SCOMES

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SCD3450

Power Rectifier Diodes

Features

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

Key Parameters

V_{RRM} = 2600V
$I_{F(AV)}$ = 3454A
I_{FSM} = 37000A
$V_{F(TO)}$ = 0.80V
r_F = 0.110mΩ

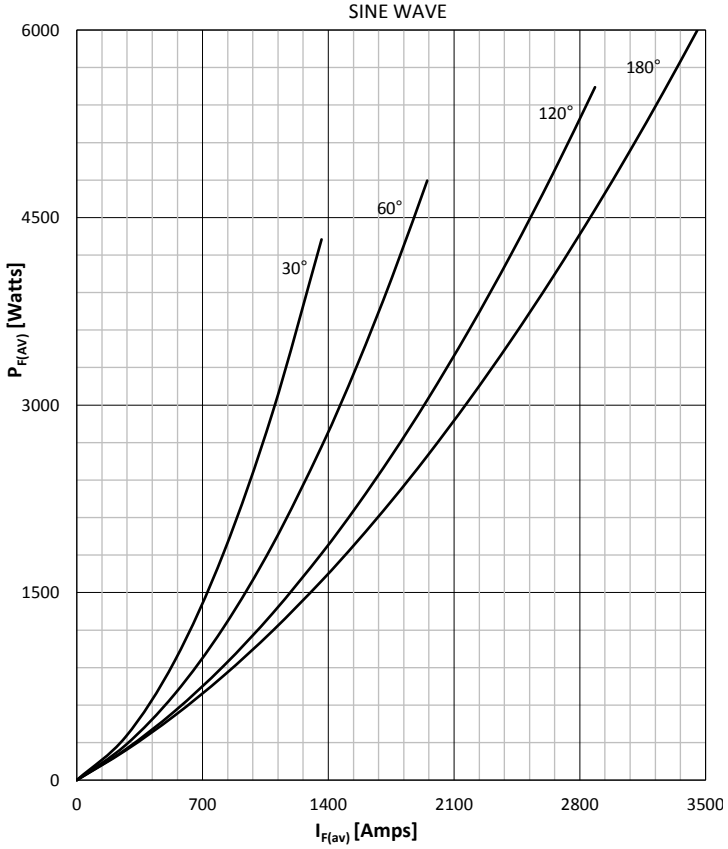
Applications

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

Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		175	2200 - 2600	V
V_{RSM}	Non-repetitive peak reverse voltage		175	2300 - 2700	V
I_{RRM}	Repetitive peak reverse current	V= V_{RRM}	175	75	mA
CONDUCTING					
$I_{F(AV)}$	Mean forward current	180° sin,50 Hz, T_c=85°C , double side cooled		3454	A
I_{FRMS}	RMS current	T_c=85°C , double side cooled		5423	A
I_{FSM}	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	37000	A
			175	35300	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	6845 x 10^3	A^2s
			175	6230 x 10^3	A^2s
V_F	Forward voltage	On-state current = 2900A	25	1.20	V
$V_{F(TO)}$	Threshold voltage		175	0.80	V
r_F	Forward slope resistance		175	0.110	mΩ
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, double side cooled		0.015	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		0.006	°C/W
T_j	Max. junction temperature			175	°C
T_{stg}	Storage temperature			-40 175	°C
M	Clamping force			22 - 24	KN
W	Weight (Approx.)			520	gm

