ChunZheng

High-end Power Semiconductor Manufacturer

# Fast Switching Thyristor

## Features

- High current rating
- Excellent dynamic characteristics
- Superior surge capabilities
- Standard package
- Metric Device version available

## Typical Applications

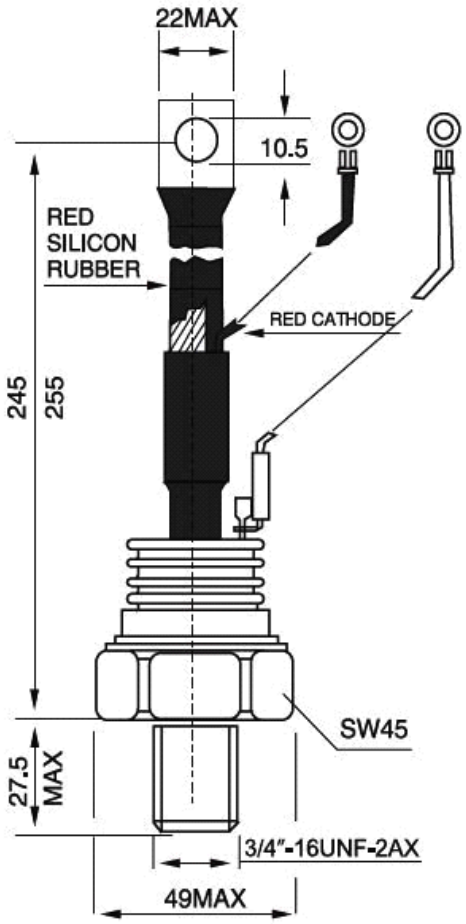
- Phase control applications in converters
- Lighting circuits
- Battery charges
- Regulated power supplies and temperature and speed control circuit
- Can be supplied to meet stringent military, aerospace and other high-reliability requirement
- Power supplier & motor controls

## ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Conditions | KKS300 | | KKS350 | Unit |
|---|---|---|---|---|---|---|
| $IT_{(AV)}$ | Average on-state current | Tc=55 ℃ | 300 | | 350 | A |
| $I_{T(RMS)}$ | RMS on-state current | Tc=55 ℃ | 480 | | 560 | A |
| $I_{TSM}$ | Surge on current | Tc=25℃ 10ms | 11000 | | 125000 | A |
| $I^2t$ | $I^2t$ value | Tc=25℃ 10ms | 600000 | | 710000 | A |
| $V_{RRM}$ | Repetitive peak reverse voltage | Tc=140 ℃ | 400-2600 | | | V |
| $I_{RRM}$ | Repetitive peak reverse voltage | Tc=140 ℃ | ≤35.0 | | ≤40.0 | mA |
| $V_{TM}$ | On-state voltage | Tc=25℃ | 2.15 | | 2.2 | V |
| $I_{TM}$ | On-state Current | Tc=25℃ | 900 | | 1050 | A |
| $I_{GT}$ | Gate Trigger Current | Tc=25℃ | 50-200 | | | mA |
| $V_{GT}$ | Gate Trigger Voltage | Tc=25℃ | ≤2.5 | | | V |
| $V_{GD}$ | Max DC gate voltage not to trigger | Tj=125℃ ,DC | 0.28 | | | V |
| $I_H$ | Holding Current | Tc=25℃ | ≤600 | | | mA |
| tq | turn-off time | Tc=25℃ | 20-30 | | | us |
| dv/dt | Rate Of Rise Of On-State Voltage | Tc=25℃ | ≥800 | | | V/us |
| di/dt | Rate Of Rise Of On-State Current | Tc=25℃ | ≥100 | | | A/us |
| R j-c | Peak gate forward voltage | | ≤0.1 | | ≤0.07 | ℃/W |
| Tj | Junction temperature | | -40~+125 | | | ℃ |
| Tstg | Storage temperature | | -40~+125 | | | ℃ |
| MT | Mounting torque | | ≤305.0 | | | N·m |
| Wt | Weight | Typical value | 580 | | 600 | g |

## Outline table

(Dimension in mm)




