MS D5170

Key Parameters

V_{RRM}	= 2400V
$I_{F(AV)}$	= 5170A
I_{FSM}	= 93000A
$V_{F(TO)}$	= 0.661V
r_F	= 0.0659mΩ

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	5170	C	X X
Rectifier Diode	Current code	C - Capsule package with Alloyed silicon technology	Voltage Code Code X 100 = V_{RRM}
Order Code MS D5170C24 : 2400V V_{RRM}, Capsule Diode			

Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 0

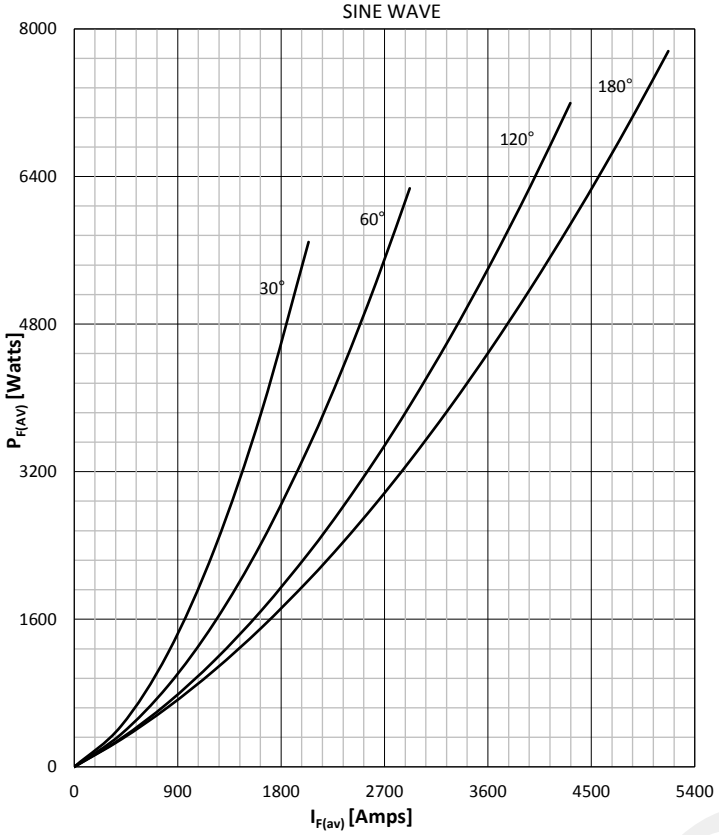
MS D5170

Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		175	1800 - 2400	V
V_{RSM}	Non-repetitive peak reverse voltage		175	1900 - 2500	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=90°C, double side cooled		5170 5000	A
I_{FRMS}	RMS current	T_c=85°C, double side cooled		8117	A
I_{FSM}	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	93000	A
			175	91500	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	43245 x 10^3	A^2s
			175	41861 x 10^3	A^2s
V_F	Forward voltage	On-state current = 4000A	175	0.95	V
$V_{F(TO)}$	Threshold voltage		175	0.661	V
r_F	Forward slope resistance		175	0.0659	mΩ
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, double side cooled		0.0115	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		0.002	°C/W
T_j	Max. junction temperature			175	°C
T_{stg}	Storage temperature			-40 175	°C
M	Clamping force			26 - 44	KN
W	Weight (Approx.)			1130	gm

Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 0

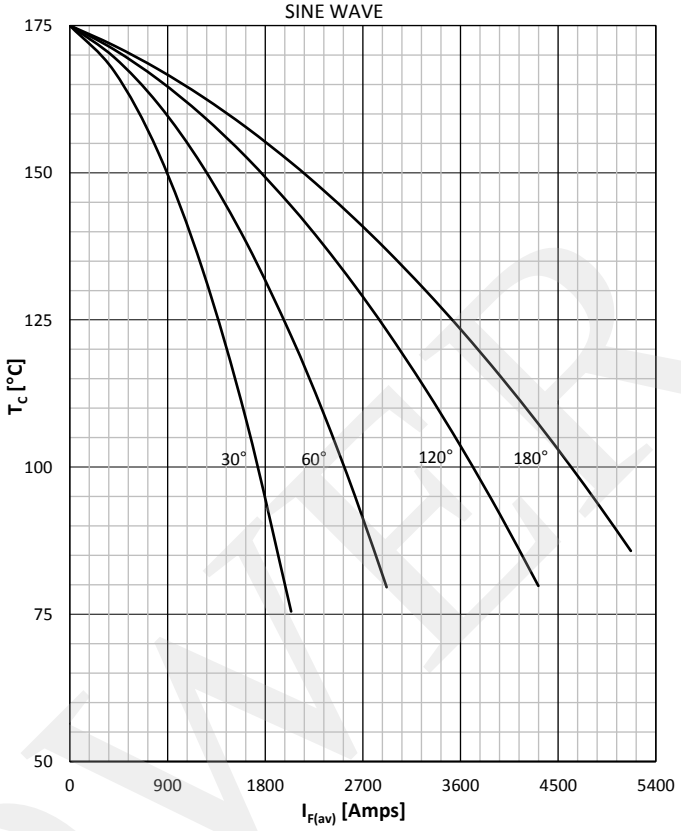
DISSIPATION CHARACTERISTICS

SINE WAVE



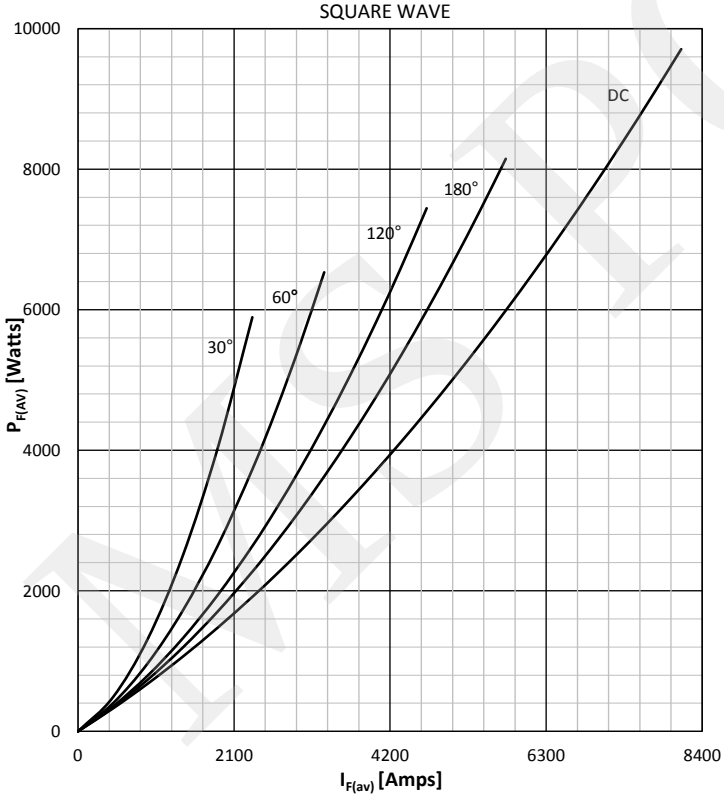
FORWARD CURRENT DERATING CURVE

SINE WAVE



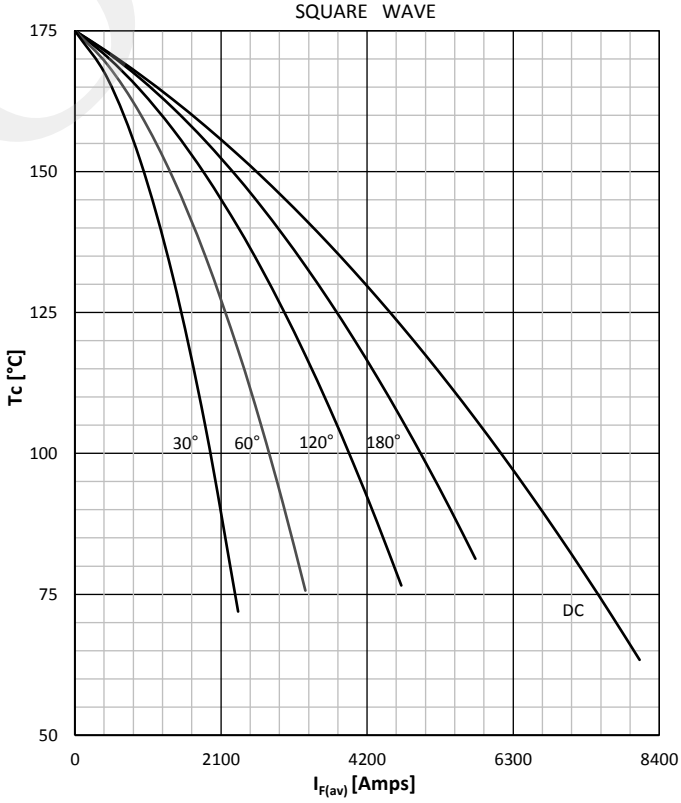