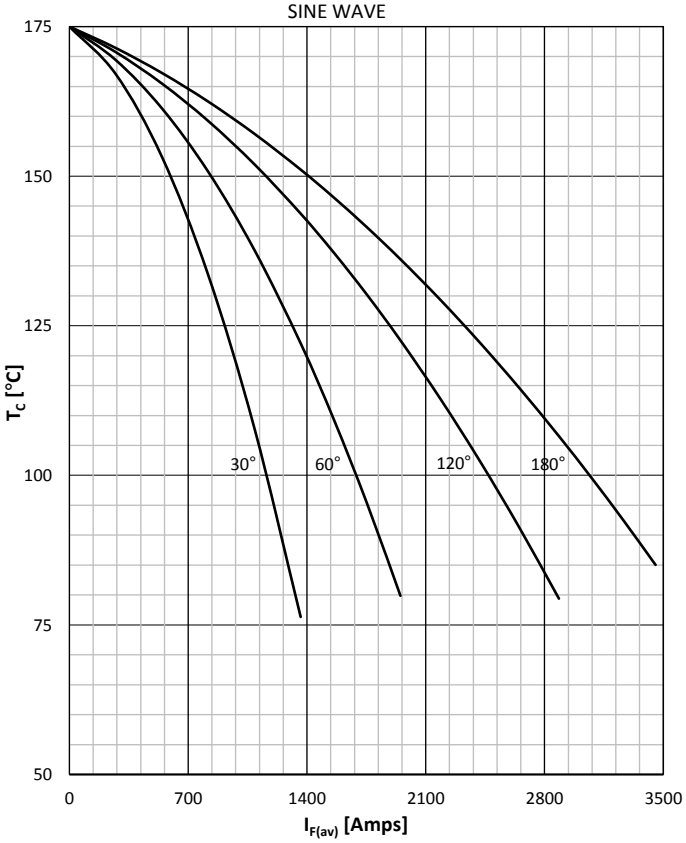
DISSIPATION CHARACTERISTICS

SINE WAVE



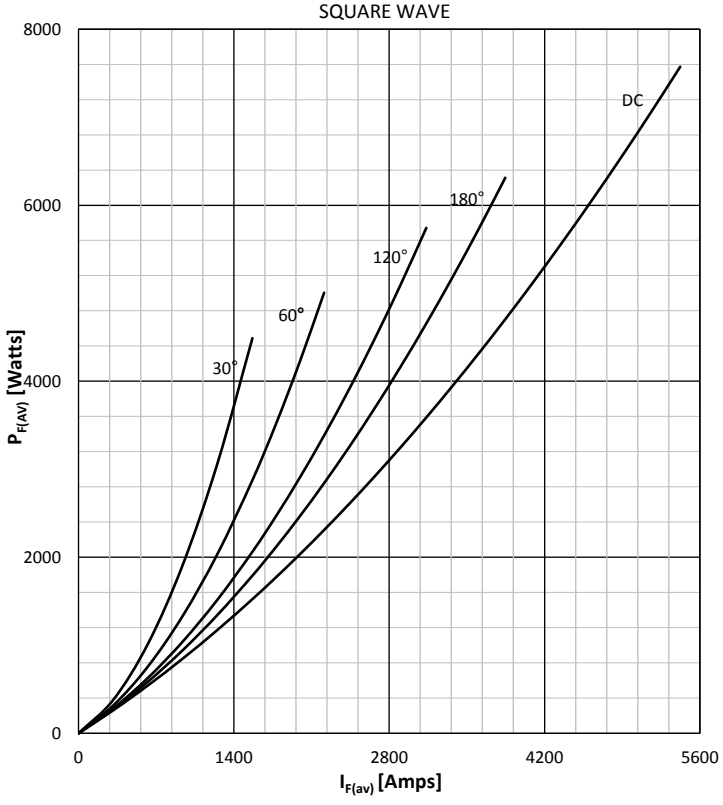
FORWARD CURRENT DERATING CURVE

SINE WAVE



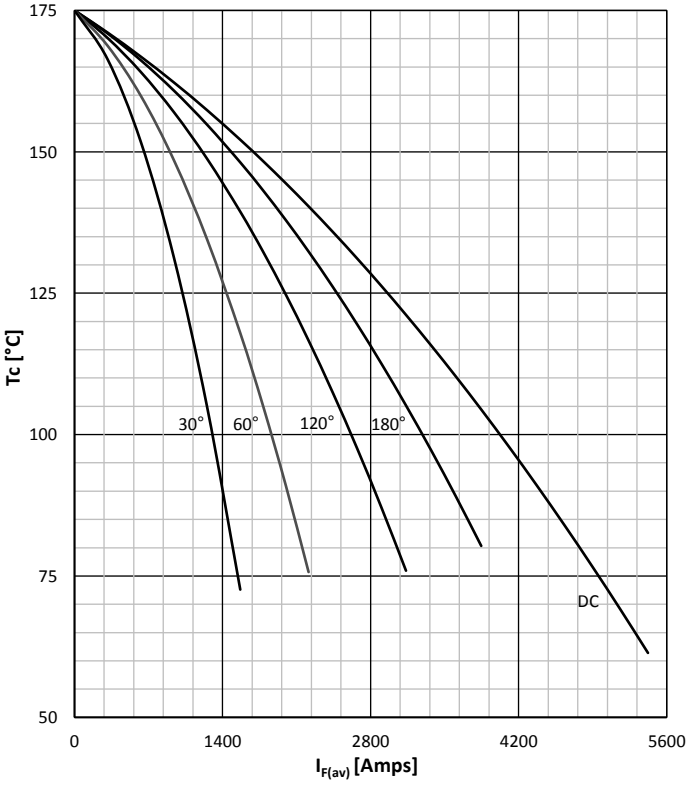
