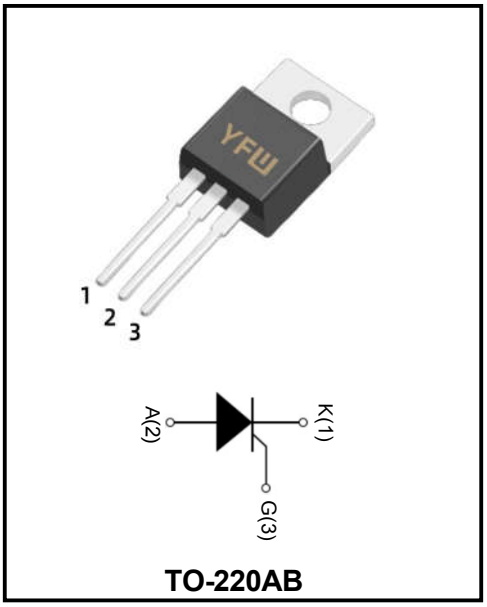
## 25A Standard SCRs

### Product Summary

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 25 | A |
| $V_{DRM}$ $V_{RRM}$ | 1200 | V |
| $V_{TM}$ | 1.6 | V |



TO-220AB

### Features

With high ability to withstand the shock loading of large current, Provide high dv/dt rate with strong resistance to electromagnetic interference.

### Application

Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on.

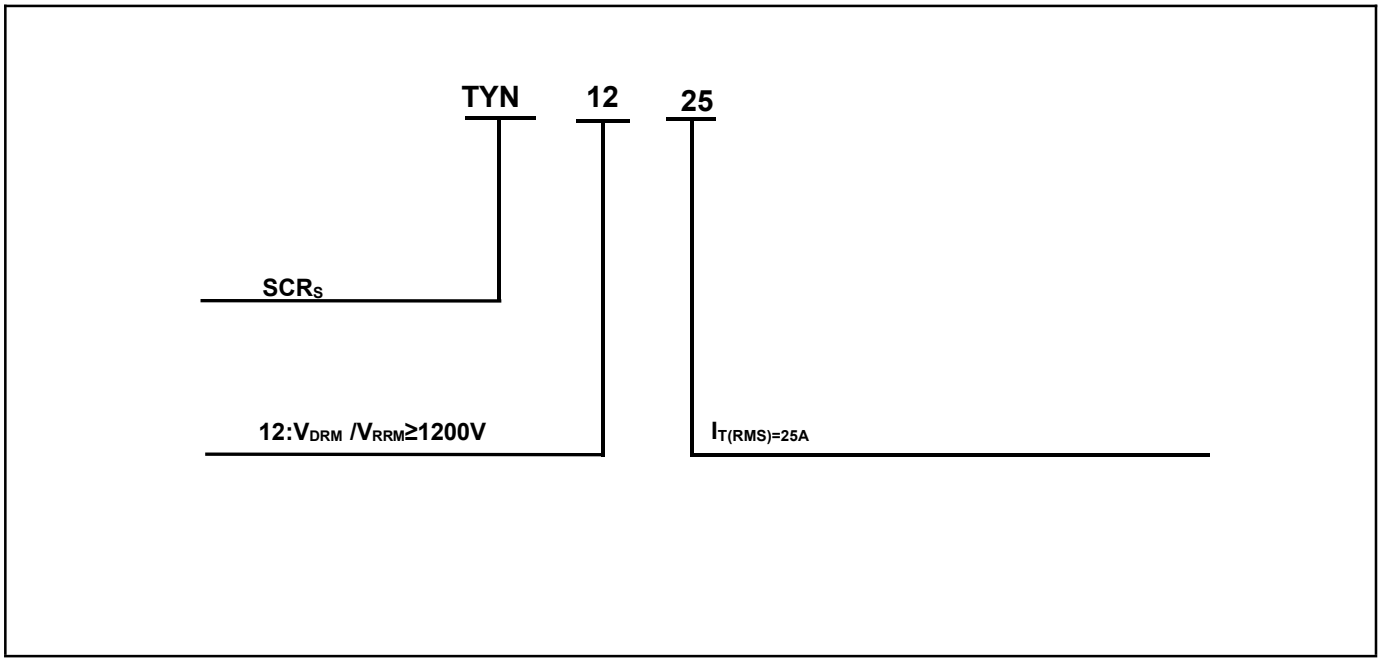
### Absolute maximum ratings (Ta=25°C unless otherwise noted)

| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Repetitive peak off-state voltage | | $V_{DRM}$ | 1200 | V |
| Repetitive peak reverse voltage | | $V_{RRM}$ | 1200 | V |
| Average on-state current (Tc=79°C, 180°C conduction half sine wave) | | $I_{T(AV)}$ | 16 | A |
| RMS on-state current(Tc=79°C, 180°C conduction half sine wave) | | $I_{T(RMS)}$ | 25 | A |
| One cycle Non repetitive surge current | 10ms sine pulse,rated VRRM applied | $I_{TSM}$ | 250 | A |
| | 10mssinepulse,no voltage applled | | 260 | |
| $I^2t$ value for fusing | 10mssInepulse,rated VRRM applled | $I^2t$ | 310 | $A^2S$ |
| | 10ms sine pulse,no voltage applied | | 320 | |
| Critical rate of rise of on-state current ($T_j$=25℃) | | dI/dt | 100 | A/μs |
| Peak gate current tp=20us, Tj=125℃ | | $I_{GM}$ | 4 | A |
| Average gate power dissipation Tj=125℃ | | $P_{G(AV)}$ | 1 | W |
| Junction Temperature | | $T_J$ | -40~+125 | °C |
| Storage Temperature | | $T_{STG}$ | -40 ~+150 | °C |

## Electrical characteristics ($T_J$=25°C, unless otherwise noted)

| Parameter | Symbol | Test Condition | | Value | | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | min | typ | max | |
| Gate trigger current | $I_{GT}$ | $T_j$=125℃ | | - | - | 15 | mA |
| Gate trigger voltage | $V_{GT}$ | | | - | - | 1.0 | V |
| Non-triggering gate voltage | $V_{GD}$ | $V_D$=$V_{DRM}$, $T_j$=125℃ | | 0.2 | - | - | V |
| Latching current | $I_L$ | $I_G$=1.2$I_{GT}$ | | - | - | 80 | mA |
| Holding current | $I_H$ | | | - | - | 60 | mA |
| Critical-rate of rise of commutation voltage | $dV_D/dt$ | $V_D$=67%$V_{DRM}$ gate open $T_j$=125℃ | | 500 | - | - | V/μs |
| **STATIC CHARACTERISTICS** | | | | | | | |
| On-state Voltage | $V_{TM}$ | $I_{TM}$=50A tp=380us | $T_j$=25℃ | - | - | 1.6 | V |
| Repetitive Peak Off-State Current | $I_{DRM}$ | $V_D$=$V_{DRM}$ | $T_j$=25℃ | - | - | 10 | μA |
| Repetitive Peak Reverse Current | $I_{RRM}$ | $V_R$= $V_{RRM}$ | $T_j$=125℃ | - | - | 4 | mA |
| **THERMAL RESISTANCES** | | | | | | | |
| Ihermal resistance | $R_{th\ (j-c)}$ | Junction to case | | | TYP. | 1.9 | ℃/W |

## Ordering Information



## Typical Characteristics

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

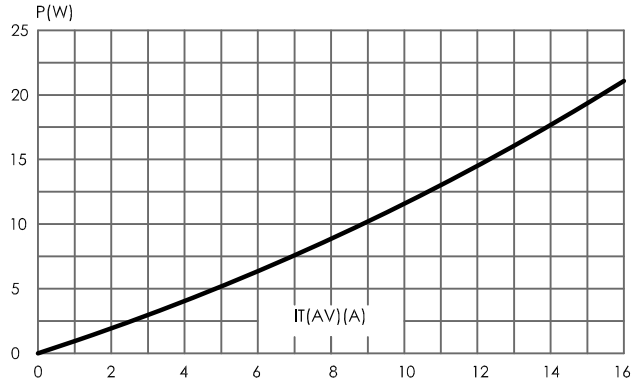



FIG.2: RMS on-state current versus case temperature.

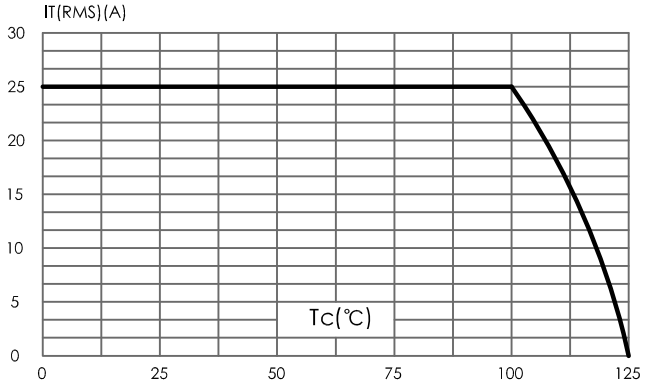



FIG.3: Relative variation of gate trigger current, holding current and latching current versus junction temperature.

