

## Features

- Full blocking capability over wide temperature range
- Hermetic metal case with glass insulator
- Threaded stud

## Applications

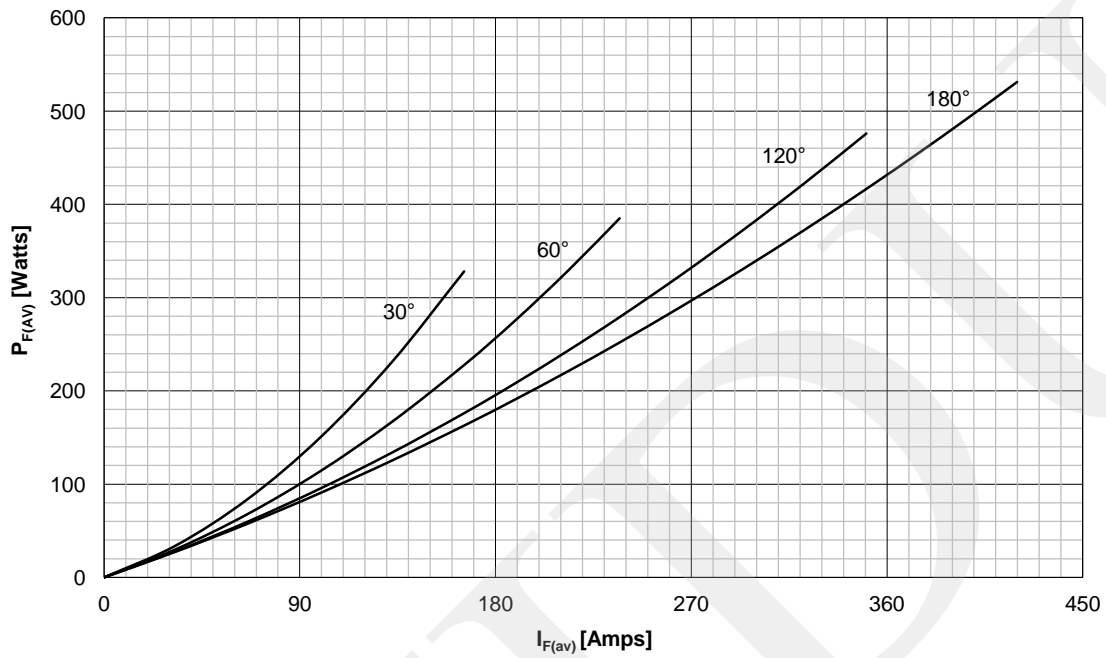
- Power Supplies
- Free-wheeling Diodes
- Uncontrolled Rectifiers

## Key Parameters

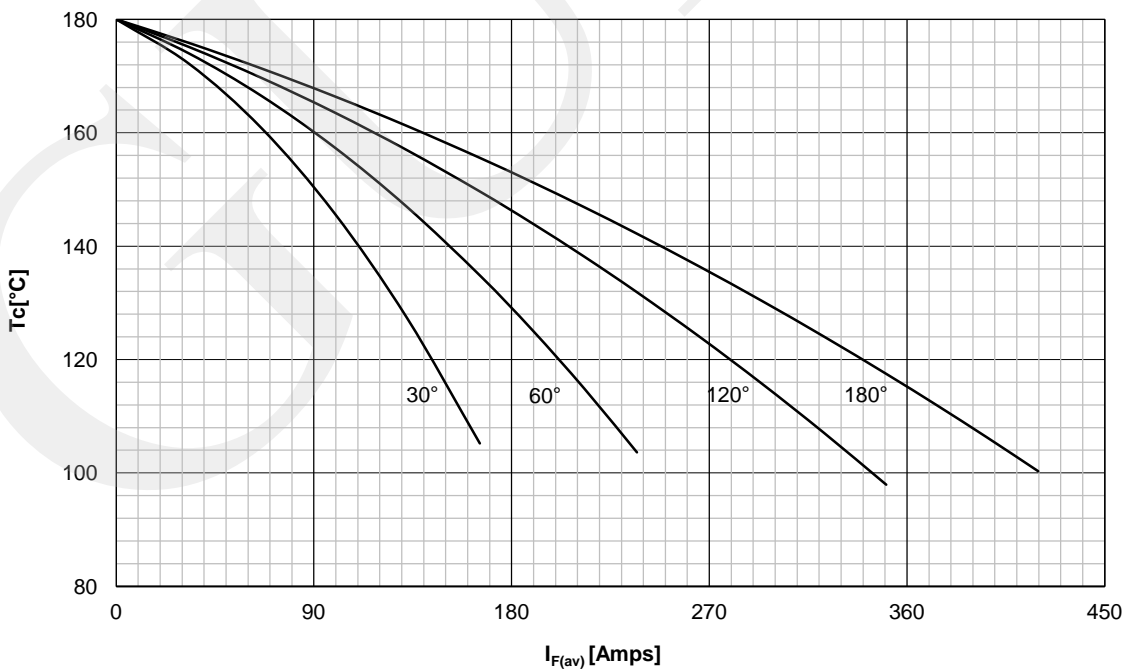
$V_{RRM}$	= 1600V
$I_{F(AV)}$	= 420A
$I_{FSM}$	= 9000A
$V_{F(TO)}$	= 0.80V
$r_F$	= 0.45mΩ

