



Key Parameters

V_{RRM}	= 2400V
$I_{F(AV)}$	= 3970A
I_{FSM}	= 38000A
$V_{F(TO)}$	= 0.66V
r_F	= 0.11mΩ

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

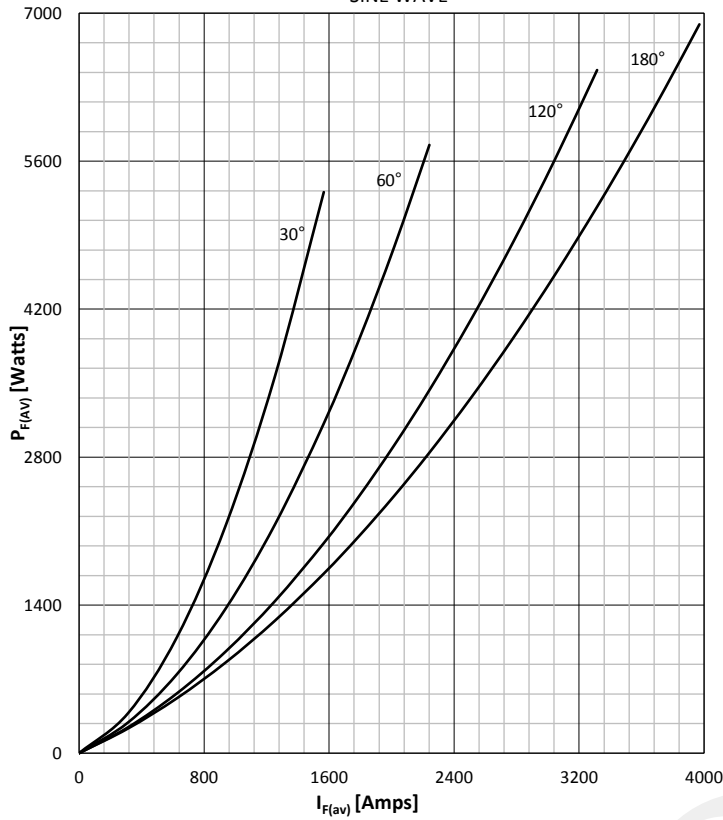
MS D	3970	C	XX
Rectifier Diode	Current code	C - Capsule package with Alloyed silicon technology	Voltage Code Code X 100 = V_{RRM}
Order Code MS D3970C24 : 2400V V_{RRM} , Capsule Diode			

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Symbol	Characteristic	Conditions	T _J [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		175	1000 - 2400	V
V _{RSM}	Non-repetitive peak reverse voltage		175	1200 - 2600	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	175	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 =100°C, double side cooled		3970 3600	A
I _{FRMS}	RMS current	T _c =85°C, double side cooled		6233	A
I _{FSM}	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	38000	A
			175	36500	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	7220 x 10 ³	A ² s
			175	6661 x 10 ³	A ² s
V _F	Forward voltage	On-state current = 3000A	25	1.15	V
V _{F(TO)}	Threshold voltage		175	0.66	V
r _F	Forward slope resistance		175	0.11	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			175	°C
T _{stg}	Storage temperature			-40 175	°C
M	Clamping force			41 - 50	KN
W	Weight (Approx.)			950	gm
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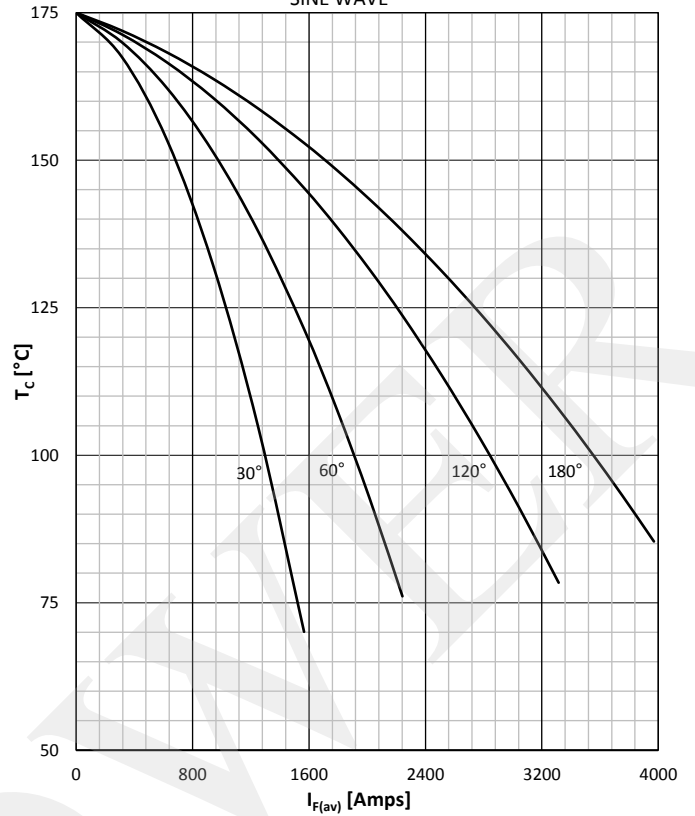
DISSIPATION CHARACTERISTICS