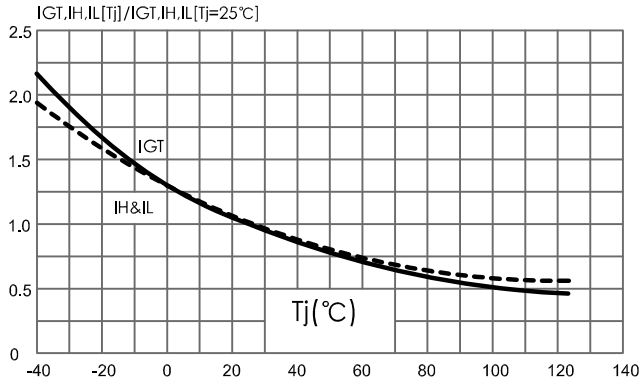



FIG.4: Surge peak on-state current versus number of cycles.

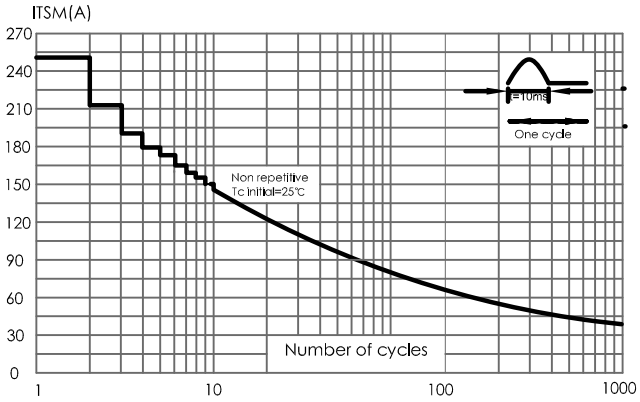



FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of $I^2t$

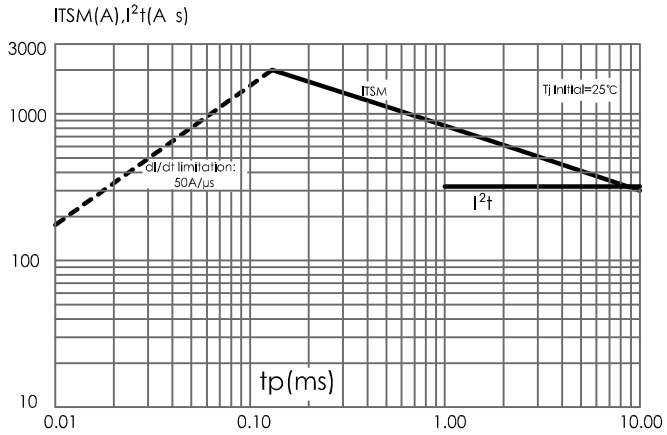
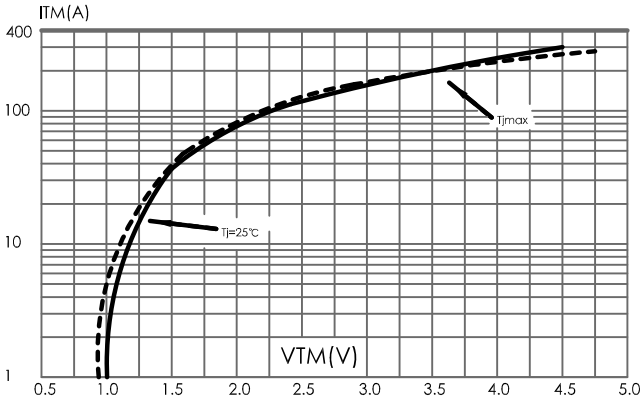
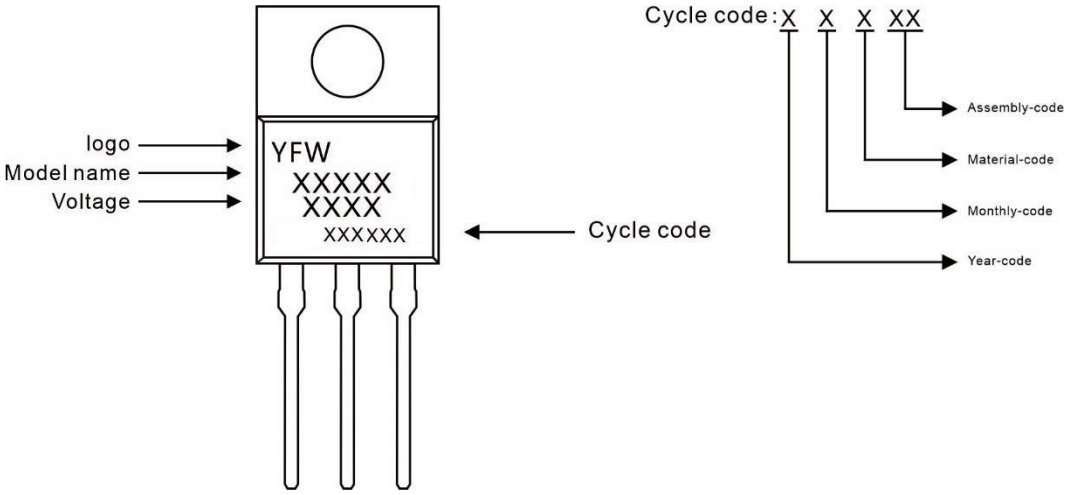



