



Key Parameters

| | |
|-------------|-----------|
| V_{RRM} | = 5400V |
| $I_{F(AV)}$ | = 1451A |
| I_{FSM} | = 16000A |
| $V_{F(TO)}$ | = 1.07V |
| r_F | = 0.323mΩ |

Features

- Full blocking capability over wide temperature range
- Hermetically sealed ceramic package
- High case non-rupture current

Applications

- Traction Rectifiers
- Uncontrolled Rectifiers
- Welding
- Induction Heating / Melting

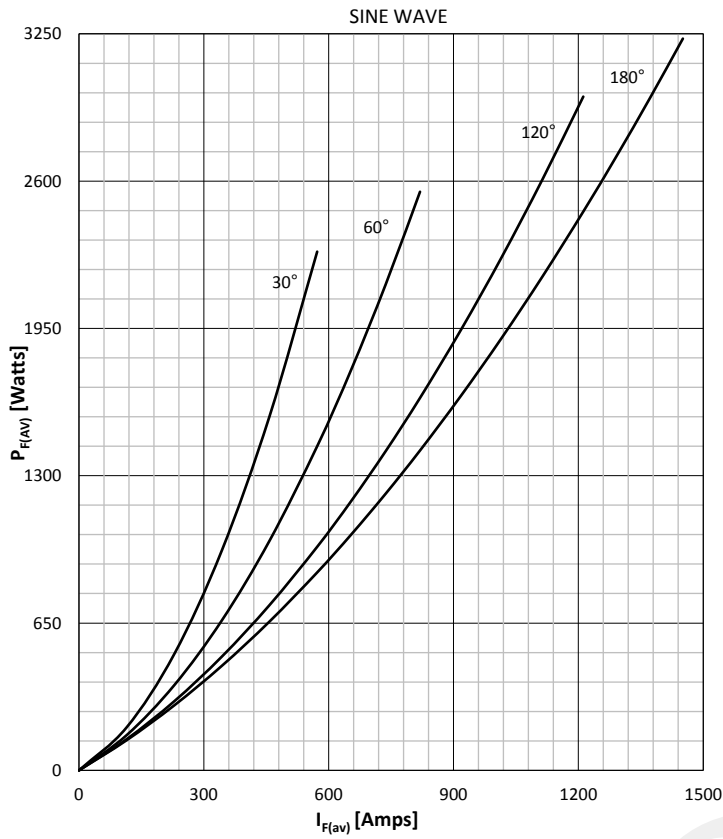
Ordering Information

| MS D | 1451 | C | XX |
|--|--------------|---|--|
| Rectifier Diode | Current code | C - Capsule package with Alloyed silicon technology | Voltage Code Code X 100 = V_{RRM} |
| Order Code MS D1451C54 : 5400V V_{RRM} , Capsule Diode | | | |

