



Key Parameters

| | |
|---------------------|---------|
| V_{DRM} / V_{RRM} | = 3600V |
| $I_{T(AV)}$ | = 139A |
| I_{TSM} | = 4000A |
| $V_{T(TO)}$ | = 1.5V |
| r_T | = 2.6mΩ |

Features

- Full blocking capability over wide temperature range
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Pressure contacts technology for high reliability
- UL Recognized, file no. E505556


Applications

- Power Supplies
- DC motor control
- Controlled Rectifiers
- AC switch

Ordering Information

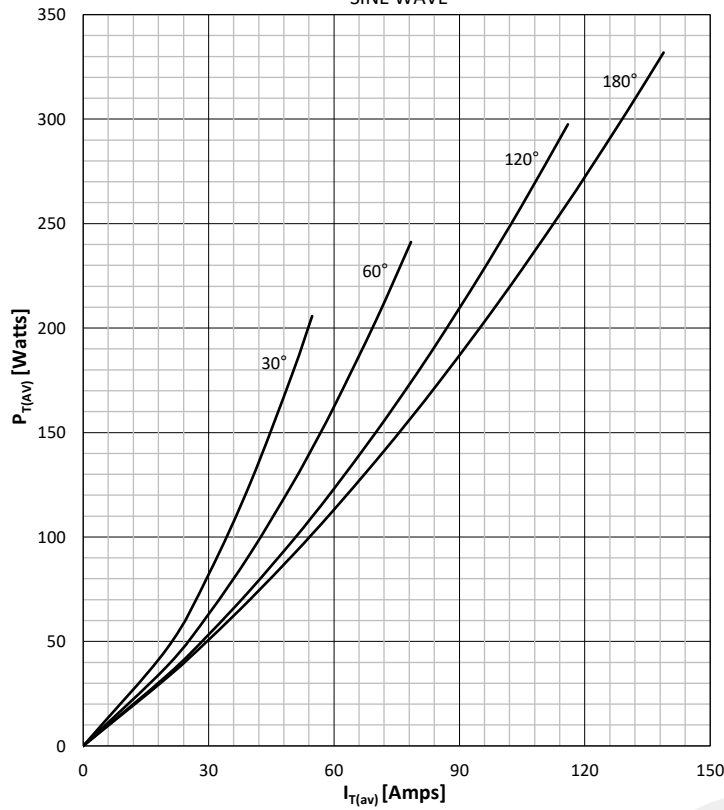
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|--------------------------------------------------------------------------------|---------------------------------|--------------|-----------------------------------------------|------------------------------------------------|
| MS | TT | 139 | K | 36 |
| Fixed code | TT- Thyristor- Thyristor Module | Current Code | Technology K = Pressure Contact Technology | Voltage Code Code X 100 = V_{DRM}/V_{RRM} |
| Order Code MS TT139K36 : 3600V V_{DRM}, V_{RRM} , Thyristor-Thyristor Module | | | | |

