

Key Parameters

| | |
|-------------|----------|
| V_{RRM} | = 1800V |
| $I_{F(AV)}$ | = 450A |
| I_{FSM} | = 11500A |
| $V_{F(TO)}$ | = 0.75V |
| r_F | = 0.46mΩ |

Features

- Full blocking capability over wide temperature range
- Pressure contacts technology for high reliability

Applications

- Power Supplies
- Uncontrolled Rectifiers
- Welding
- Induction Heating / Melting
- Battery Chargers

Ordering Information

| MS D | 450 | N | XX | M | K |
|-----------------|--------------|--|--|---|---|
| Rectifier Diode | Current code | Polarity R= Stud Anode N= Stud Cathode | Voltage Code Code X 100 = V_{RRM} | Stud Threads M = Stud M24 X 1.5 U = 3/4" 16UNF-2A | Technology K = Pressure Contact Technology |

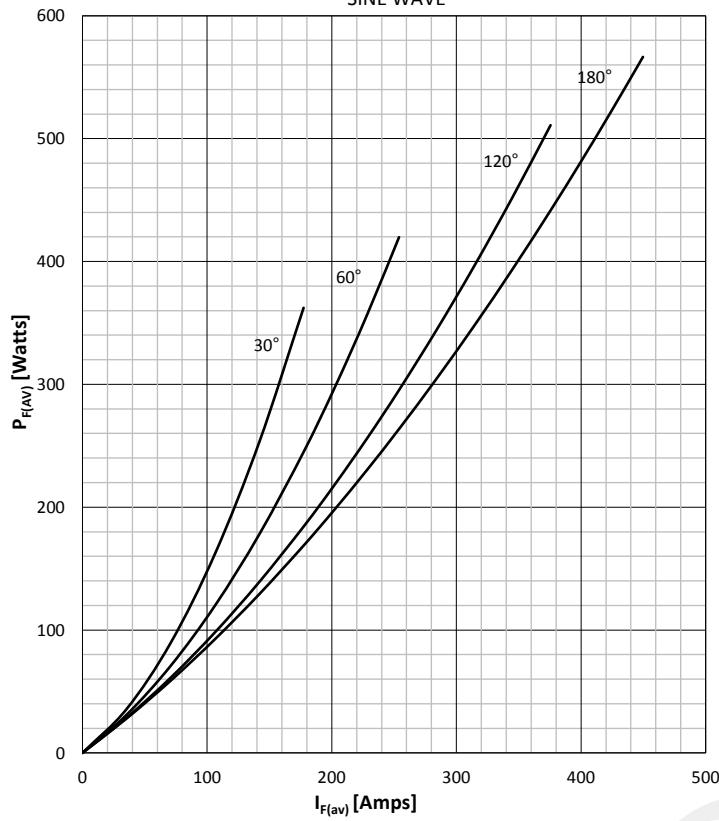
Order Code MS D450N18MK : 1800V V_{RRM} , Metric Stud, Diode with stud Cathode