DISSIPATION CHARACTERISTICS

SQUARE WAVE

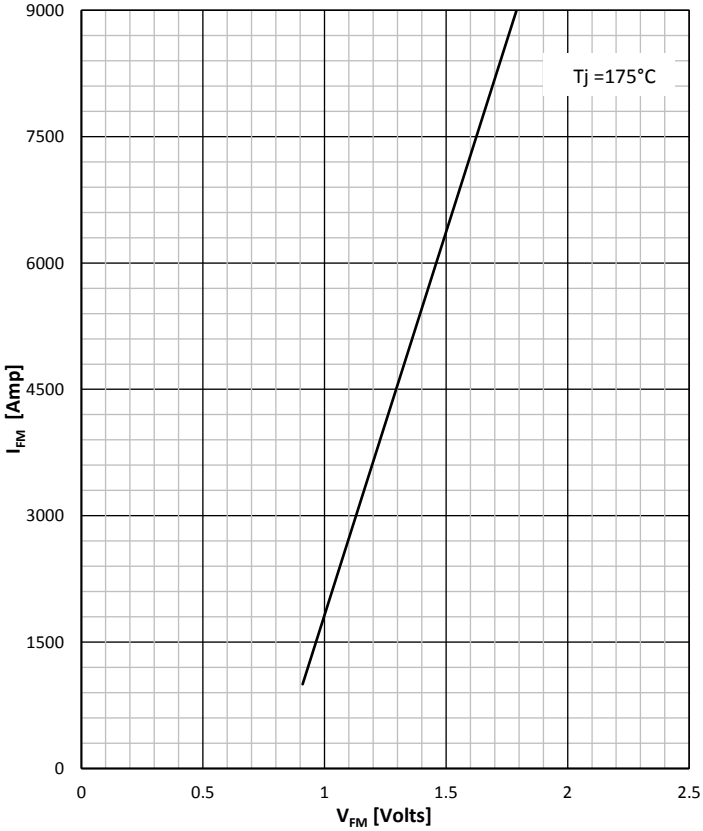


FORWARD CURRENT DERATING CURVE

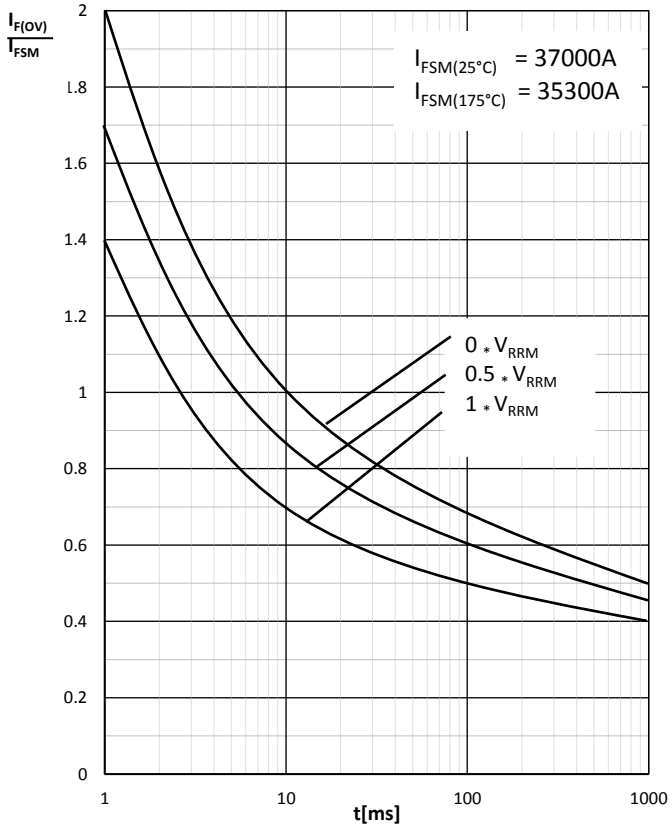
SQUARE WAVE