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| Symbol | Characteristic | Conditions | T _j [°C] | Value | Unit |
|------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------|------------------------|----------------------------------|------------------|
| BLOCKING | | | | | |
| V _{RRM} | Repetitive peak reverse voltage | | 125 | 3000 - 3600 | V |
| V _{RSM} | Non-repetitive peak reverse voltage | | 125 | 3100 - 3700 | V |
| V _{DRM} | Repetitive peak off-state voltage | | 125 | 3600 | V |
| I _{RRM} | Repetitive peak reverse current | V = V _{RRM} | 125 | 50 | mA |
| I _{DRM} | Repetitive peak off-state current | V = V _{DRM} | 125 | 50 | mA |
| CONDUCTING | | | | | |
| I _{T(AV)} | Mean on state current | 180° sin ,50 Hz, T _c =85°C | | 139 | A |
| I _{RMS} | RMS on-state current | | | 218 | A |
| I _{TSM} | Surge on-state current | Sine wave, 10 ms Without reverse voltage | 25 | 4000 | A |
| | | | 125 | 3200 | A |
| I ² t | I ² t | Sine wave, 10 ms Without reverse voltage | 25 | 80000 | A ² s |
| | | | 125 | 51200 | A ² s |
| V _T | On-state voltage | On-state current = 400A | 25 | 2.54 | V |
| V _{T(TO)} | Threshold voltage | | 125 | 1.5 | V |
| r _T | On-state slope resistance | | 125 | 2.6 | mΩ |
| SWITCHING | | | | | |
| di/dt | Critical rate of rise of on-state current | nonrepetitive | 125 | 200 | A/μs |
| dv/dt | Critical rate of rise of off-state voltage | V _{DR} = 67%V _{DRM} | 125 | 1000 | V/μs |
| GATE | | | | | |
| I _{gt} | Gate trigger current | V _D =6V | 25 | 200 | mA |
| V _{gt} | Gate trigger voltage | V _D =6V | 25 | 3.0 | V |
| I _H | Holding current | V _D =6V, gate open circuit | 25 | 500 | mA |
| I _L | Latching current | V _D =6V | 25 | 1000 | mA |
| MOUNTING | | | | | |
| R _{th(j-c)} | Thermal impedance, sin 180° | Junction to case, per arm per module | | 0.12 0.06 | °C/W |
| R _{th(j-c)} | Thermal impedance, rec120° | Junction to case, per arm per module | | 0.14 0.07 | °C/W |
| R _{th(c-h)} | Thermal impedance | Case to heatsink, per arm per module | | 0.04 0.02 | °C/W |
| T _j | Max. junction temperature | | | 125 | °C |
| T _{stg} | Storage temperature | | | -40 150 | °C |
| V _{ISOL} | Insulation test voltage,RMS | F=50Hz, 1min | | 3.0 | KV |
| M1 | Mounting torque | | | 5 ± 15% | Nm |
| M2 | Terminal connection torque | | | 12 ± 15% | Nm |
| W | Weight (Approx.) | | | 650 | gm |
|  | File No. | | | E505556 | |
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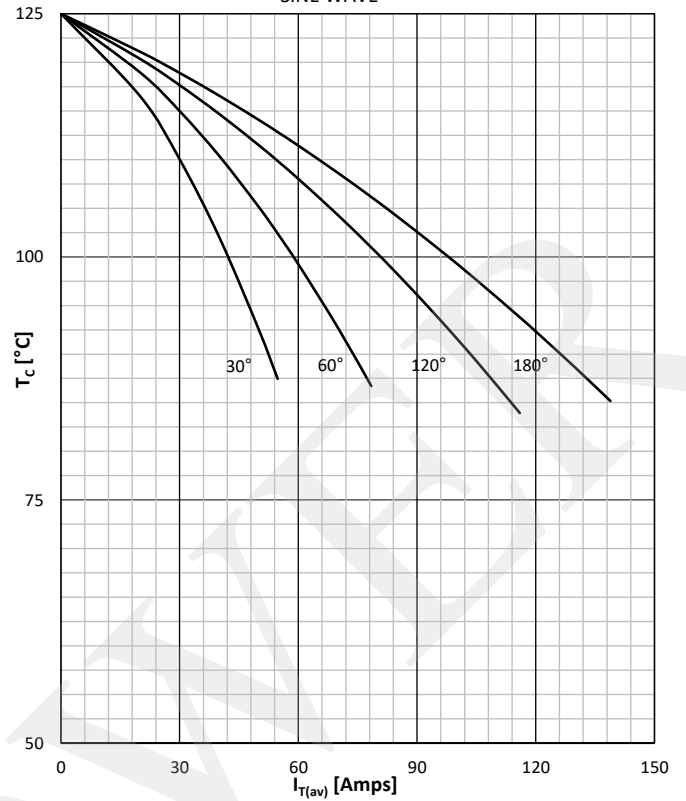
DISSIPATION CHARACTERISTICS