DISSIPATION CHARACTERISTICS

SQUARE WAVE



FORWARD CURRENT DERATING CURVE

SQUARE WAVE



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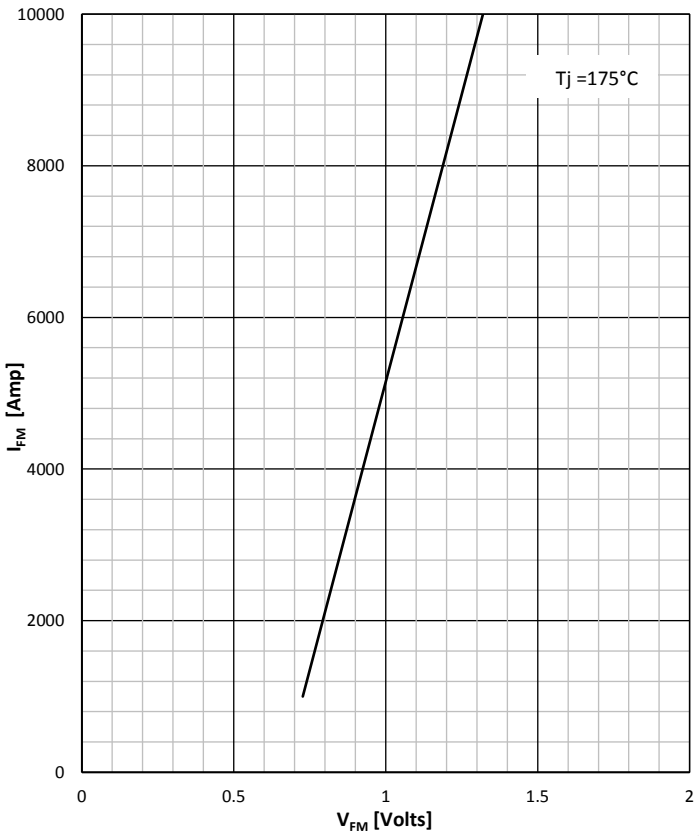
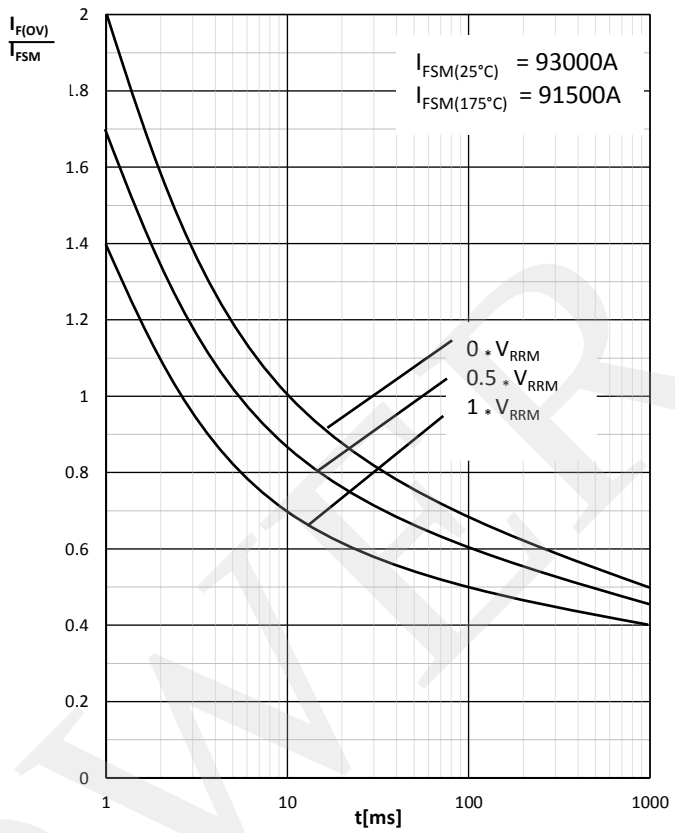
Approved by : RBS	Revision : 0

