



Key Parameters

V_{RRM}	= 4500V
$I_{F(AV)}$	= 1215A
I_{FSM}	= 20kA
$V_{F(TO)}$	= 1.73V
r_F	= 0.51mΩ

Features

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

Applications

- Power Supplies
- Uncontrolled Rectifiers
- Freewheeling / Snubber
- Induction Heating / Melting

Ordering Information

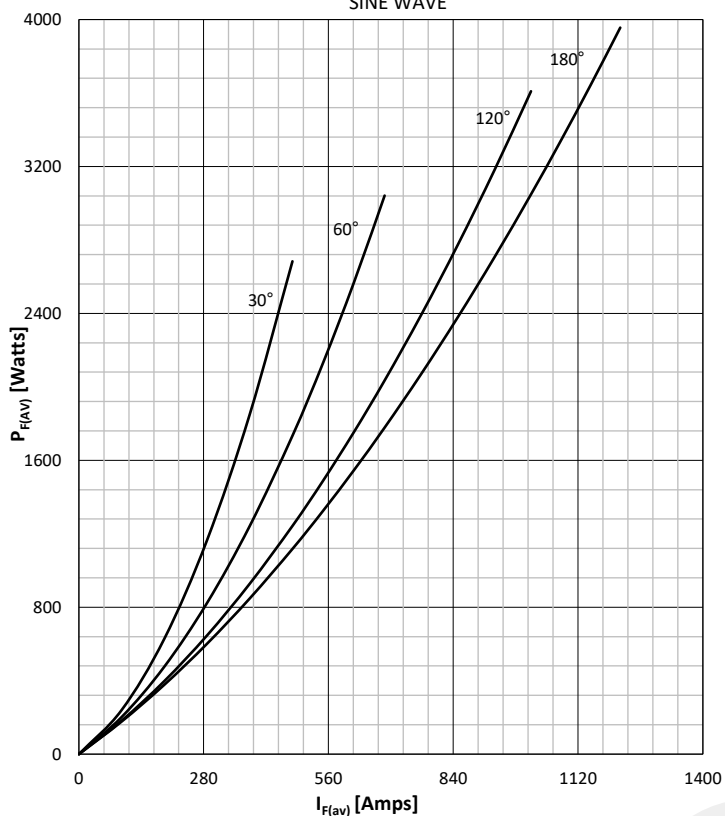
MS DF	1215	C	XX
Fast Recovery Diode	Current code	C - Capsule package with Alloyed silicon technology	Voltage Code Code X 100 = V_{RRM}
Order Code MS DF1215C45 : 4500V V_{RRM} , fast recovery capsule Diode			

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

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		150	4000 - 4500	V
V _{RSM}	Non-repetitive peak reverse voltage		150	4100 - 4600	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	150	100	mA
CONDUCTING					
I _{F(AV)}	Mean forward current	180° sin, 50 Hz, T _c =70°C, double side cooled 180° sin, 50 Hz, T _c =85°C, double side cooled		1215 1060	A
I _{FRMS}	RMS current	T _c =70°C, double side cooled		1907	A
I _{FSM}	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	20000	A
			150	19000	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	2000 x 10 ³	A ² s
			150	1805 x 10 ³	A ² s
V _F	Forward voltage	On-state current = 2000A	150	2.85	V
V _{F(TO)}	Threshold voltage		150	1.73	V
r _F	Forward slope resistance		150	0.51	mΩ
SWITCHING					
Q _{rr}	Recovered Charge (typical)	I _{FM} =1000A, -di _F /dt = 100A/μs, V _r = 50V, t _p =1000 μs, 50% chord.	150	1500	μC
I _{rm}	Reverse recovery current (typical)		150	360	A
T _{rr}	Reverse recovery time, 50%chord (typical)		150	6.5	μs
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case, double side cooled		0.020	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		0.005	°C/W
T _j	Max. junction temperature			150	°C
T _{stg}	Storage temperature			-40 150	°C
M	Clamping force			20 - 24	NM
W	Weight (Approx.)			440	gm
			Prepared by : ABA	Date of Publication : 25.03.2015	
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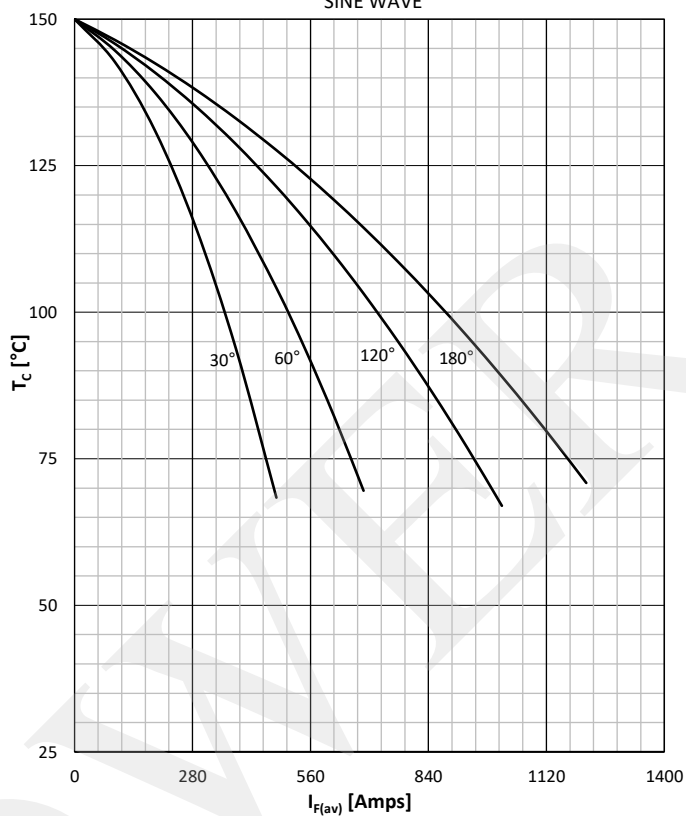
DISSIPATION CHARACTERISTICS

