

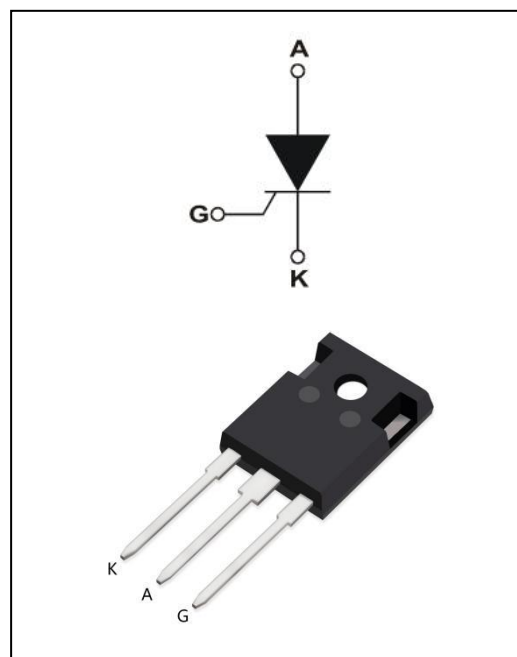
## Silicon Controlled Rectifier

### Description

BCB75-1200K, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference.

### Main Features

| Product Summary   |         |
|-------------------|---------|
| $V_{DRM}/V_{RRM}$ | 1200 V  |
| $I_{T(RMS)}$      | 75A     |
| $I_{GT}$          | 20~80mA |



### Absolute Maximum Ratings:

| Symbol       | Parameter                                                   | Value   | Unit             |
|--------------|-------------------------------------------------------------|---------|------------------|
| $T_{stg}$    | Storage junction temperature range                          | -40-150 | °C               |
| $T_j$        | Operating Junction Temperature                              | -40-150 | °C               |
| $V_{DRM}$    | Repetitive peak off-state voltage                           | 1200    | V                |
| $V_{RRM}$    | Repetitive peak reverse voltage                             | 1200    | V                |
| $I_{T(RMS)}$ | RMS on-state current( $T_c=25^{\circ}C$ )                   | 75      | A                |
| $I_{TSM}$    | Non repetitive surge peak on-state voltage(tp=10ms)         | 750     | A                |
| $I^2t$       | $I^2t$ value for fusing (tp=10ms)                           | 2800    | A <sup>2</sup> S |
| di/dt        | Critical rate of rise of on-state current( $I_G=2*I_{GT}$ ) | 150     | A/μS             |
| $I_{GM}$     | Peak gate current                                           | 4       | A                |
| $P_{G(AV)}$  | Average gate power dissipation                              | 1       | W                |
| $P_{GM}$     | Peak gate power                                             | 5       |                  |

### Electrical Parameters ( $T_j=25^{\circ}C$ unless otherwise specified)

| Symbol   | Test Conditions                                                | Min. | Typ. | Max. | Unit |
|----------|----------------------------------------------------------------|------|------|------|------|
| $I_{GT}$ | $V_D=12V \quad R_L=33\Omega$                                   | 20   |      | 80   | mA   |
| $V_{GT}$ |                                                                |      |      | 1.5  | V    |
| $V_{GD}$ | $V_D=V_{DRM} \quad T_j=125^{\circ}C \quad R_L=3.3k\Omega$      | 0.25 |      |      | V    |
| $I_L$    | $I_G=1.2I_{GT}$                                                |      |      | 150  | mA   |
| $I_H$    | $I_T=1A$                                                       |      |      | 120  | mA   |
| dv/dt    | $V_D=2/3V_{DRM} \quad T_j=125^{\circ}C \quad \text{Gate Open}$ | 1000 |      |      | V/μs |

## Static Characteristics

| Symbol           | Test Conditions                                                   | T <sub>j</sub> (°C) | Min. | Typ. | Max. | Unit |
|------------------|-------------------------------------------------------------------|---------------------|------|------|------|------|
| V <sub>TM</sub>  | I <sub>TM</sub> =100A tp=380μs                                    | 25                  |      |      | 1.60 | V    |
| I <sub>DRM</sub> | V <sub>D</sub> =V <sub>DRM</sub> V <sub>R</sub> =V <sub>RRM</sub> | 25                  |      |      | 50   | μA   |
| I <sub>RRM</sub> |                                                                   | 125                 |      |      | 10   | mA   |

## Thermal characteristics

| Parameter        | Symbol               | Typ. | Unit |
|------------------|----------------------|------|------|
| Junction-to-Case | R <sub>th(j-c)</sub> | 0.3  | °C/W |