SINE WAVE



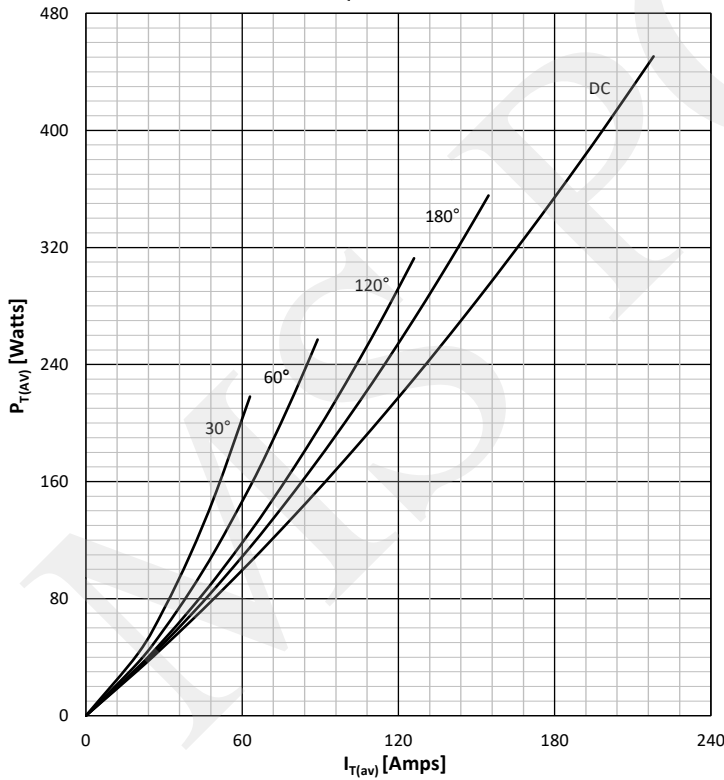
ON STATE CURRENT DERATING CURVE

SINE WAVE



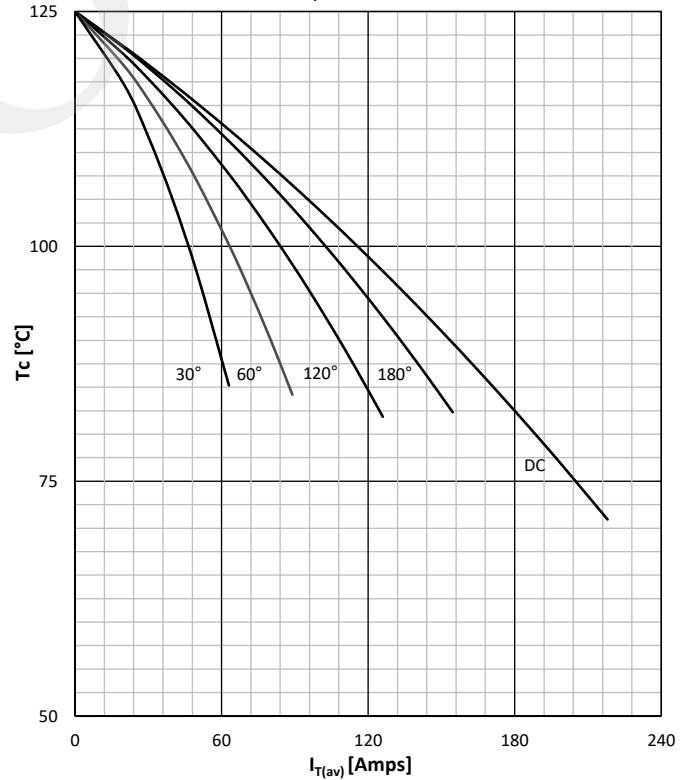
DISSIPATION CHARACTERISTICS

SQUARE WAVE



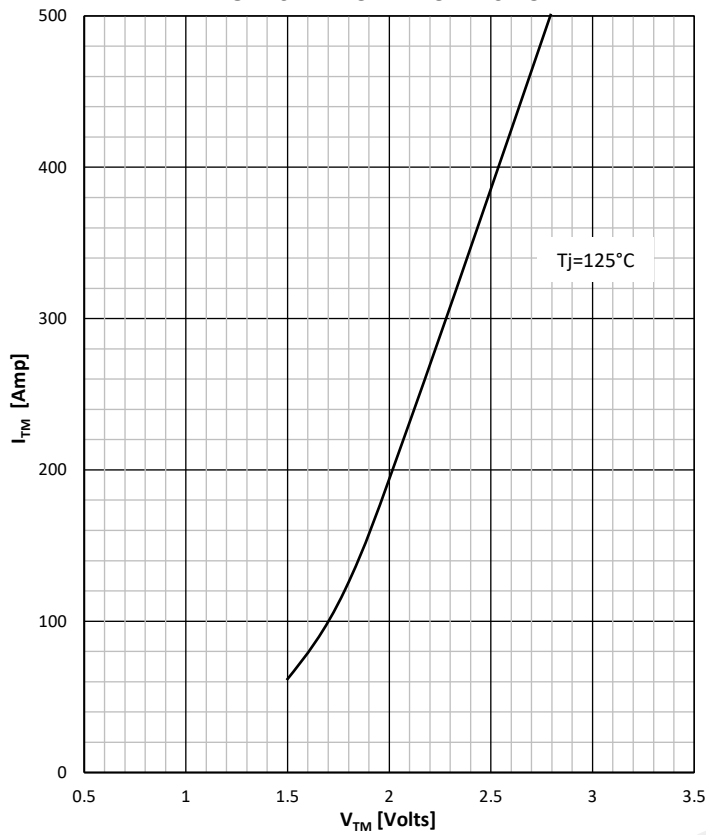
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SQUARE WAVE

