



Key Parameters

V_{RRM}	= 1200V
$I_{F(AV)}$	= 3830A
I_{FSM}	= 46000A
$V_{F(TO)}$	= 0.65V
r_F	= 0.068mΩ

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

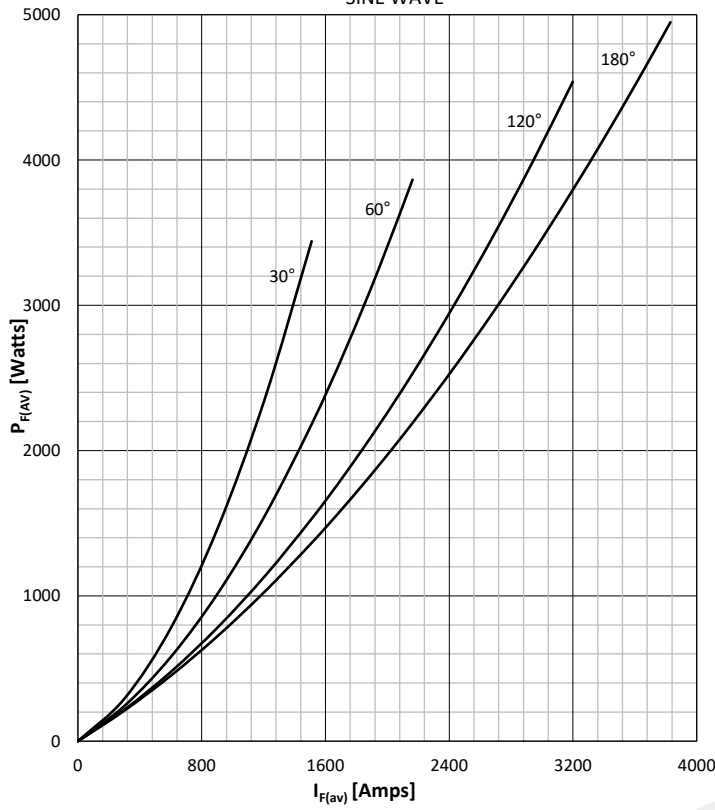
MS D	3830	C	XX
Rectifier Diode	Current code	C - Capsule package with Alloyed silicon technology	Voltage Code Code X 100 = V_{RRM}
Order Code MS D3830C12 : 1200V V_{RRM} , Capsule Diode			

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Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		150	200 - 1200	V
V _{RSM}	Non-repetitive peak reverse voltage		150	300 - 1300	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		3830	A
I _{FRMS}	RMS current	T _c =85°C, double side cooled		6013	A
I _{FSM}	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	46000	A
			150	44600	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	10580 x 10 ³	A ² s
			150	9946 x 10 ³	A ² s
V _F	Forward voltage	On-state current = 3000A	150	0.95	V
V _{F(TO)}	Threshold voltage		150	0.65	V
r _F	Forward slope resistance		150	0.068	mΩ
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case, double side cooled		0.013	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		0.007	°C/W
T _j	Max. junction temperature			150	°C
T _{stg}	Storage temperature			-40 150	°C
M	Clamping force			30 - 40	KN
W	Weight (Approx.)			950	gm
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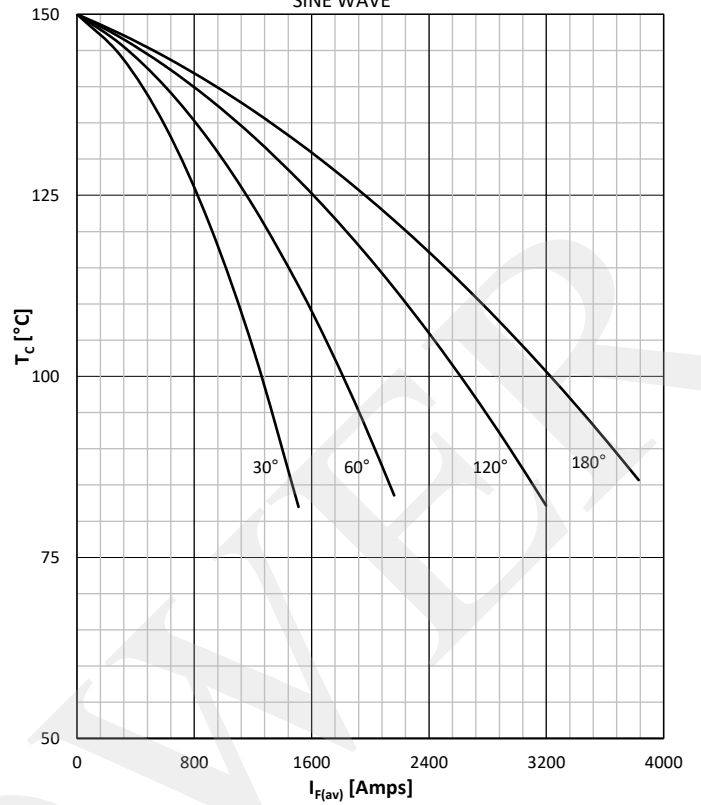
DISSIPATION CHARACTERISTICS