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| Symbol | Characteristic | Conditions | T _j [°C] | Value | Unit |
|----------------------|-------------------------------------|---|------------------------|----------------------------------|------------------|
| BLOCKING | | | | | |
| V _{RRM} | Repetitive peak reverse voltage | | 170 | 200 - 1800 | V |
| V _{RSM} | Non-repetitive peak reverse voltage | | 170 | 300 - 1900 | V |
| I _{RRM} | Repetitive peak reverse current | V = V _{RRM} | 170 | 50 | mA |
| CONDUCTING | | | | | |
| I _{F(AV)} | Mean forward current | 180° sin ,50 Hz, T _c =120°C | | 450 | A |
| I _{FRMS} | RMS current | | | 706 | A |
| I _{FSM} | Surge forward current | Sine wave, 10 ms Without reverse voltage | 25 | 11500 | A |
| | | | 170 | 10500 | A |
| I ² t | I ² t | Sine wave, 10 ms Without reverse voltage | 25 | 661 x 10 ³ | A ² s |
| | | | 170 | 551 x 10 ³ | A ² s |
| V _F | Forward voltage | On-state current = 1350A | 25 | 1.45 | V |
| V _{F(TO)} | Threshold voltage | | 170 | 0.75 | V |
| r _F | Forward slope resistance | | 170 | 0.46 | mΩ |
| MOUNTING | | | | | |
| R _{th(j-c)} | Thermal impedance, sin 180° | Junction to case | | 0.088 | °C/W |
| R _{th(c-h)} | Thermal impedance | Case to heatsink | | 0.02 | °C/W |
| T _j | Max. junction temperature | | | 170 | °C |
| T _{stg} | Storage temperature | | | -40 170 | °C |
| M | Mounting torque | | | 2.7 - 3.0 | Kgm |
| W | Weight (Approx.) | | | 500 | gm |
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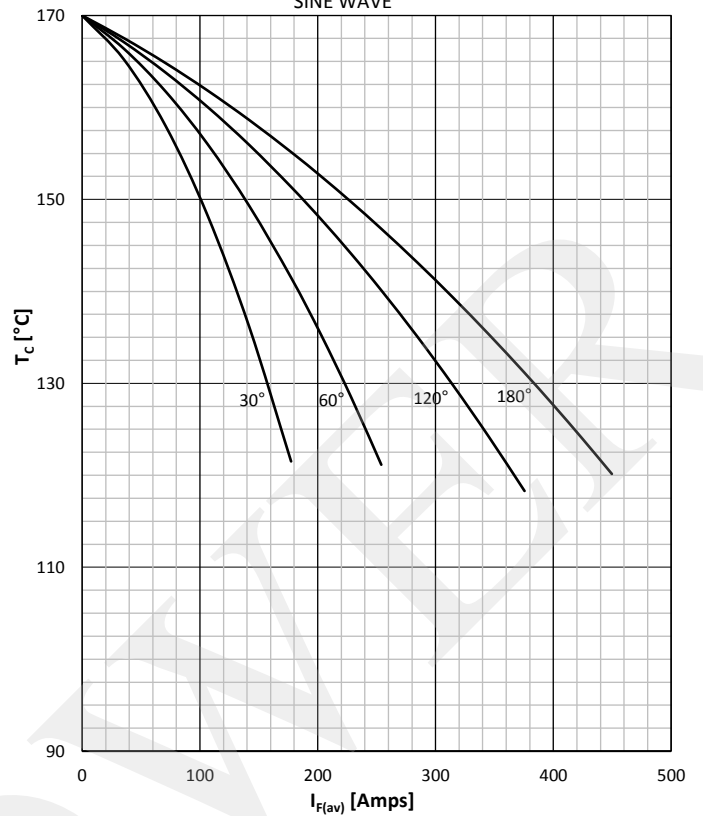
DISSIPATION CHARACTERISTICS