Symbol	Characteristic	Conditions	T <sub>J</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
$V_{RRM}$	Repetitive peak reverse voltage		180	200 - 1600	V
$I_{RRM}$	Repetitive peak reverse current	$V = V_{RRM}$	180	40	mA
<b>CONDUCTING</b>					
$I_{F(AV)}$	Mean Forward current	180° sin ,50 Hz, T <sub>c</sub> =100°C T <sub>c</sub> =125°C		420 320	A
$I_{FRMS}$	RMS Forward current			659	A
$I_{FSM}$	Surge Forward current	Sine wave, 10 ms Without reverse voltage	25	9000	A
			180	8000	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	405 x 10 <sup>3</sup>	A <sup>2</sup> s
			180	320 x 10 <sup>3</sup>	A <sup>2</sup> s
$V_F$	Peak Forward voltage	Peak forward current = 1000A	180	1.25	V
$V_{F(TO)}$	Threshold voltage		180	0.80	V
$r_F$	Forward slope resistance		180	0.45	mΩ
<b>MOUNTING</b>					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case		0.15	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink		0.015	°C/W
$T_j$	Max. junction temperature			180	°C
$T_{stg}$	Storage temperature			-40 .... 180	°C
M	Mounting Torque			32	NM
W	Weight (Approx.)			350	gm