SINE WAVE



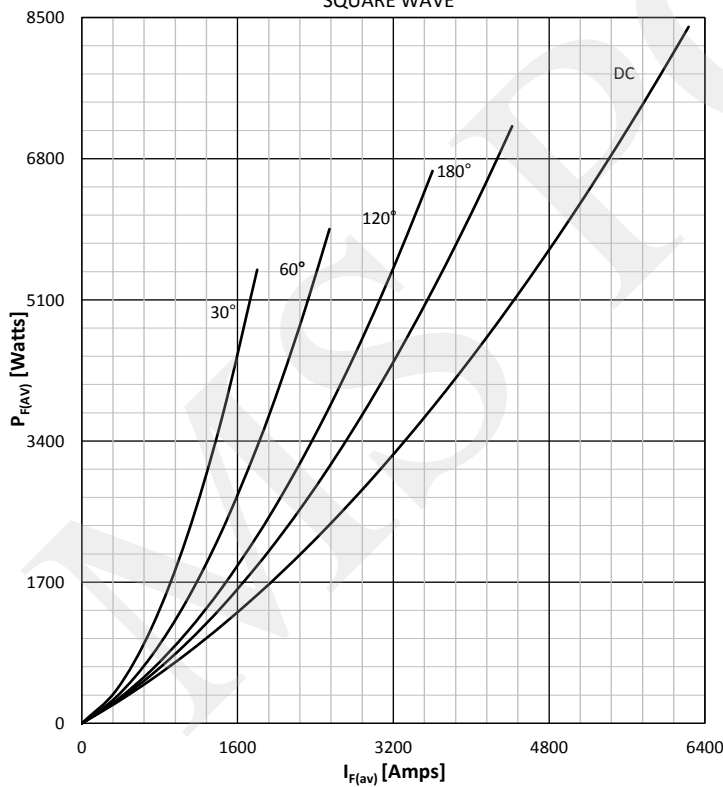
FORWARD CURRENT DERATING CURVE

SINE WAVE



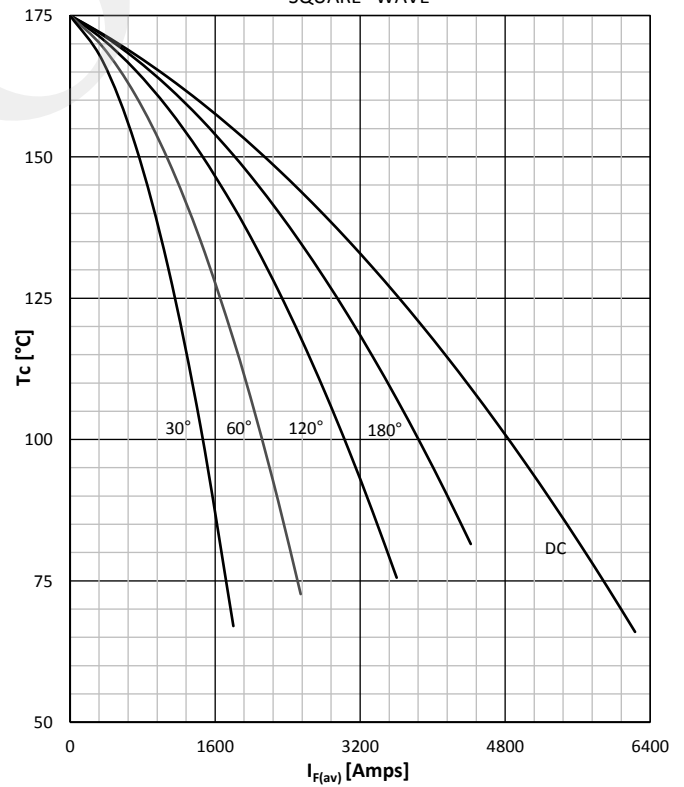
DISSIPATION CHARACTERISTICS

SQUARE WAVE



FORWARD CURRENT DERATING CURVE

SQUARE WAVE