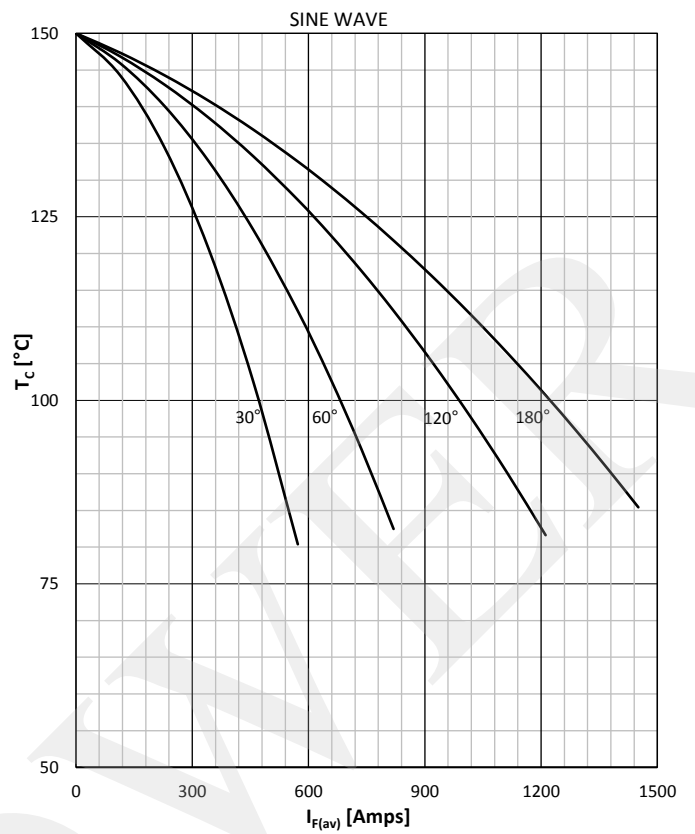
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| Symbol | Characteristic | Conditions | T _j [°C] | Value | Unit |
|----------------------|-------------------------------------|---|------------------------|----------------------------------|------------------|
| BLOCKING | | | | | |
| V _{RRM} | Repetitive peak reverse voltage | | 150 | 4600 - 5400 | V |
| V _{RSM} | Non-repetitive peak reverse voltage | | 150 | 4800 - 5600 | V |
| I _{RRM} | Repetitive peak reverse current | V = V _{RRM} | 150 | 150 | mA |
| CONDUCTING | | | | | |
| I _{F(AV)} | Mean forward current | 180° sin, 50 Hz, T _c =85°C , double side cooled 180° sin, 50 Hz, T _c =102°C , double side cooled | | 1451 1200 | A |
| I _{FRMS} | RMS current | T _c =85°C , double side cooled | | 2278 | A |
| I _{FSM} | Surge forward current | Sine wave, 10 ms Without reverse voltage | 25 | 16000 | A |
| | | | 150 | 14600 | A |
| I ² t | I ² t | Sine wave, 10 ms Without reverse voltage | 25 | 1280 x 10 ³ | A ² s |
| | | | 150 | 1066 x 10 ³ | A ² s |
| V _F | Forward voltage | On-state current = 3000A | 150 | 2.04 | V |
| V _{F(TO)} | Threshold voltage | | 150 | 1.07 | V |
| r _F | Forward slope resistance | | 150 | 0.323 | mΩ |
| MOUNTING | | | | | |
| R _{th(j-c)} | Thermal impedance, sin 180° | Junction to case, double side cooled | | 0.020 | °C/W |
| R _{th(c-h)} | Thermal impedance | Case to heatsink, double side cooled | | 0.0075 | °C/W |
| T _j | Max. junction temperature | | | 150 | °C |
| T _{stg} | Storage temperature | | | -40 150 | °C |
| M | Clamping force | | | 22 - 27 | KN |
| W | Weight (Approx.) | | | 465 | gm |
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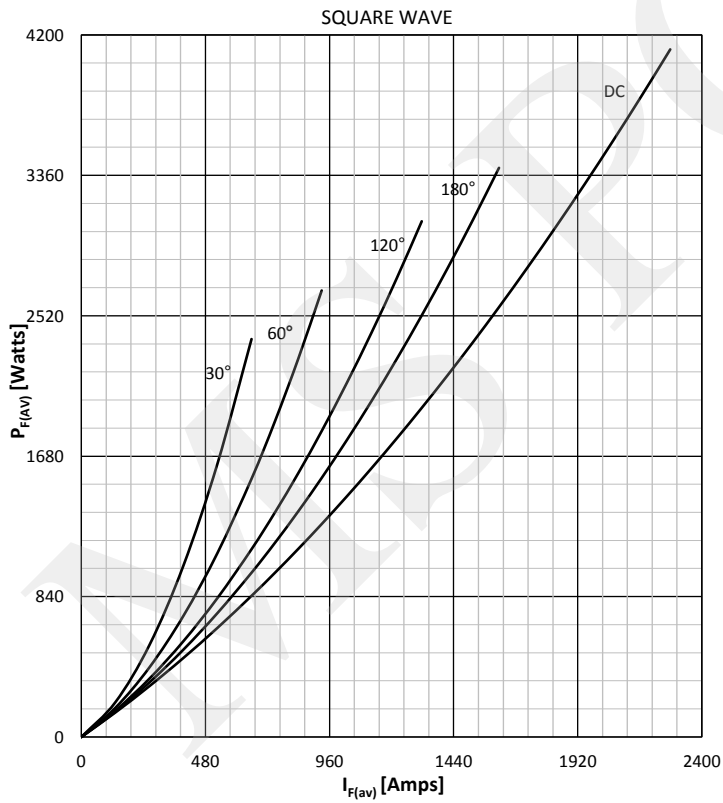
DISSIPATION CHARACTERISTICS



