SCOMES

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# SCD880.65



## Power Rectifier Diode

### Features

- Full blocking capability over wide temperature range
- Hermetically sealed ceramic package

### Applications

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

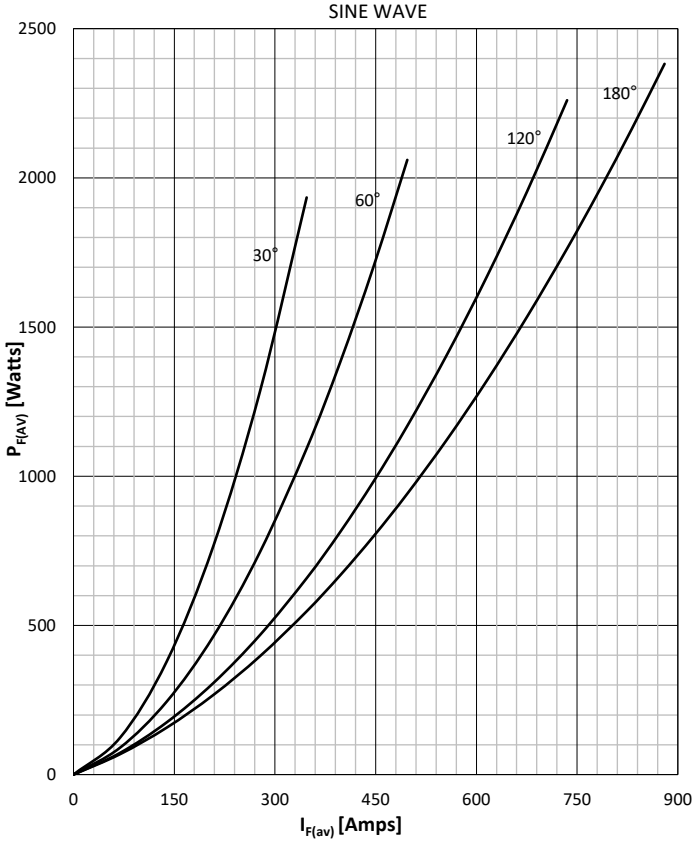
### Key Parameters

| | |
|---|---|
| $V_{RRM}$ | = 6500V |
| $I_{F(AV)}$ | = 880A |
| $I_{FSM}$ | = 12500A |
| $V_{F(TO)}$ | = 0.84V |
| $r_F$ | = 0.86mΩ |

| Symbol | Characteristic | Conditions | Tj [°C] | Value | Unit |
|---|---|---|---|---|---|
| **BLOCKING** | | | | | |
| $V_{RRM}$ | Repetitive peak reverse voltage | | 160 | 5200 - 6500 | V |
| $V_{RSM}$ | Non-repetitive peak reverse voltage | | 160 | 5300 - 6600 | V |
| $I_{RRM}$ | Repetitive peak reverse current | V= $V_{RRM}$ | 160 | 50 | mA |
| **CONDUCTING** | | | | | |
| $I_{F(AV)}$ | Mean forward current | 180° sin,50 Hz, $T_c$=85°C, double side cooled<br>180° sin,50 Hz, $T_c$=100°C, double side cooled | | 880<br>770 | A |
| $I_{FRMS}$ | RMS current | $T_c$=85°C, double side cooled | | 1382 | A |
| $I_{FSM}$ | Surge forward current | Sine wave, 10 ms<br>Without reverse voltage | 25 | 12500 | A |
| | | | 160 | 10500 | A |
| $I^2t$ | $I^2t$ | Sine wave, 10 ms<br>Without reverse voltage | 25 | 781 x $10^3$ | $A^2s$ |
| | | | 160 | 551 x $10^3$ | $A^2s$ |
| $V_F$ | Forward voltage | On-state current = 1200A | 160 | 1.90 | V |
| $V_{F(TO)}$ | Threshold voltage | | 160 | 0.84 | V |
| $r_F$ | Forward slope resistance | | 160 | 0.86 | mΩ |
| **MOUNTING** | | | | | |
| $R_{th(j-c)}$ | Thermal impedance, sin 180° | Junction to case, double side cooled | | 0.0315 | °C/W |
| $R_{th(c-h)}$ | Thermal impedance | Case to heatsink, double side cooled | | 0.006 | °C/W |
| $T_j$ | Max. junction temperature | | | 160 | °C |
| $T_{stg}$ | Storage temperature | | | -40 .... 160 | °C |
| M | Clamping force | | | 12- 16 | KN |
| W | Weight (Approx.) | | | 280 | gm |