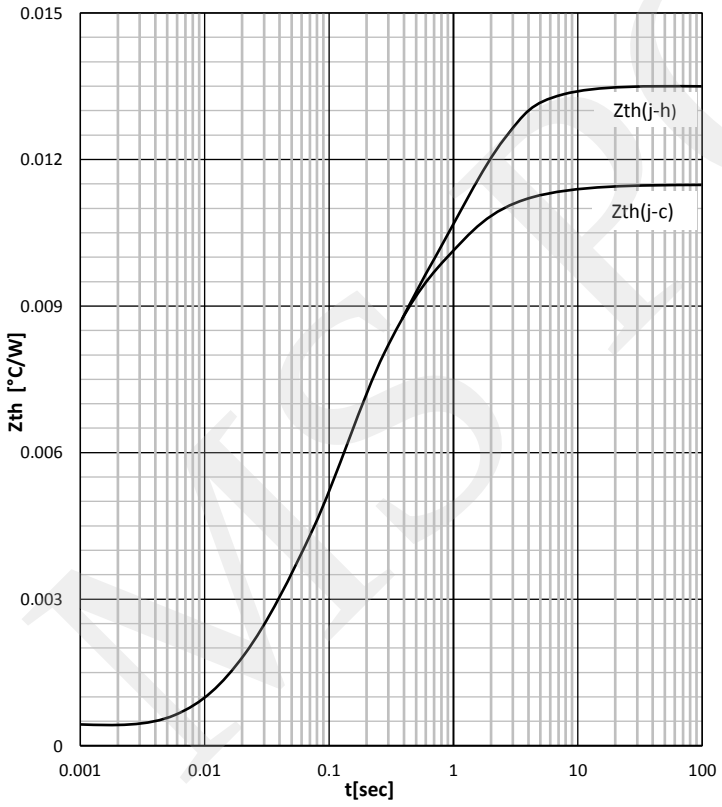
FORWARD CHARACTERISTIC



SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



Prepared by : ABA	Date of Publication : 25.03.2015
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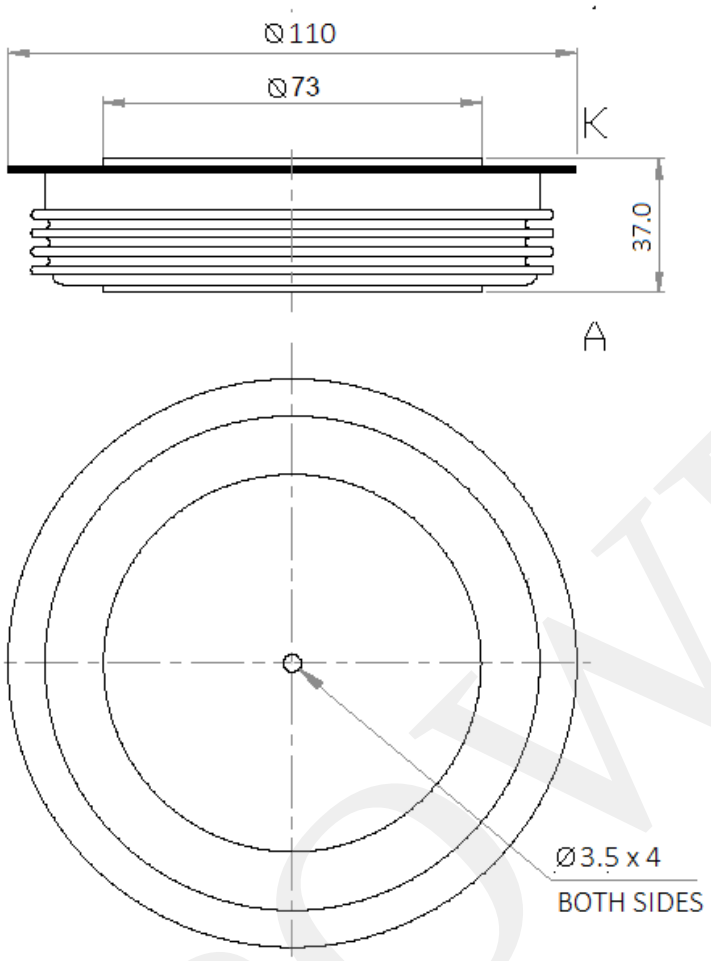
Outline



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