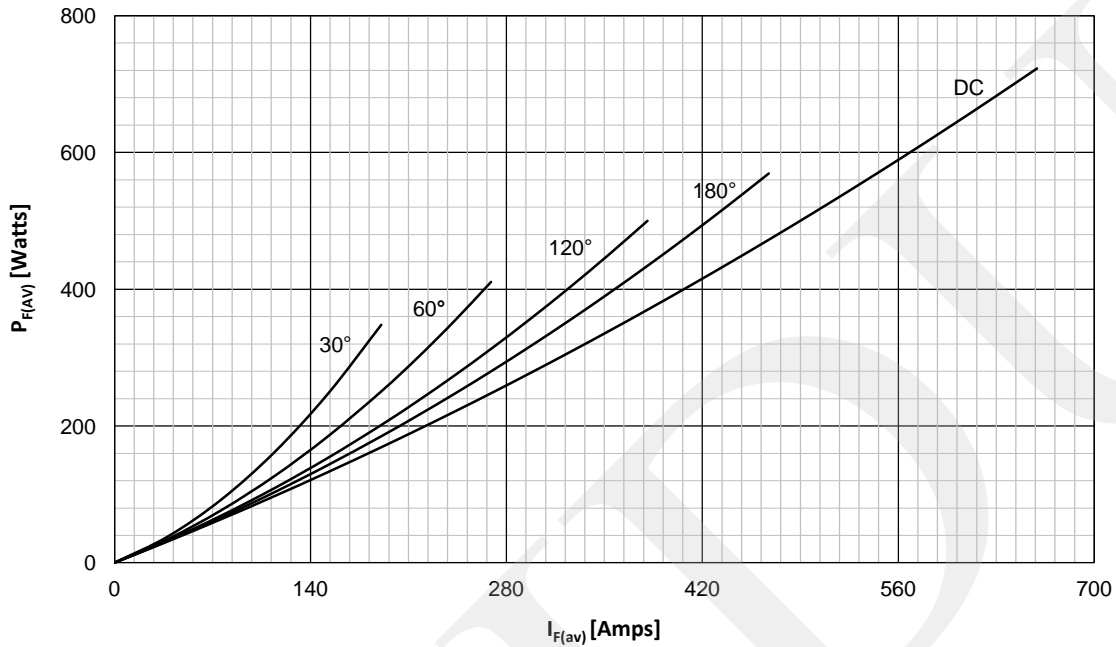
DISSIPATION CHARACTERISTICS  
SINE WAVE



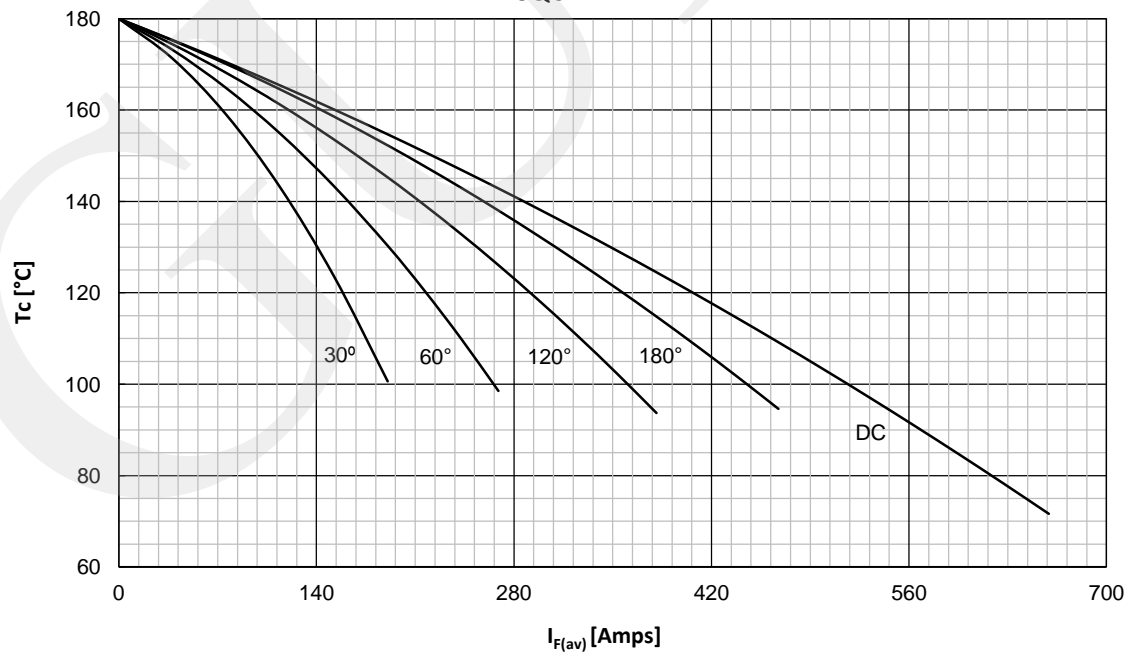
FORWARD CURRENT DERATING CURVE  
SINE WAVE