FIG.6: On-state characteristics (maximum values).



## Marking Diagram

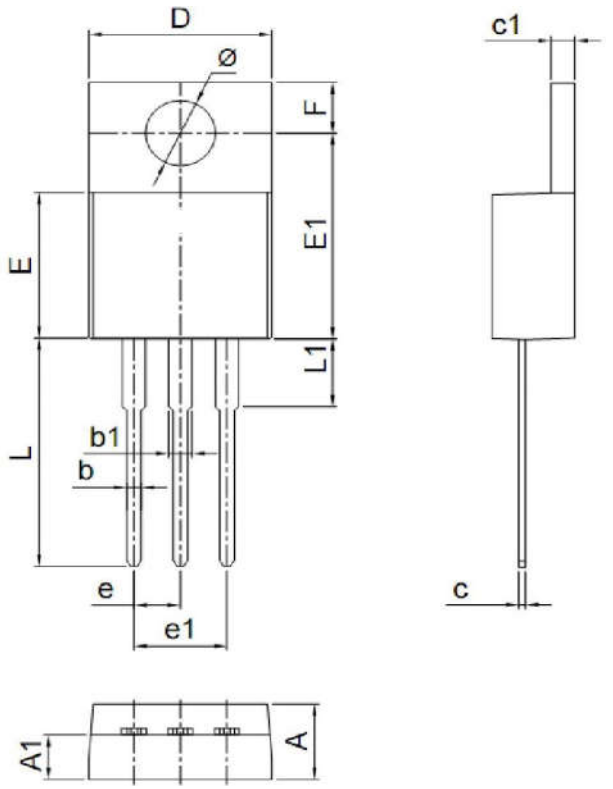



## Ordering information

| Model name | Package | Unit Weight | Base Quantity | Packing Quantity |
|---|---|---|---|---|
| TYN1225 | TO-220AB | 0.07oz(1.96g) | 50pcs/tube | 1000PCS/Box 5000PCS/Carton |

## Package Dimensions

**TO-220AB**




| Symbol | Millimeter | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 4.30 | 4.70 | 0.169 | 0.185 |
| A1 | 2.52 | 2.82 | 0.099 | 0.111 |
| b | 0.71 | 0.91 | 0.028 | 0.036 |
| b1 | 1.17 | 1.37 | 0.046 | 0.054 |
| c | 0.30 | 0.50 | 0.012 | 0.020 |
| c1 | 1.17 | 1.37 | 0.046 | 0.054 |
| D | 9.90 | 10.20 | 0.390 | 0.402 |
| E | 8.50 | 8.90 | 0.335 | 0.350 |
| E1 | 12.00 | 12.50 | 0.472 | 0.492 |
| e | 2.44 | 2.64 | 0.096 | 0.104 |
| e1 | 4.88 | 5.28 | 0.192 | 0.208 |
| F | 2.60 | 2.80 | 0.102 | 0.110 |
| L | 13.20 | 13.80 | 0.520 | 0.543 |
| L1 | 3.80 | 4.20 | 0.150 | 0.165 |
| Φ | 3.60 | 3.96 | 0.142 | 0.156 |

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