SINE WAVE



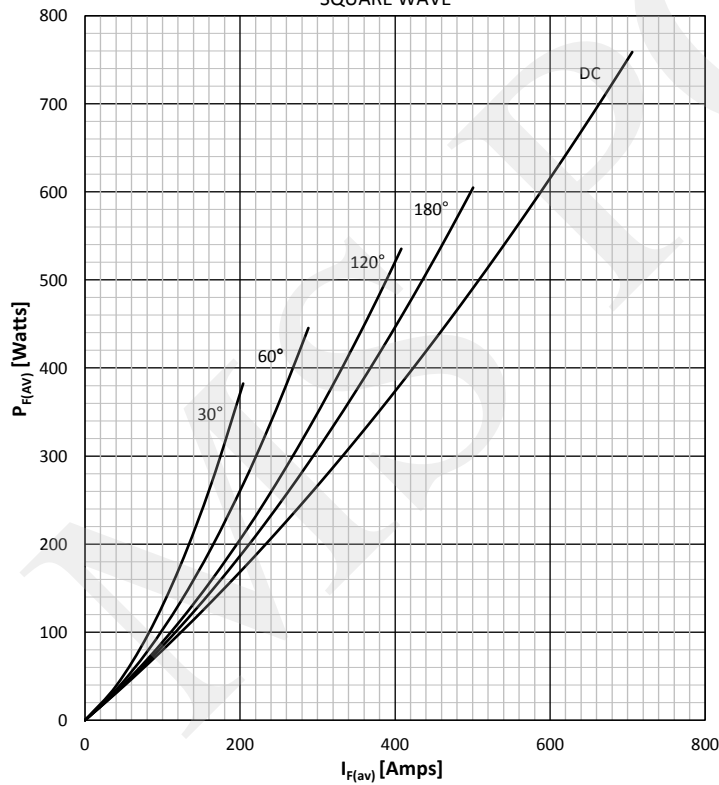
FORWARD CURRENT DERATING CURVE

SINE WAVE



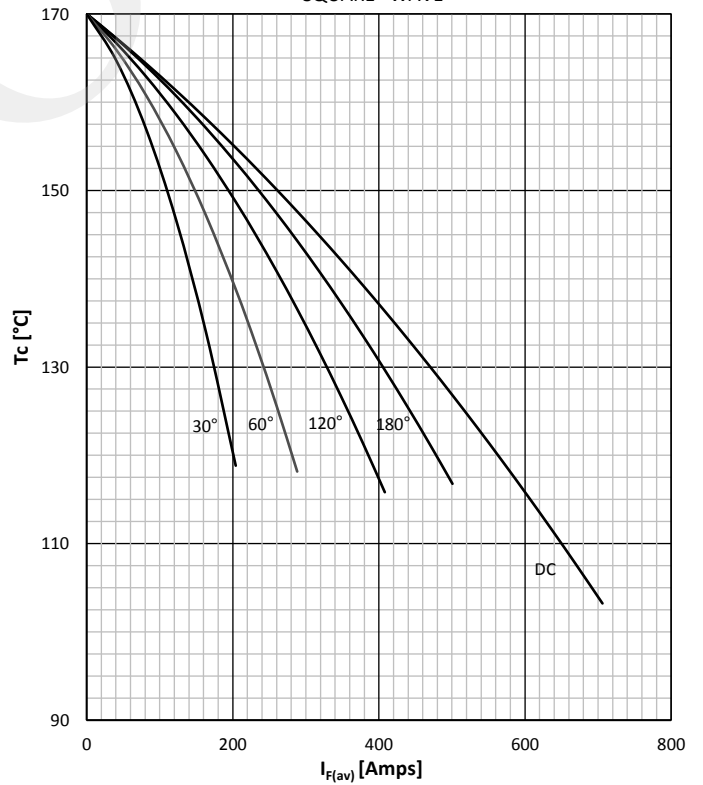
DISSIPATION CHARACTERISTICS

SQUARE WAVE



FORWARD CURRENT DERATING CURVE

SQUARE WAVE



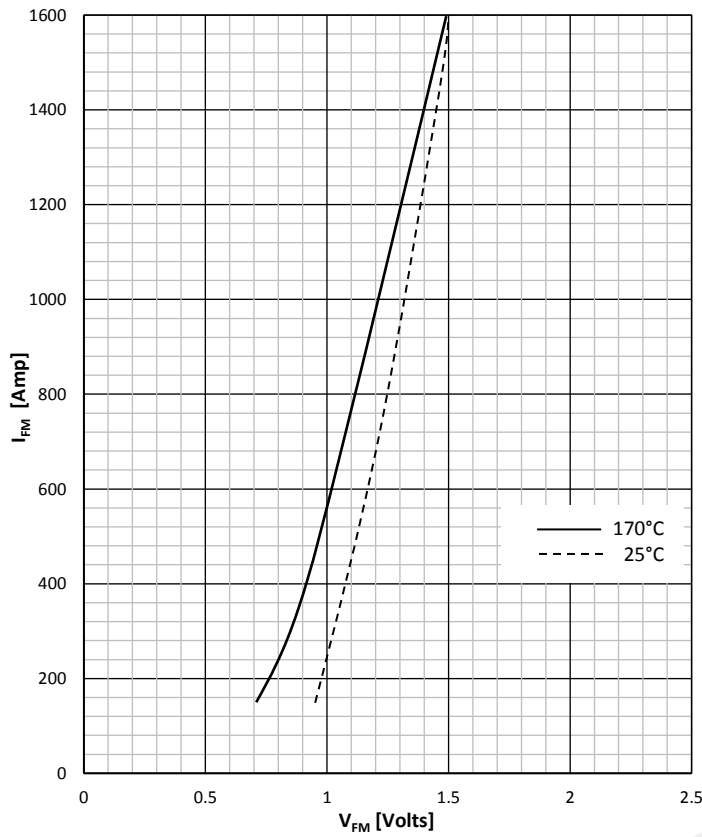
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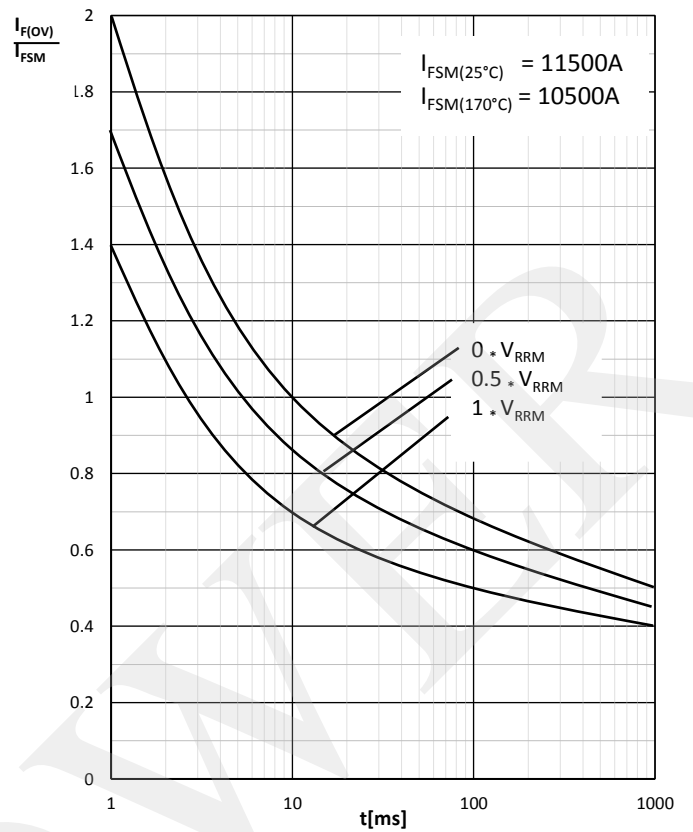