DISSIPATION CHARACTERISTICS  
SQUARE WAVE

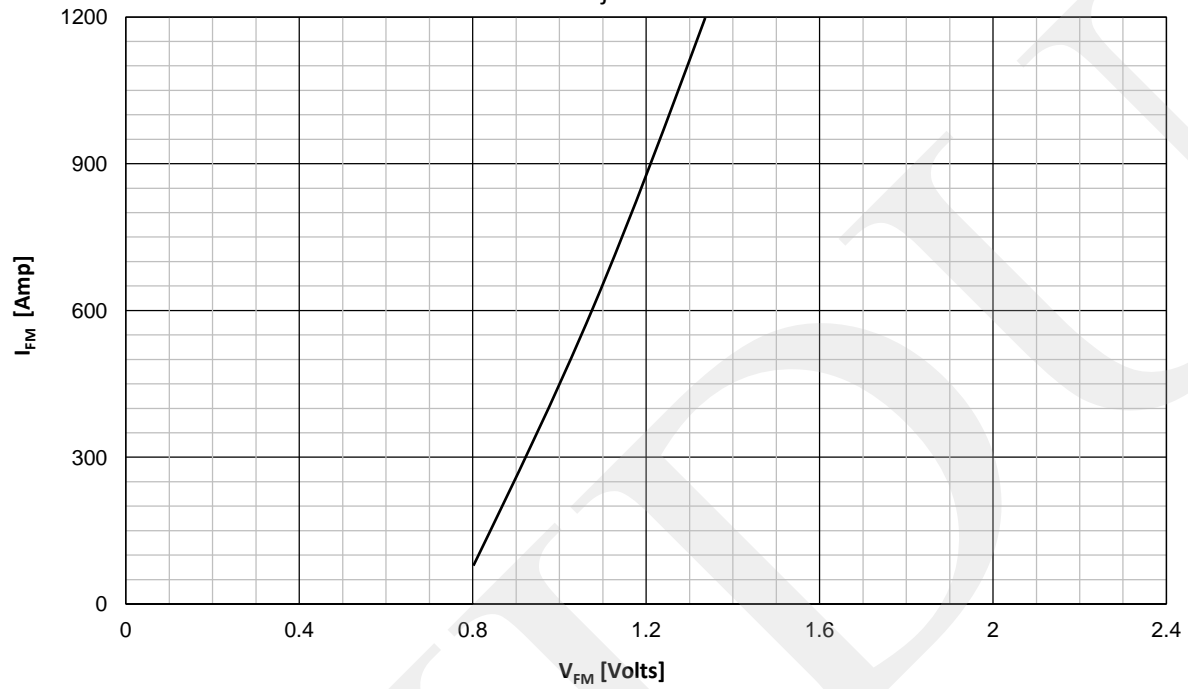


FORWARD CURRENT DERATING CURVE  
SQUARE WAVE

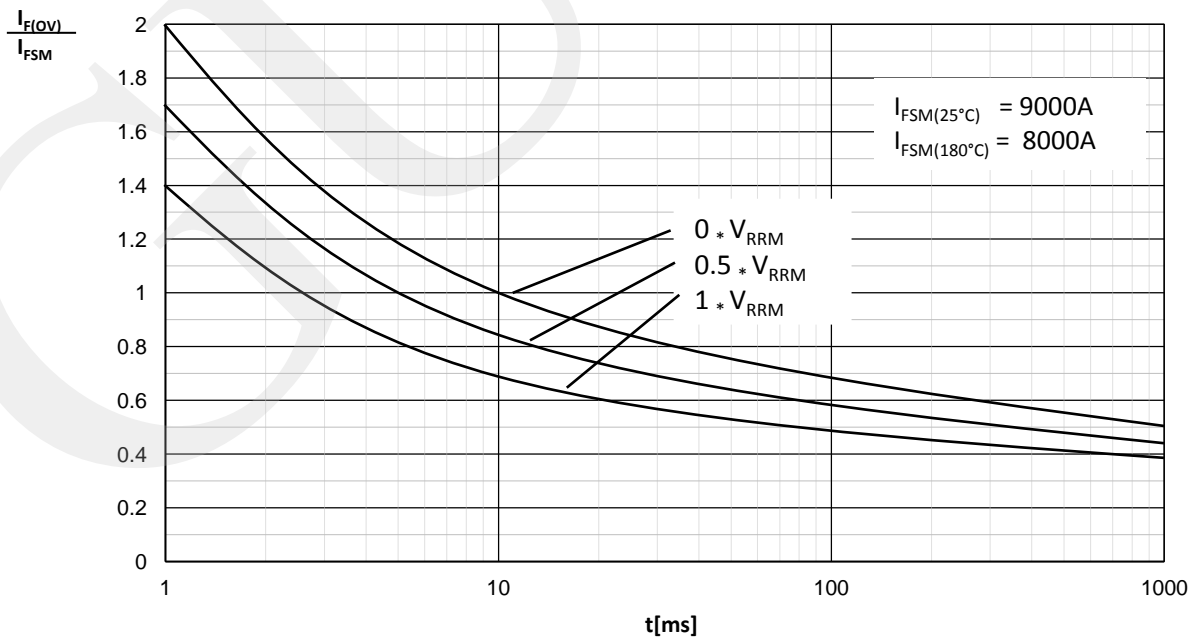


FORWARD CHARACTERISTICS

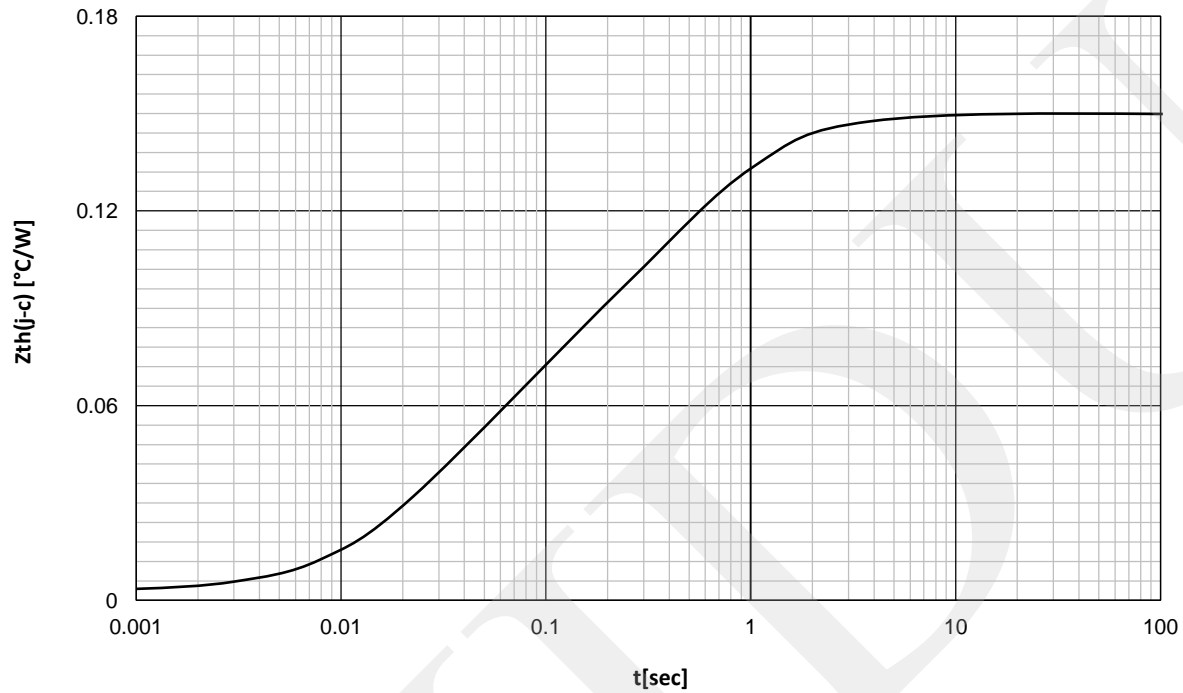
$T_j = 180^\circ\text{C}$



SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



ORDERING INFORMATION

<b>GDZP</b>	<b>321</b>	<b>N</b>	<b>X X</b>	<b>M</b>
Rectifier Diode	Current code	Polarity R= Stud Anode N= Stud Cathode	Voltage Code Code X 100 = $V_{RRM}$	Stud Threads M = Stud M24 X 1.5

Order Code GDZP321R16M – 1600V  $V_{RRM}$ , M24 Stud, Diode with stud anode.

Outline