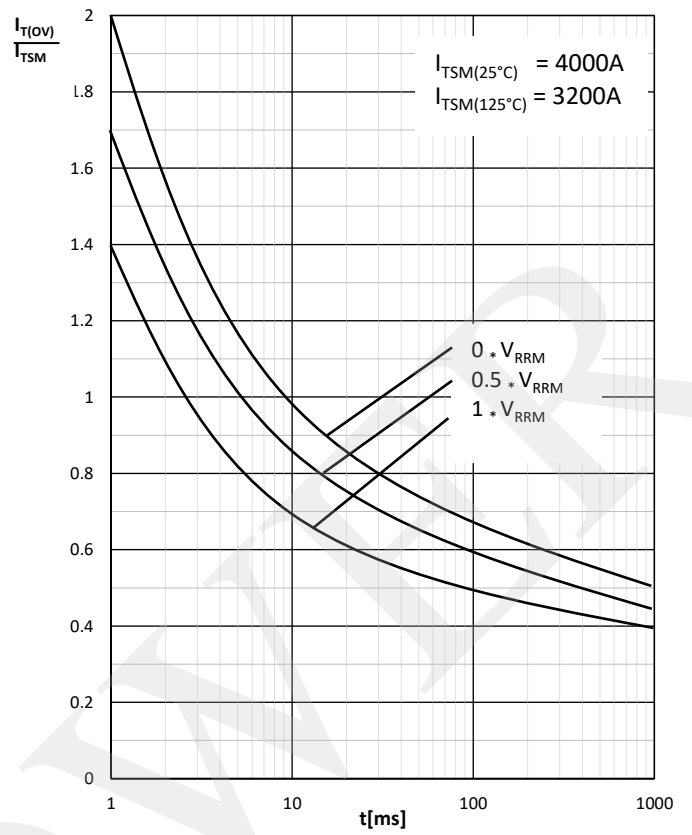


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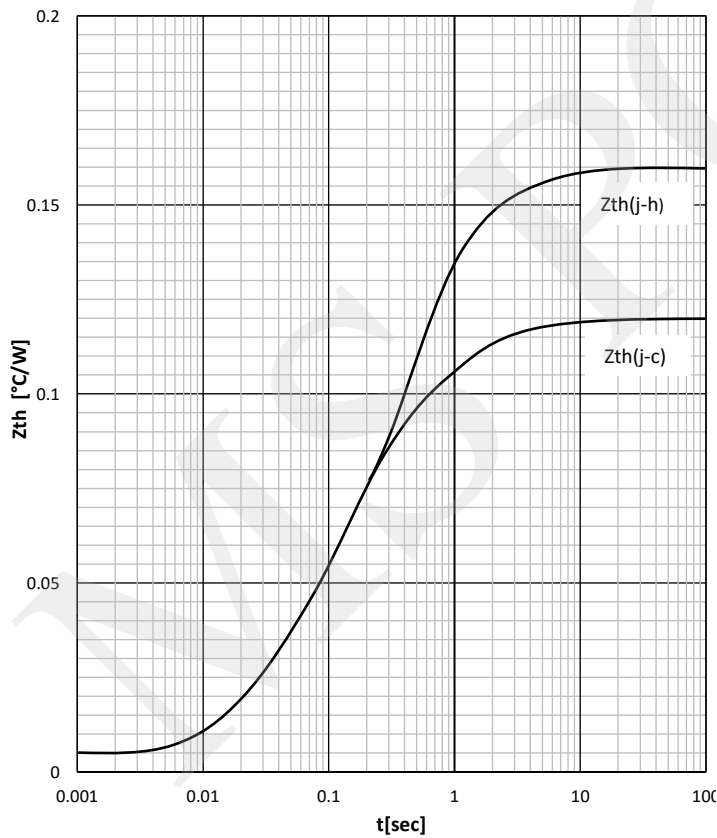
ON -STATE CHARACTERISTIC