SINE WAVE



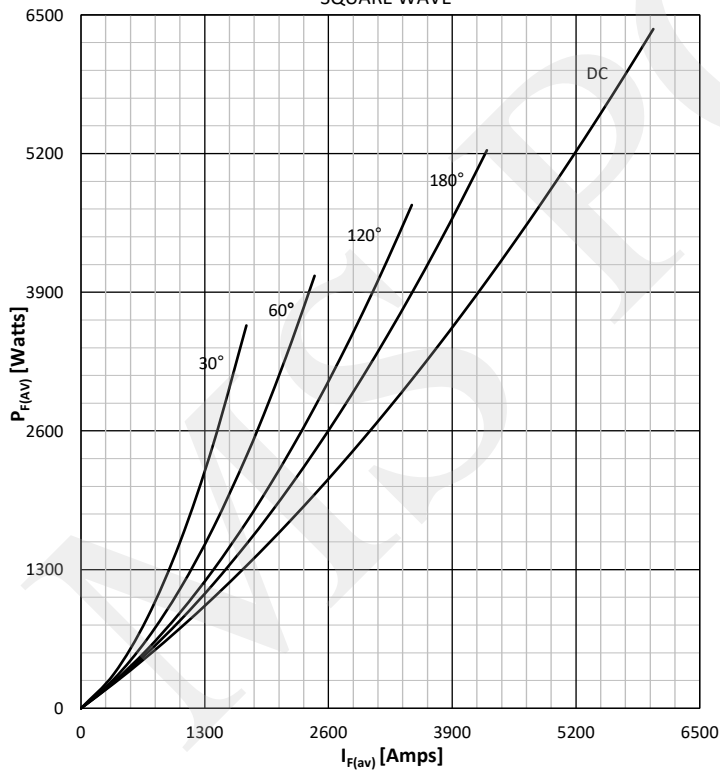
FORWARD CURRENT DERATING CURVE

SINE WAVE



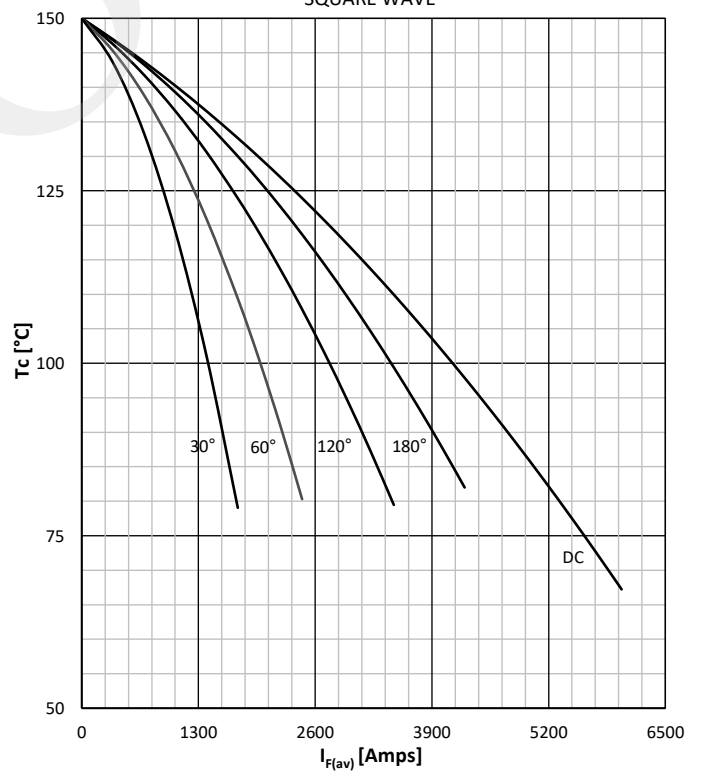
DISSIPATION CHARACTERISTICS

SQUARE WAVE