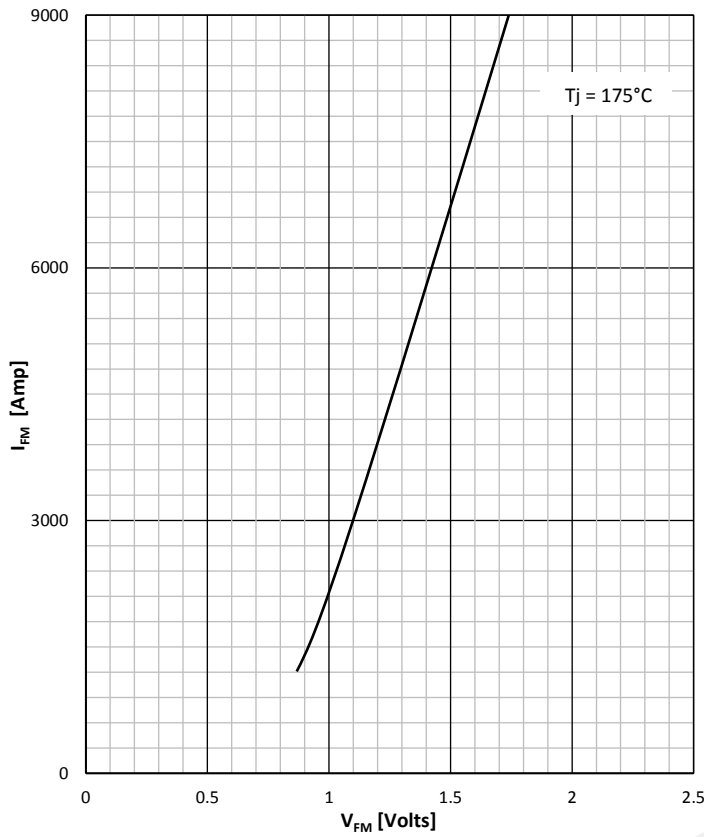
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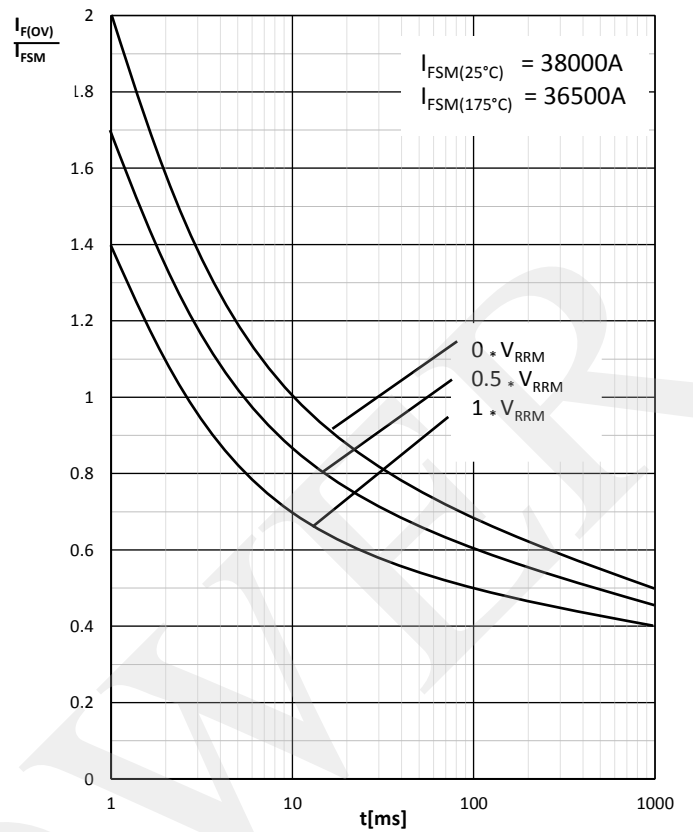
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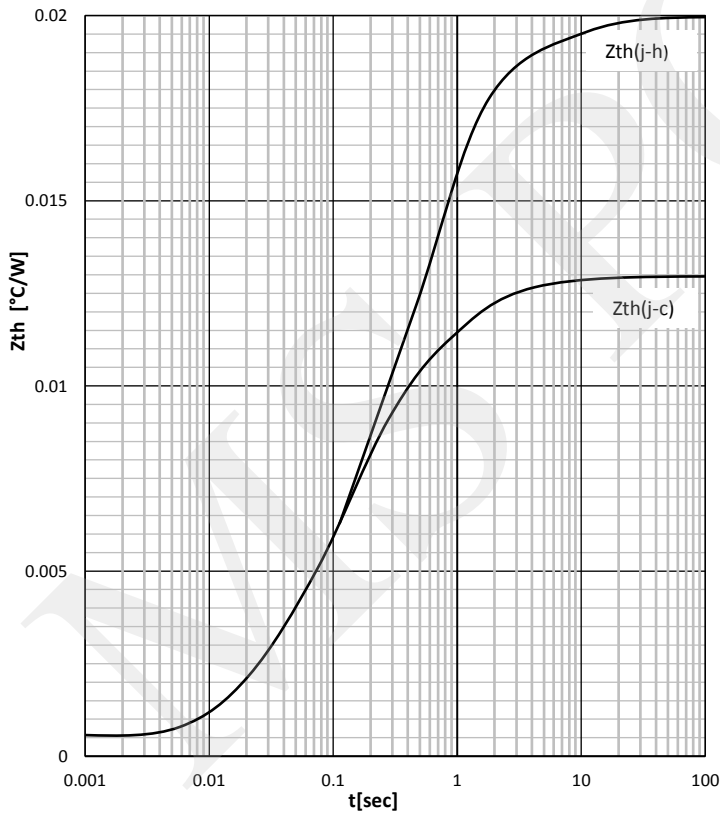
FORWARD CHARACTERISTIC