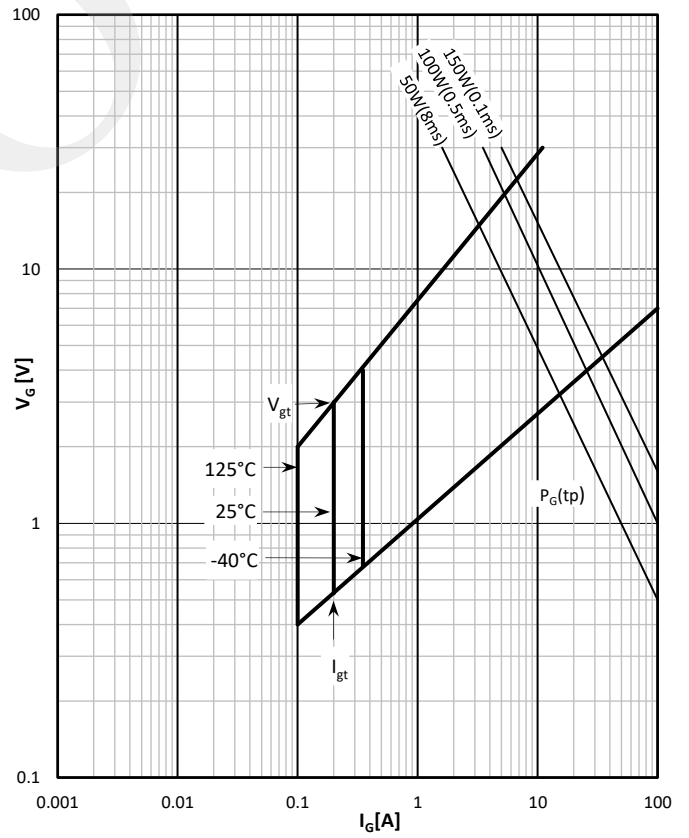
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



GATE TRIGGER CHARACTERISTICS



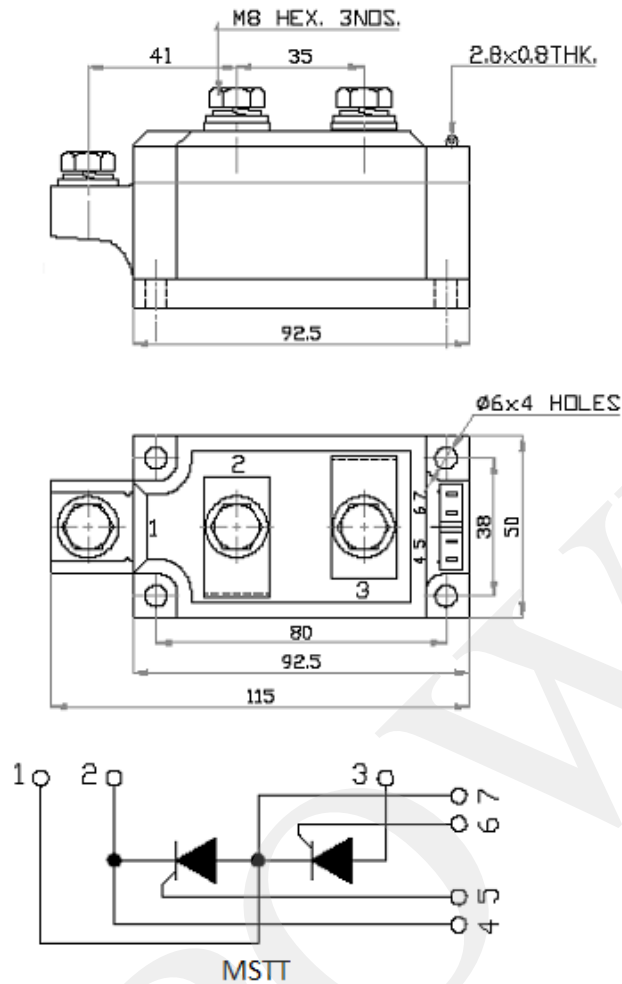
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