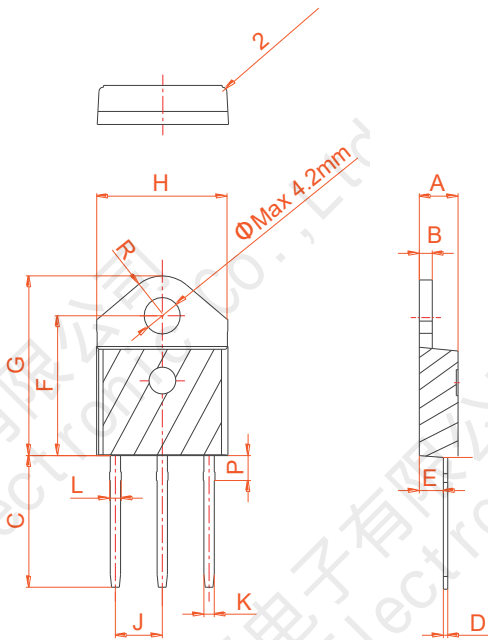


FIG6

Relative variations of gate trigger current, holding current and latching current versus junction temperature



PACKAGE MECHANICAL DATA



TO-3P Ins

| 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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