SURGE CHARACTERISTICS

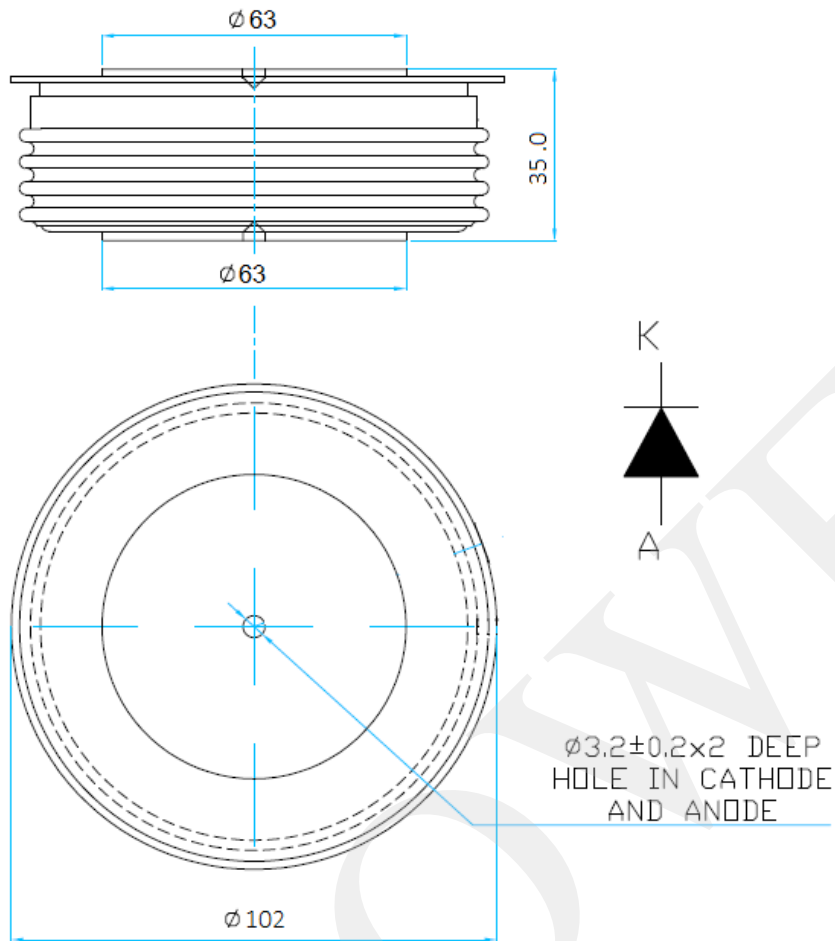


TRANSIENT THERMAL IMPEDANCE



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