SINE WAVE



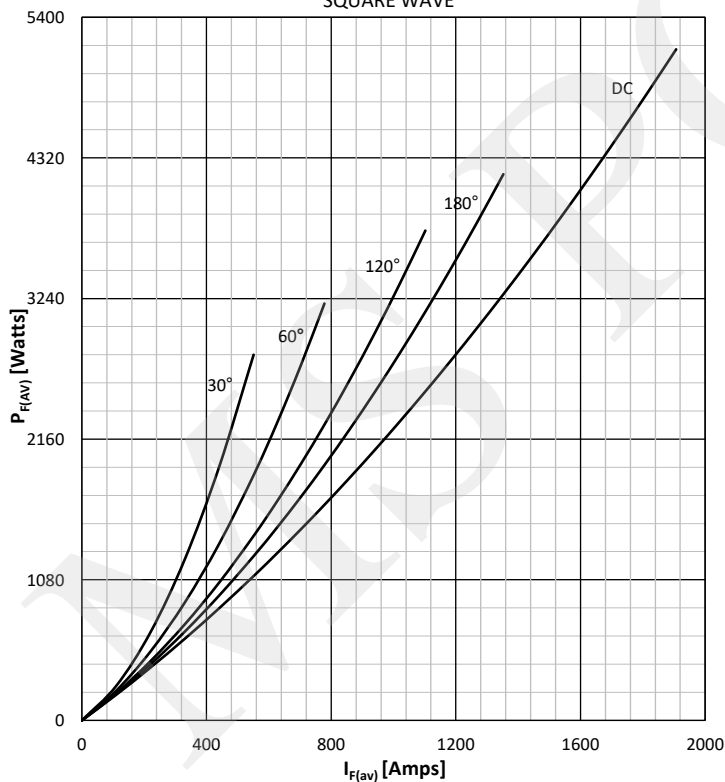
FORWARD CURRENT DERATING CURVE

SINE WAVE



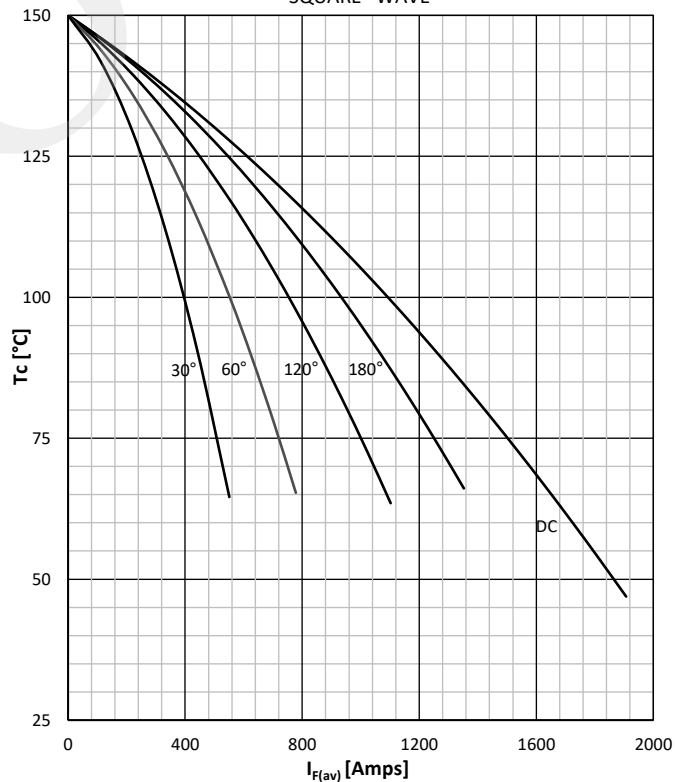
DISSIPATION CHARACTERISTICS

SQUARE WAVE



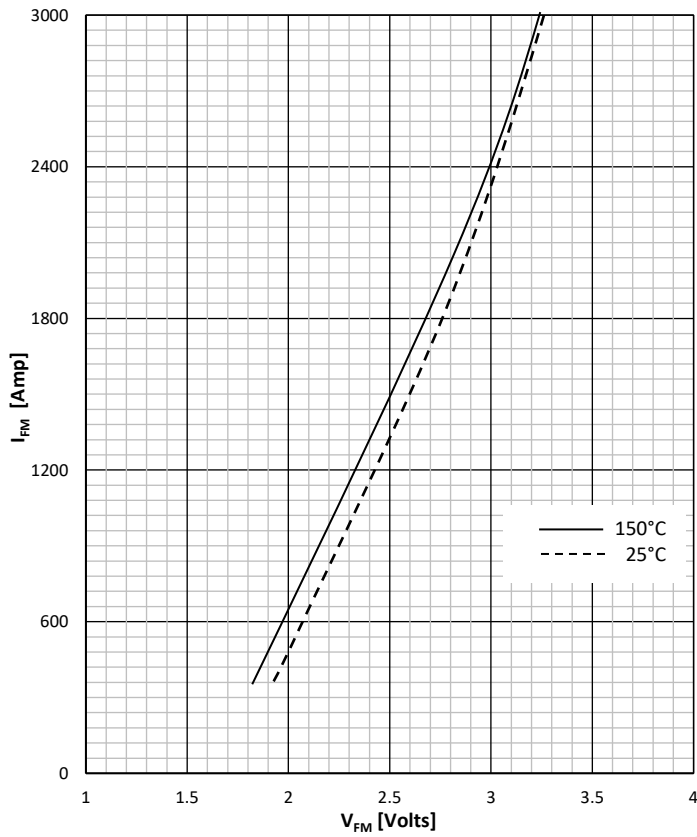
FORWARD CURRENT DERATING CURVE

SQUARE WAVE

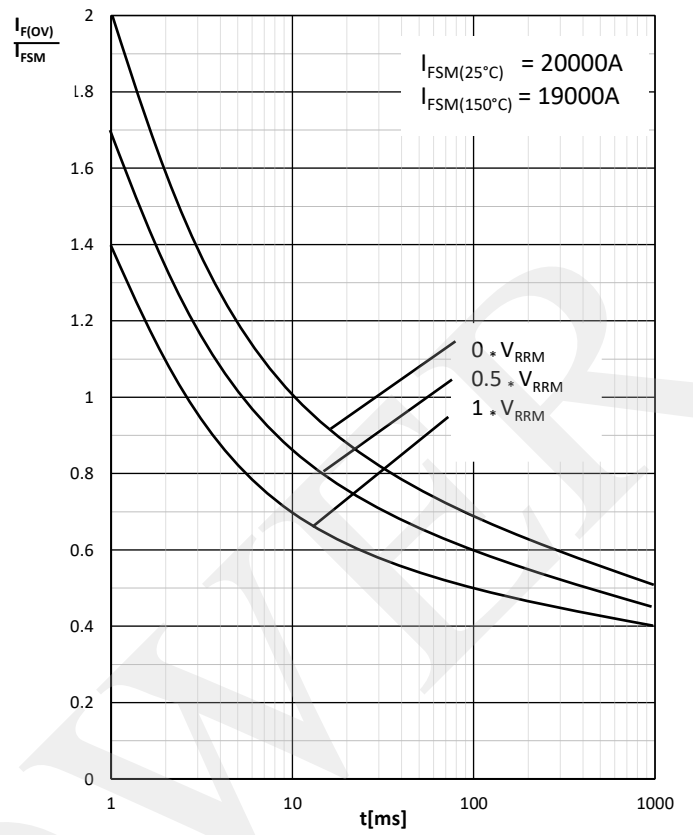