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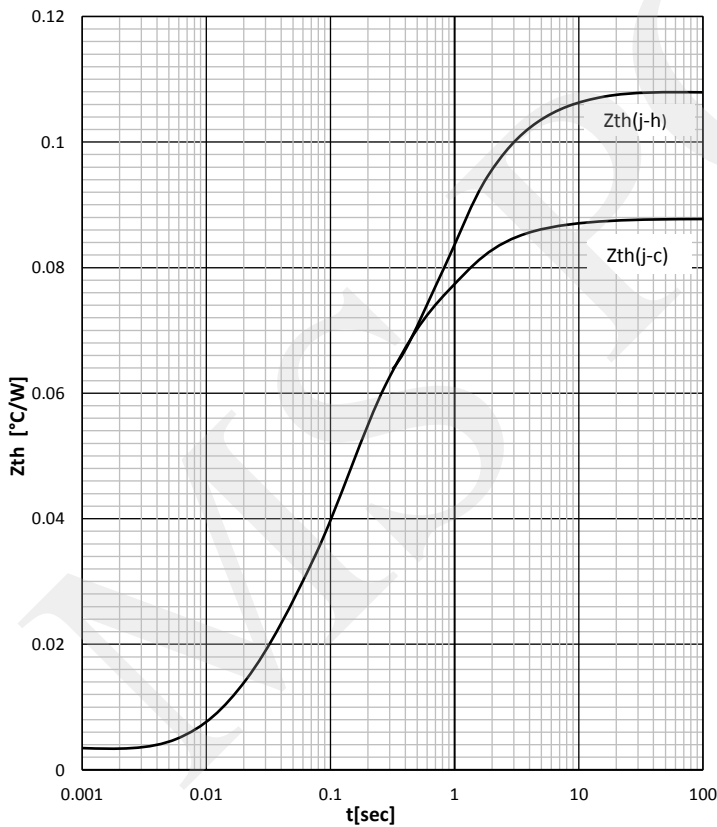
FORWARD CHARACTERISTIC



SURGE CHARACTERISTICS

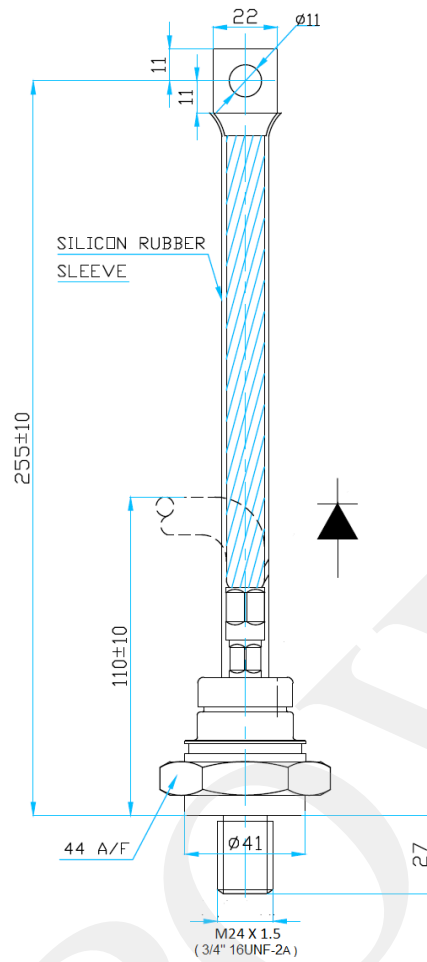


TRANSIENT THERMAL IMPEDANCE



| | |
|-------------------|----------------------------------|
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