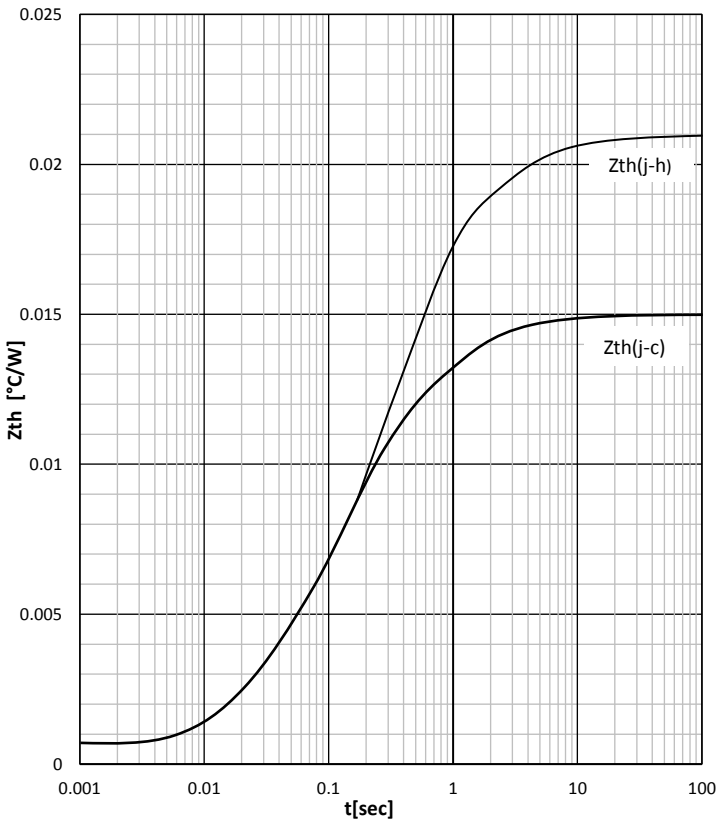
FORWARD CHARACTERISTIC

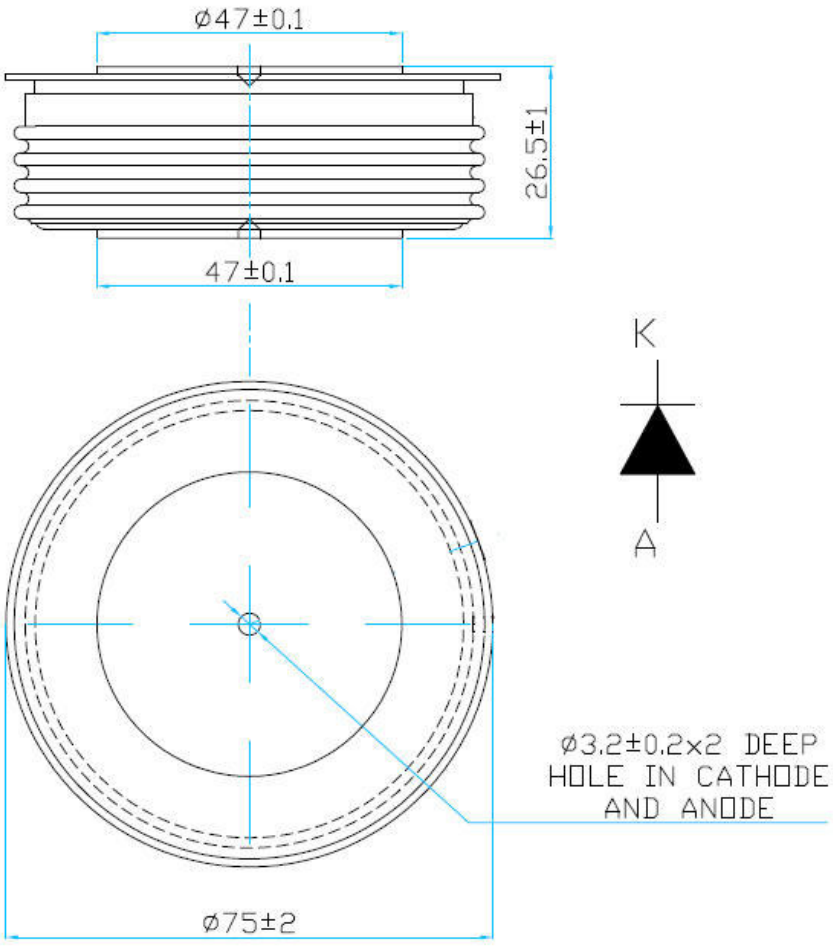


SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE





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