*FOR METRIC DEVICES;
M20×1.5/M24×1.5-LENGHT21 MAX

T5

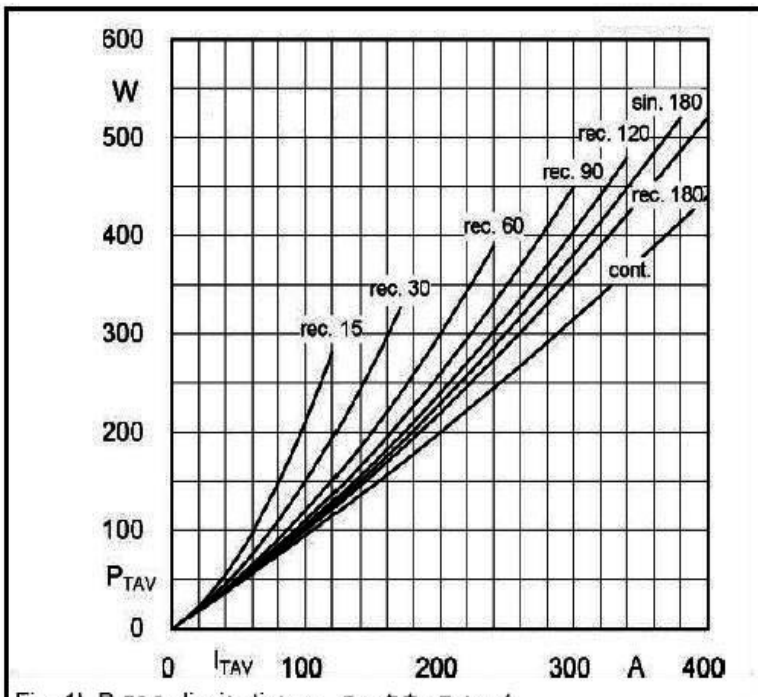



Fig. 1L Power dissipation vs. on-state current

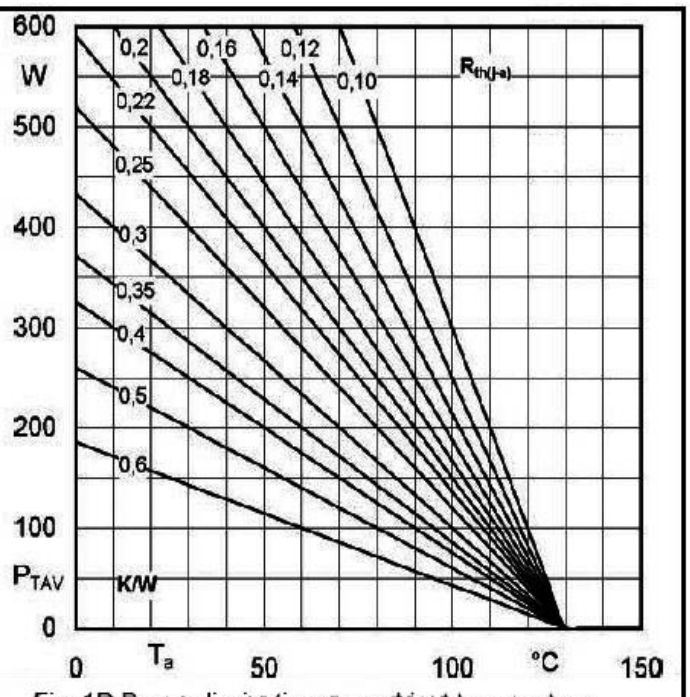



Fig. 1R Power dissipation vs, ambient temperature

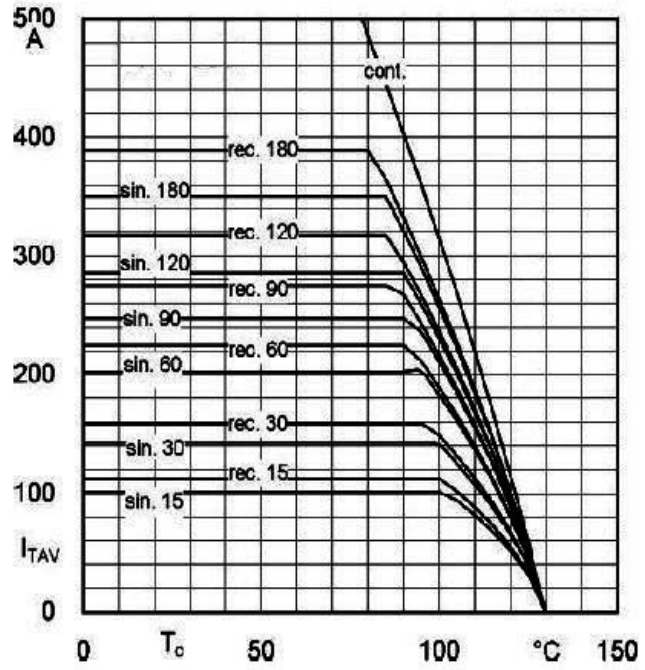