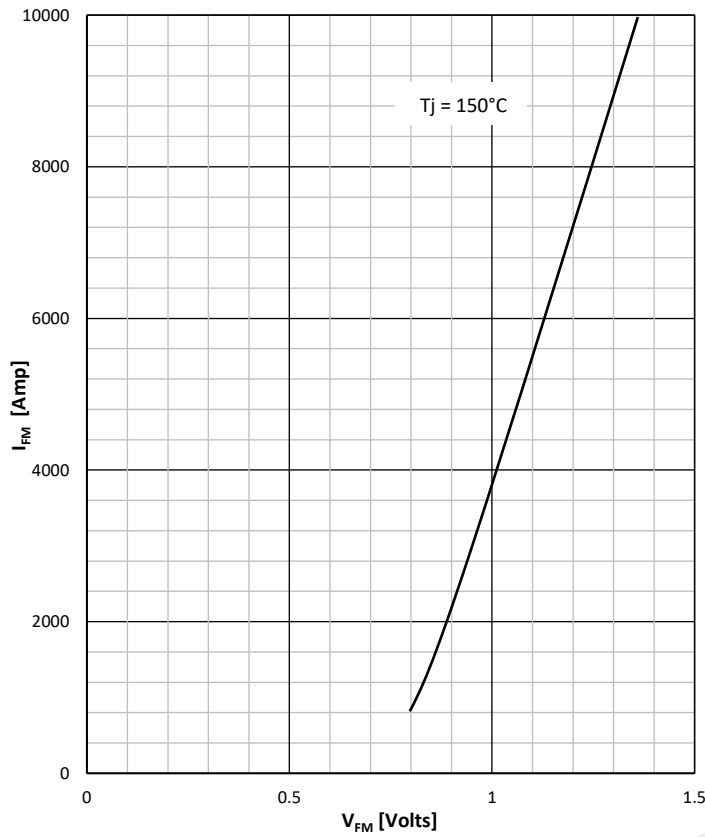
DISSIPATION CHARACTERISTICS

SQUARE WAVE

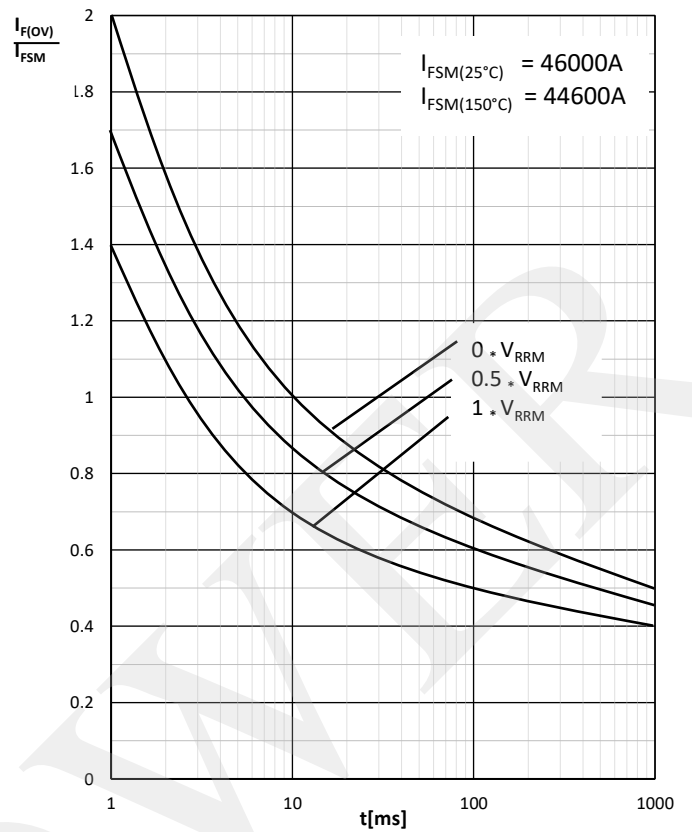


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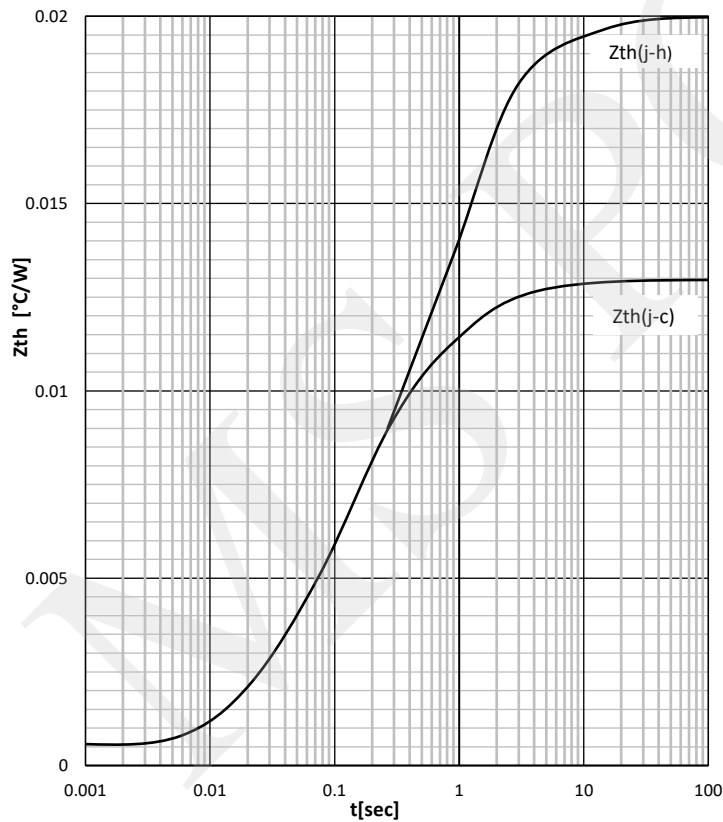