## Typical Performance Characteristics

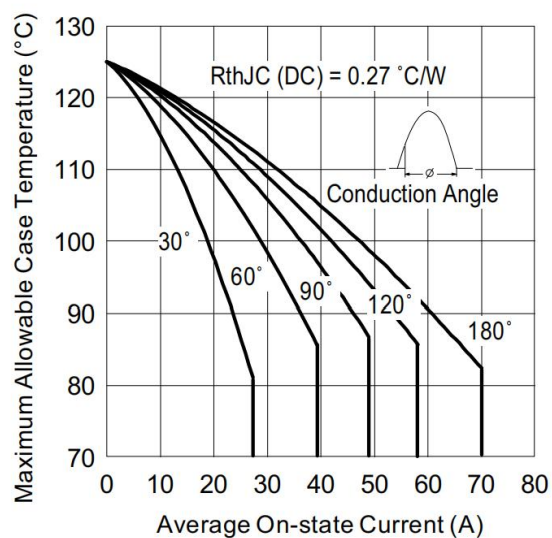


Fig. 1 - Current Rating Characteristics

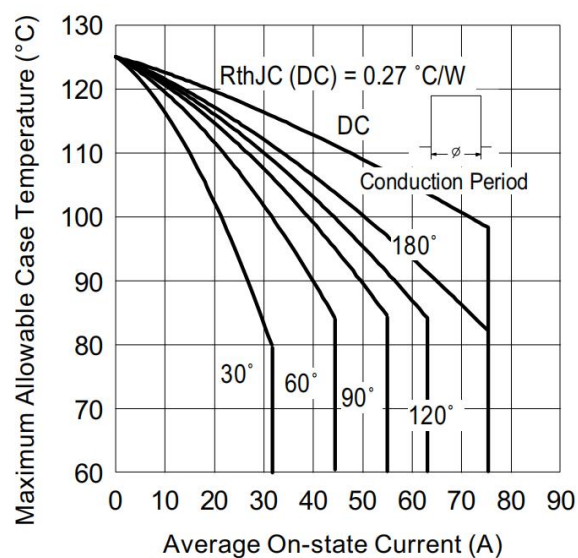


Fig. 2 - Current Rating Characteristics

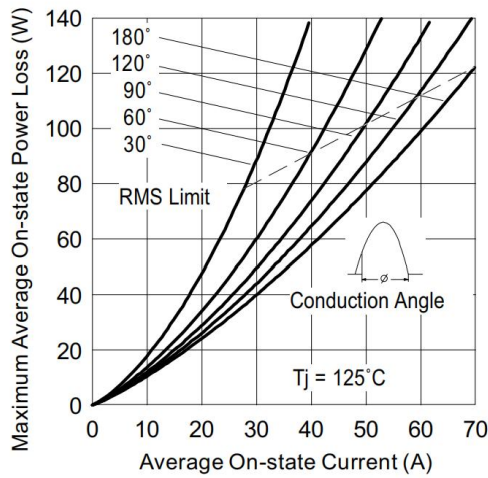


Fig. 3 - On-State Power Loss Characteristics

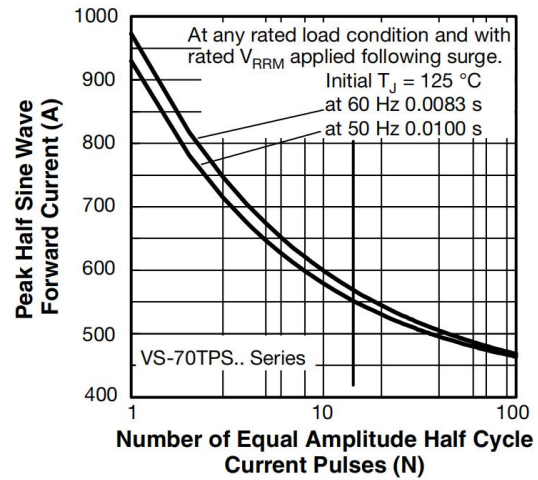


Fig. 5 - Maximum Non-Repetitive Surge Current

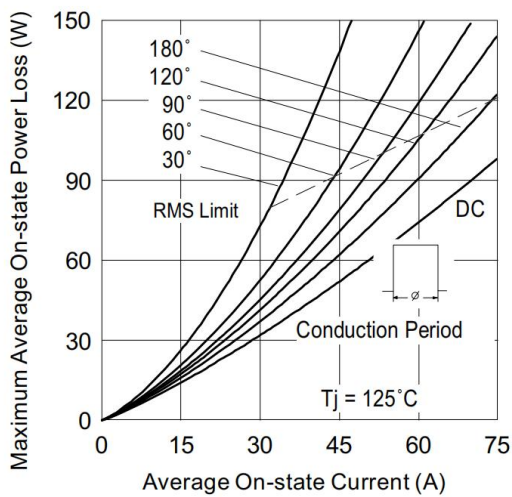


Fig. 4 - On-State Power Loss Characteristics

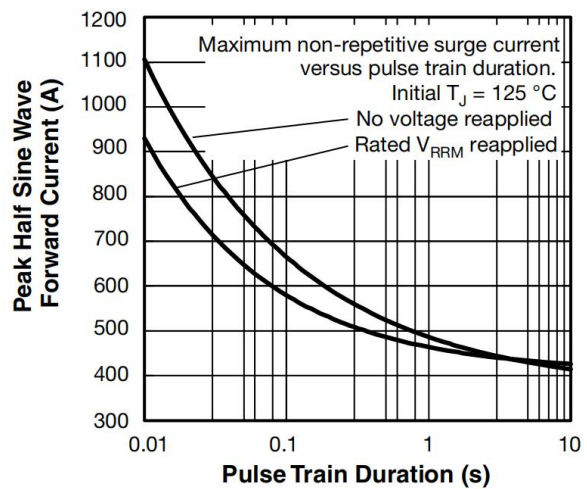


Fig. 6 - Maximum Non-Repetitive Surge Current

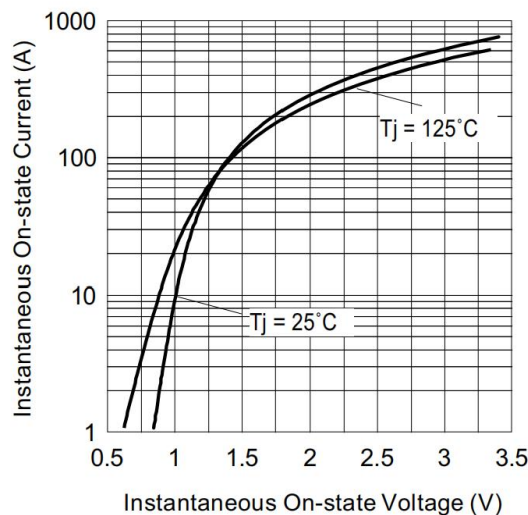
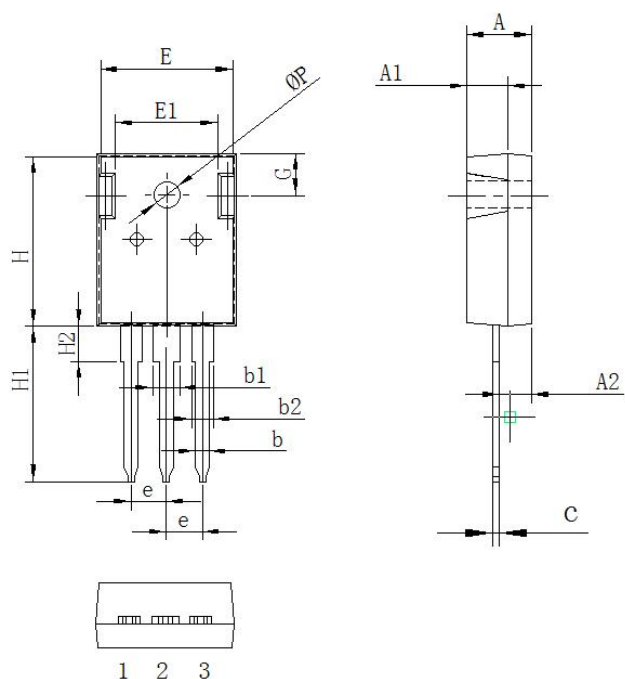


Fig. 7 - On-State Voltage Drop Characteristics

## Package Information

### TO-247 PACKAGE

基本尺寸



| Symbol | 单位 mm |      |      |
|--------|-------|------|------|
|        | Min   | Nom  | Max  |
| A      | 4.8   | 5.00 | 5.20 |
| A1     | 3.3   | 3.5  | 3.7  |
| A2     | 2.20  | 2.40 | 2.60 |
| b      | 1.00  | 1.2  | 1.40 |
| b1     | 2.90  | 3.10 | 3.30 |
| b2     | 1.90  | 2.10 | 2.30 |
| c      | 0.50  | 0.60 | 0.70 |
| e      | 5.25  | 5.45 | 5.65 |
| E      | 15.2  | 15.7 | 16.2 |
| E1     | 10.2  | 10.7 | 11.2 |
| H      | 20.8  | 21   | 21.2 |
| H1     | 19.5  | 20.0 | 20.5 |
| H2     | 4.00  | 4.20 | 4.40 |
| G      | 5.60  | 5.80 | 6.00 |
| ΦP     | 3.50  | 3.70 | 3.90 |

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