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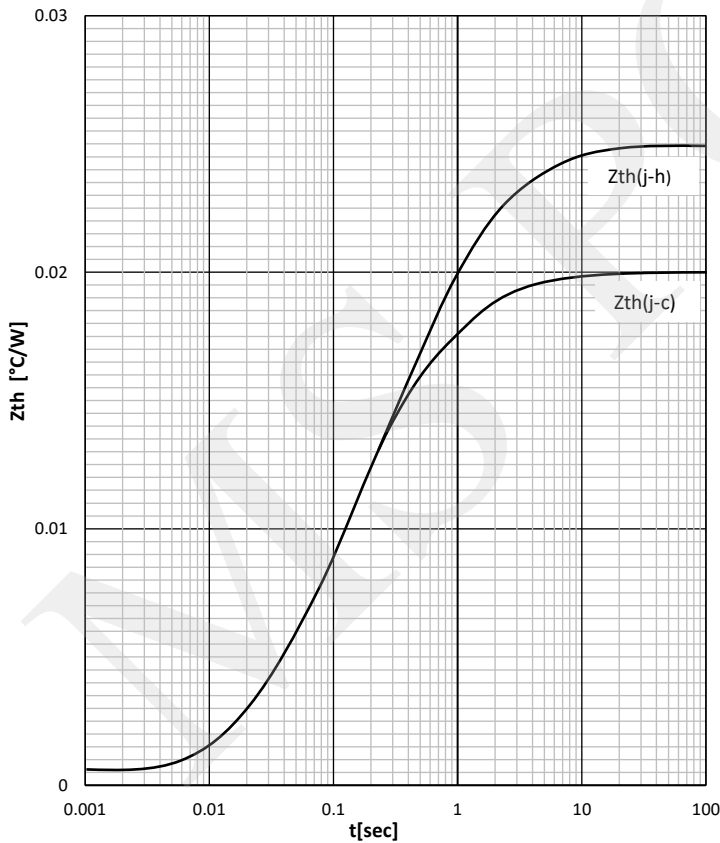
FORWARD CHARACTERISTIC



SURGE CHARACTERISTICS

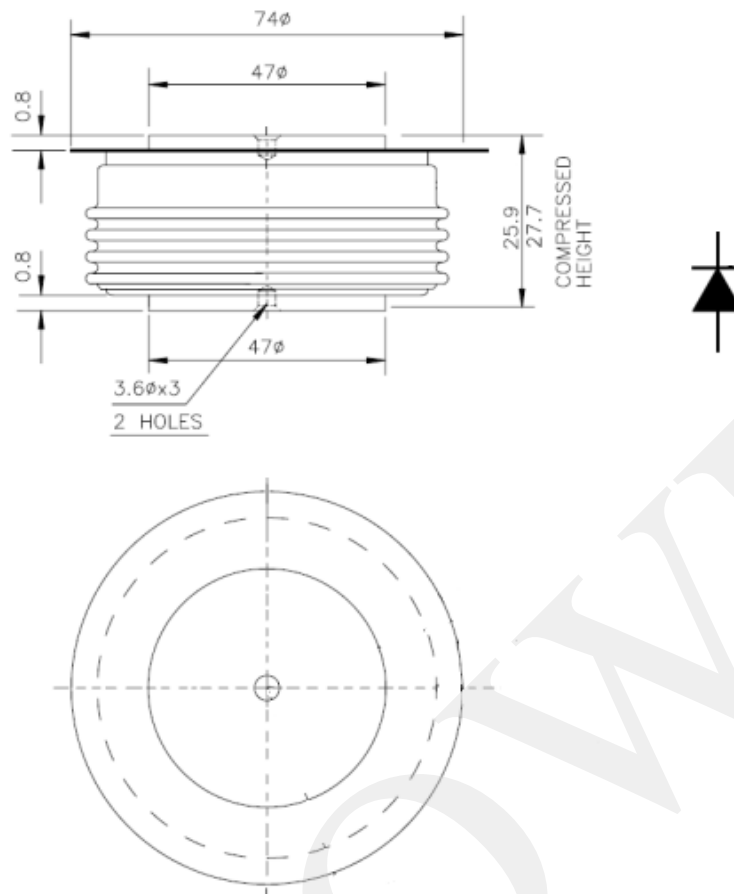


TRANSIENT THERMAL IMPEDANCE, DSC



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

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Prepared by : ABA

Date of Publication : 25.03.2015

Approved by : RBS

Revision : 0

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Prepared by : ABA	Date of Publication : 25.03.2015
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