FORWARD CHARACTERISTIC



SURGE CHARACTERISTICS

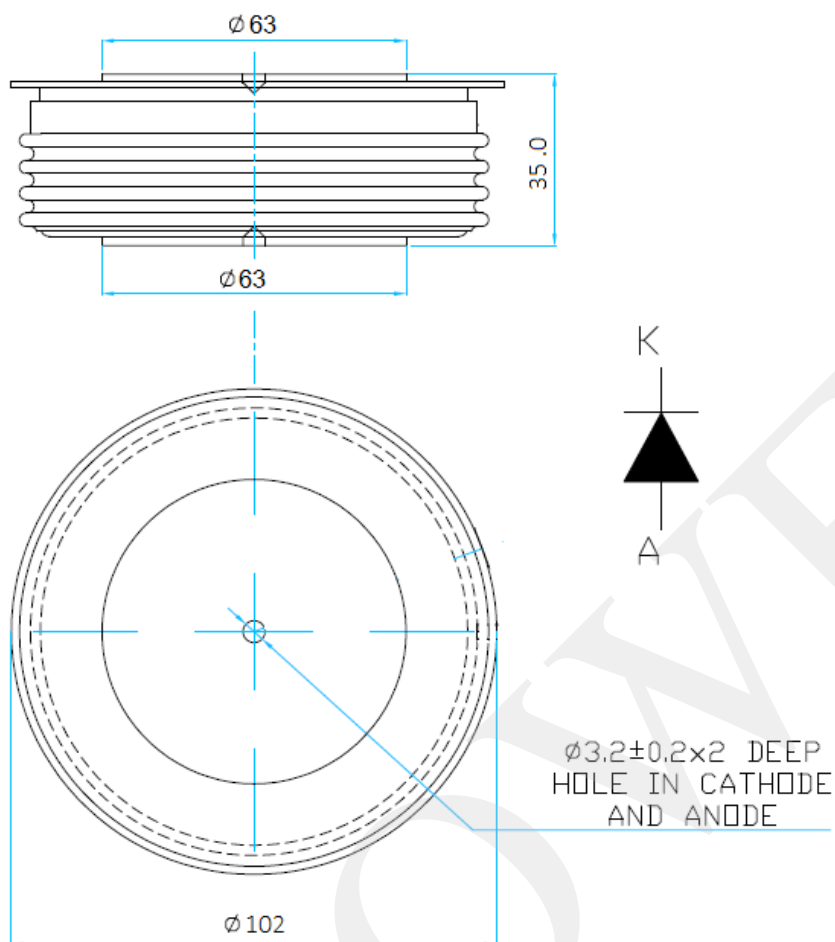


TRANSIENT THERMAL IMPEDANCE



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