Fig. 2 Rated on-state current vs. case temperature

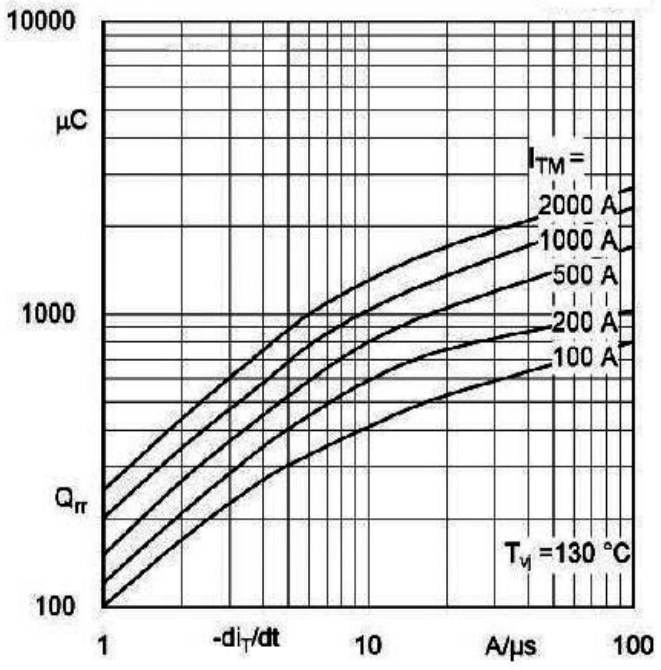



Fig. 3 Recovered charge vs. current decrease

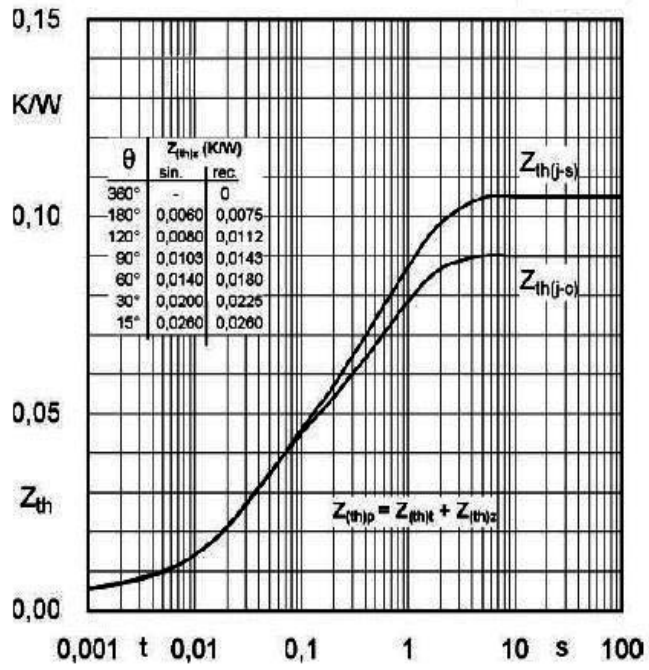



Fig. 4 Transient thermal impedance vs. time

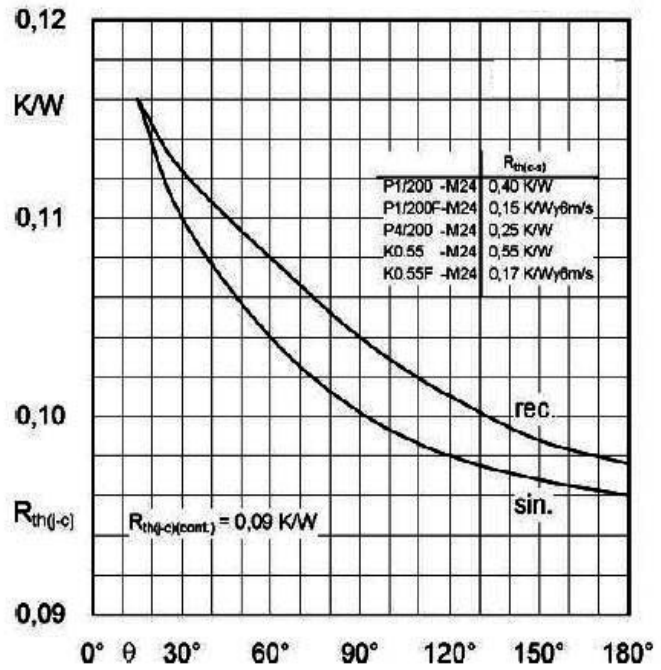