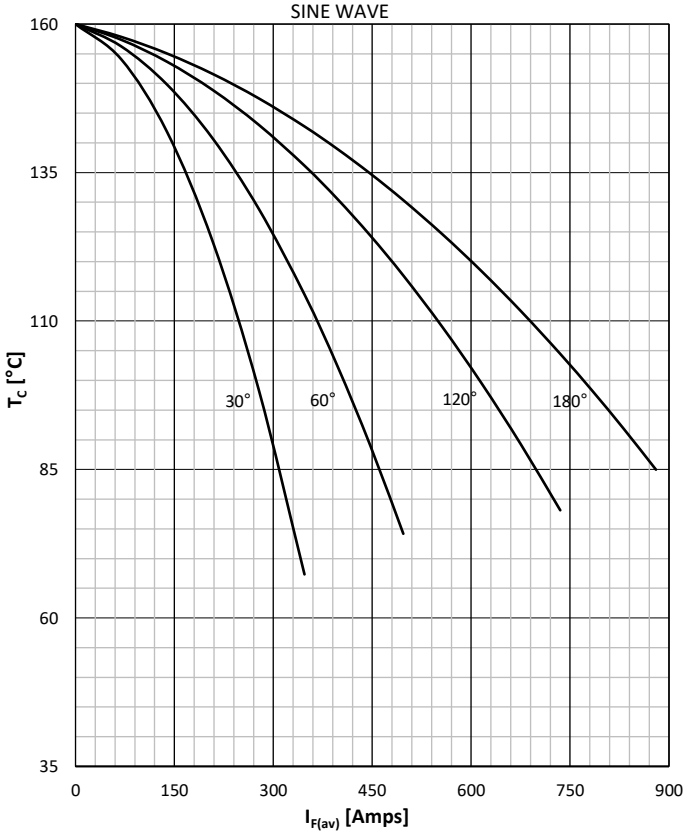
## DISSIPATION CHARACTERISTICS

SINE WAVE



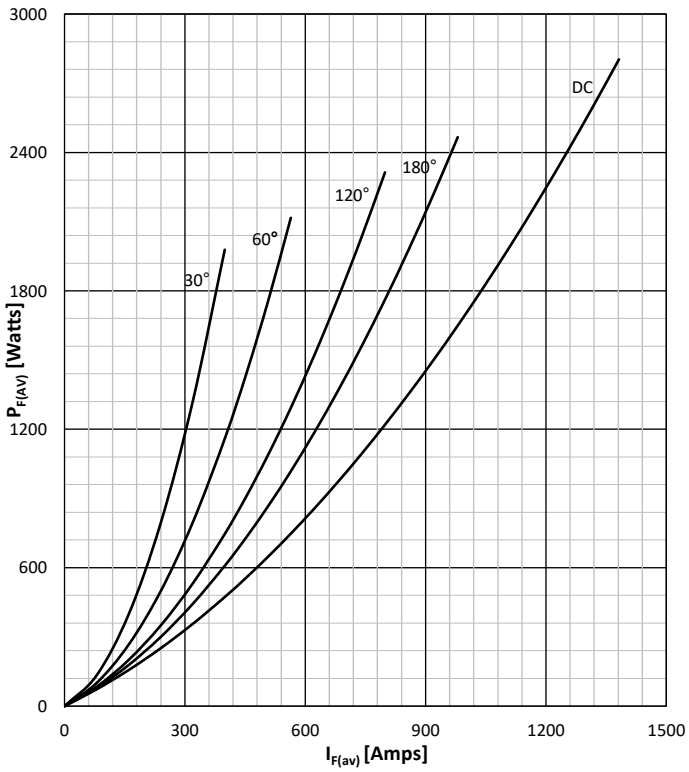

## FORWARD CURRENT DERATING CURVE

SINE WAVE



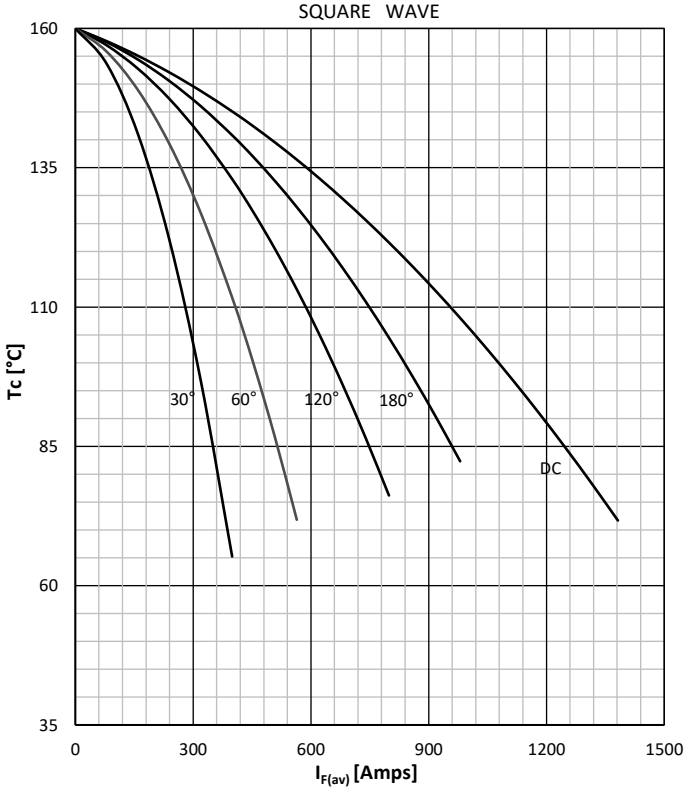