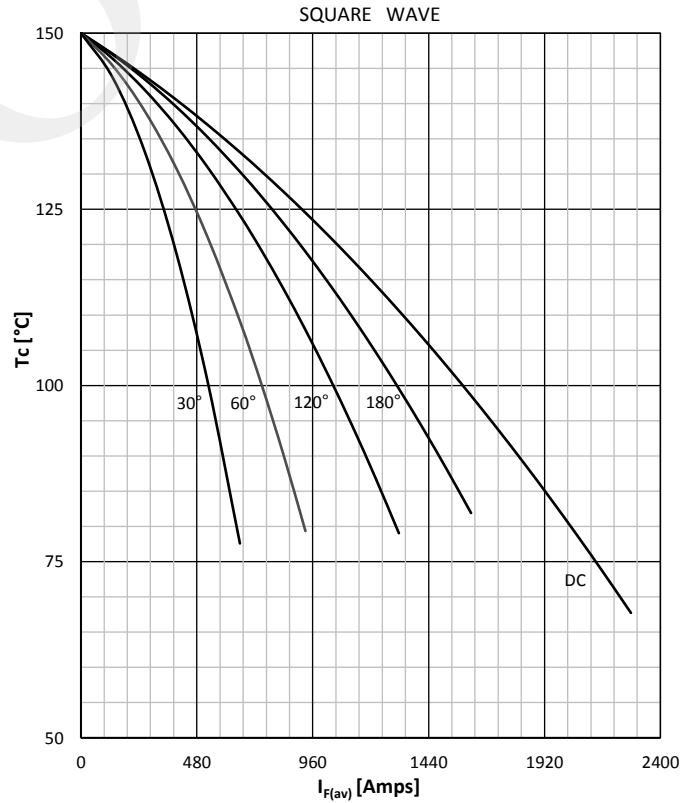
FORWARD CURRENT DERATING CURVE



DISSIPATION CHARACTERISTICS



FORWARD CURRENT DERATING CURVE



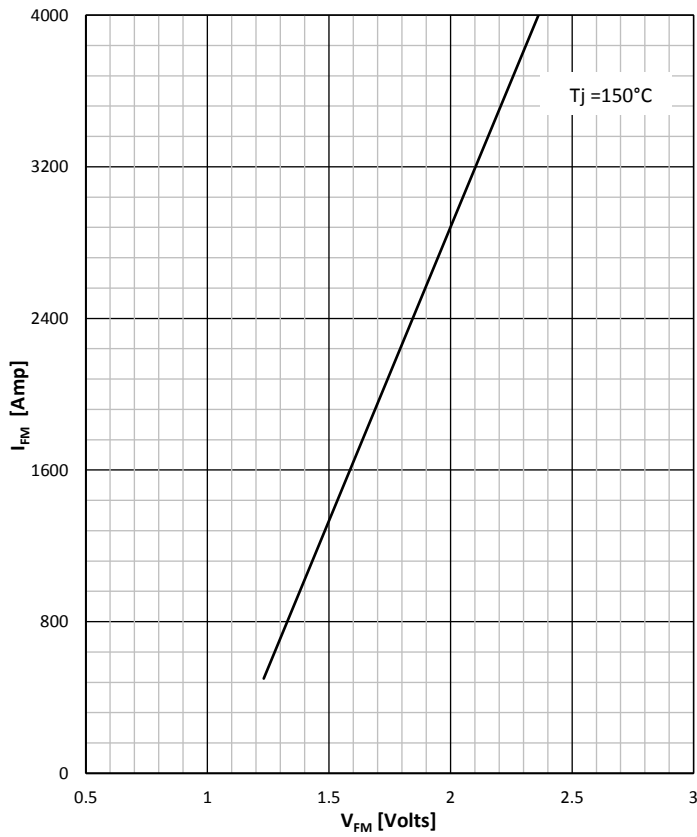
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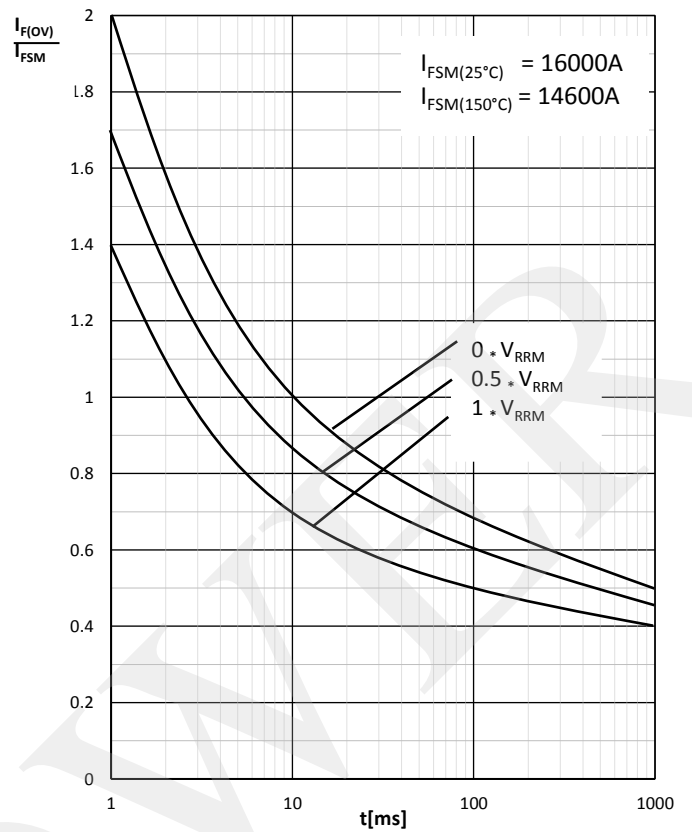
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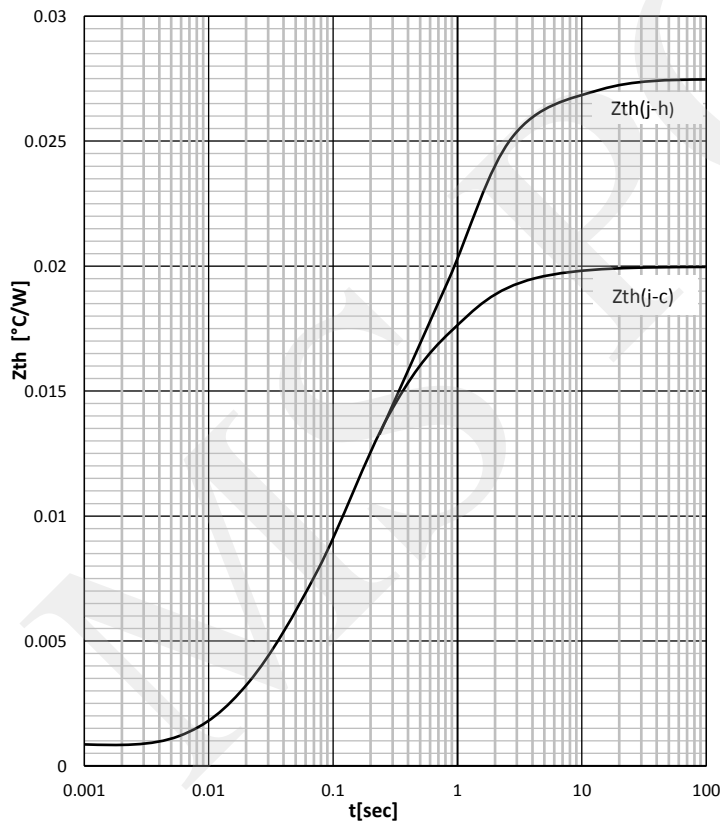
FORWARD CHARACTERISTIC