Fig. 5 Thermal resistance vs. conduction angle

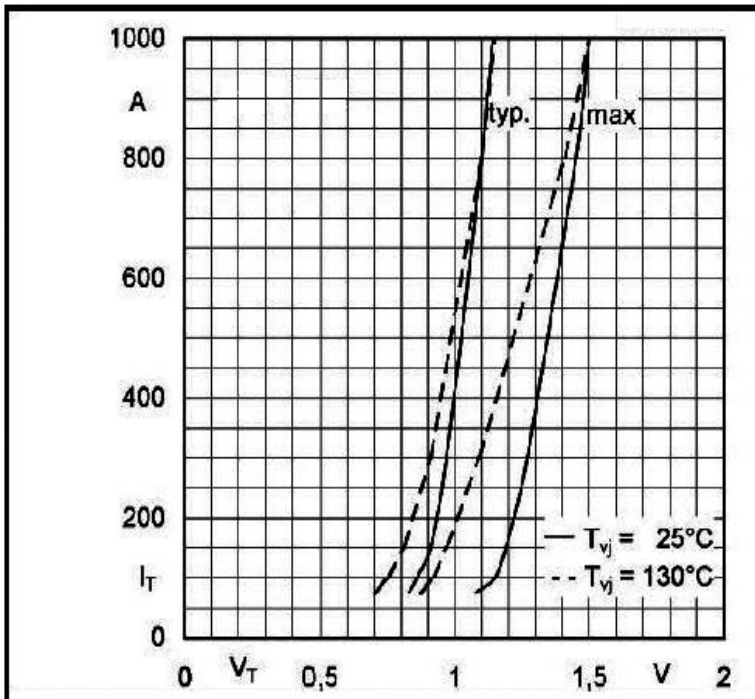



Fig. 6 On-state characteristics

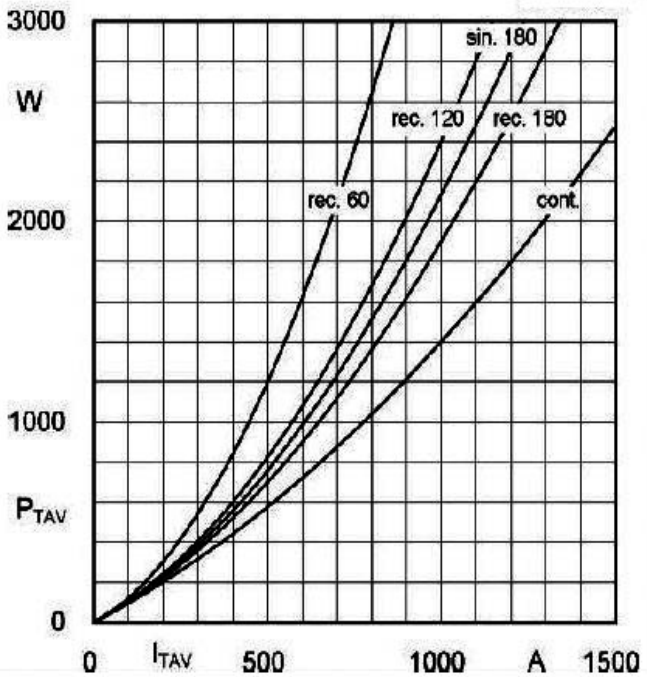



Fig. 7 Power dissipation vs. on-state current

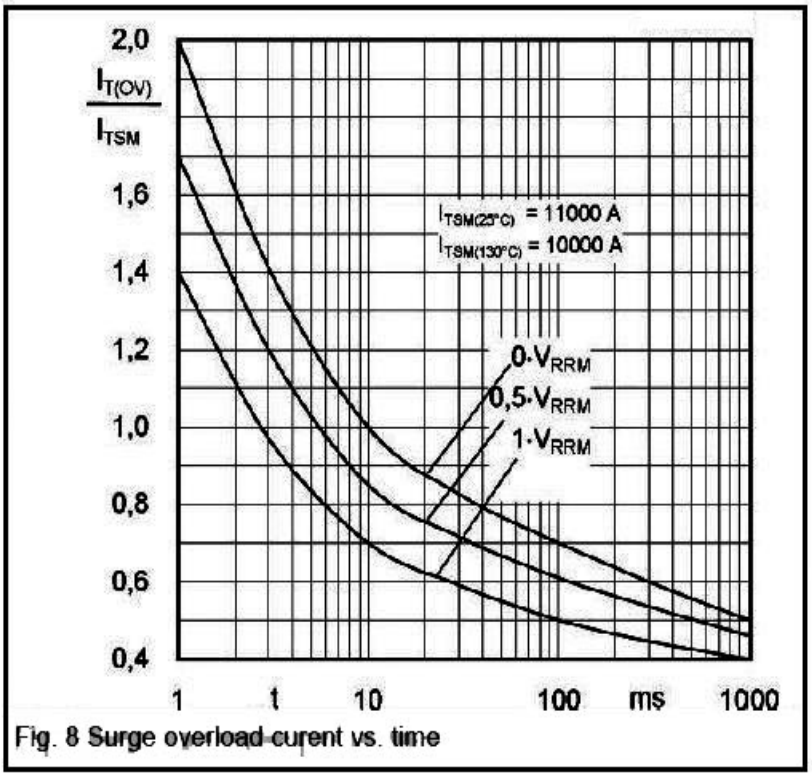



Fig. 8 Surge overload curent vs. time