## DISSIPATION CHARACTERISTICS

SQUARE WAVE

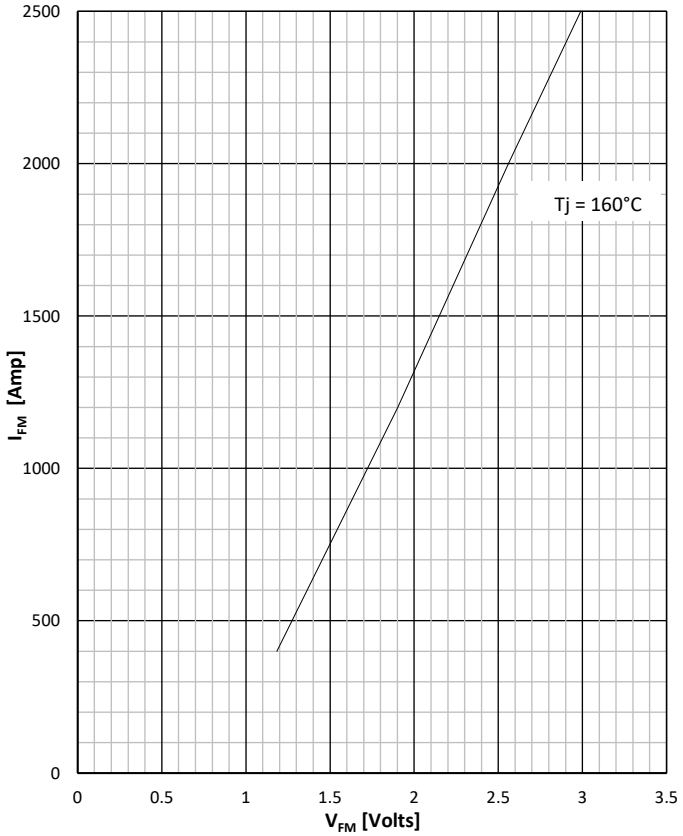



## FORWARD CURRENT DERATING CURVE

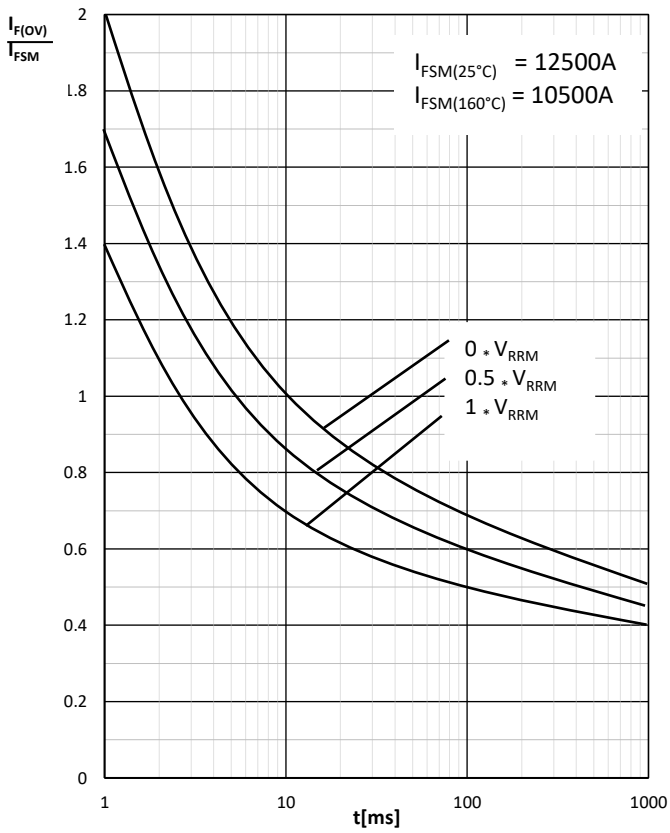
SQUARE WAVE



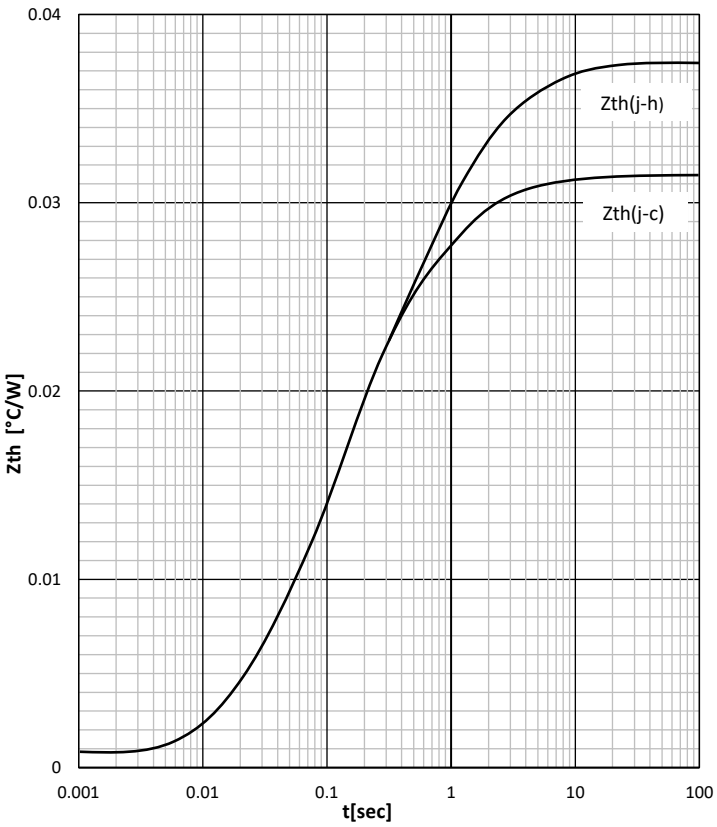
## FORWARD CHARACTERISTIC



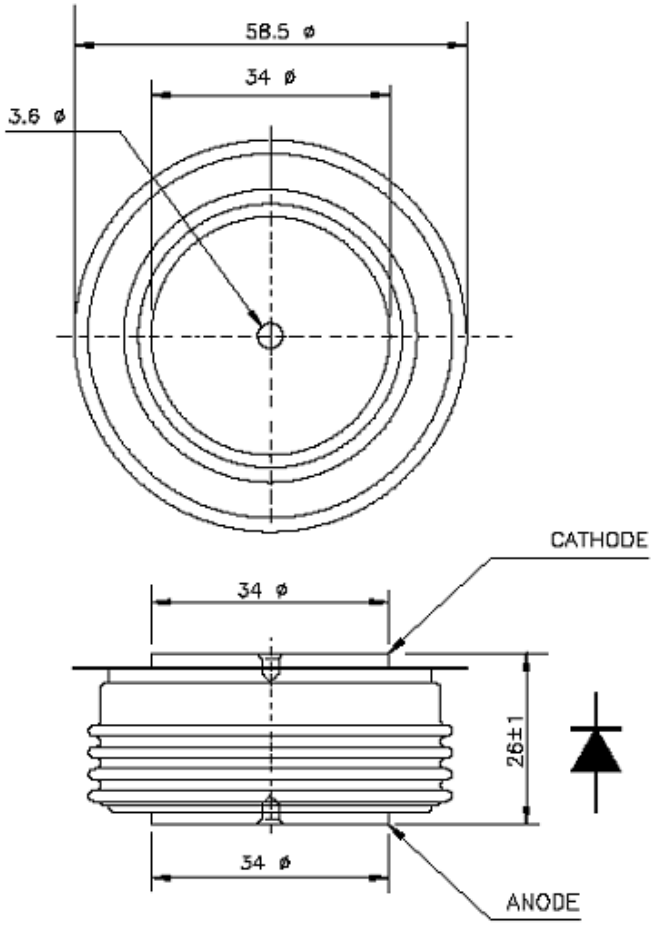

## SURGE CHARACTERISTICS




## TRANSIENT THERMAL IMPEDANCE



## Outline




*Scomes srl reserves the right to change any specification without notice*



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