SURGE CHARACTERISTICS

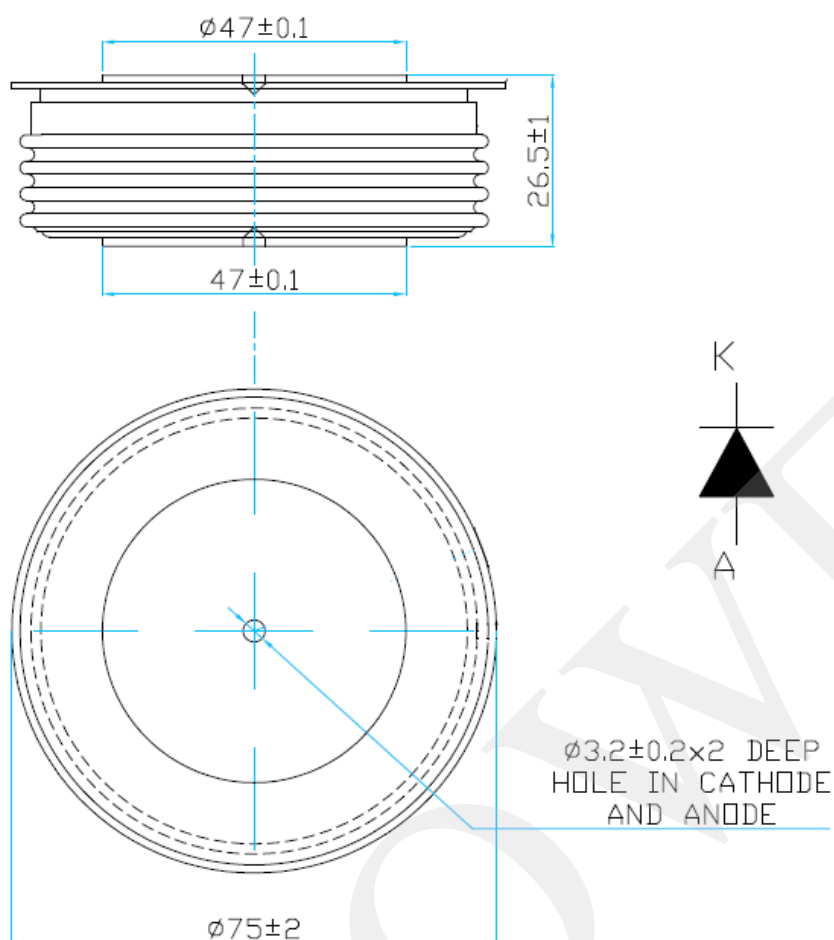


TRANSIENT THERMAL IMPEDANCE



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