

Features

- Full blocking capability over wide temperature range
- Pressure contacts technology for high reliability

Key Parameters

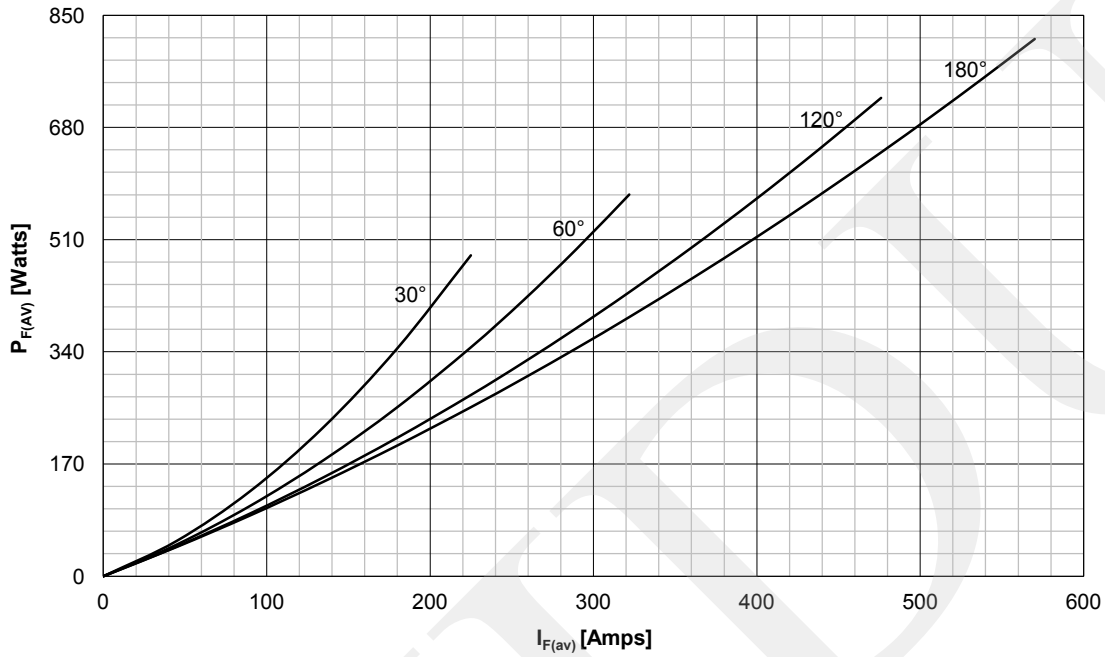
V_{RRM}	= 3600V
$I_{F(AV)}$	= 510A
I_{FSM}	= 12500A
$V_{F(TO)}$	= 0.95V
r_F	= 0.34mΩ

Applications

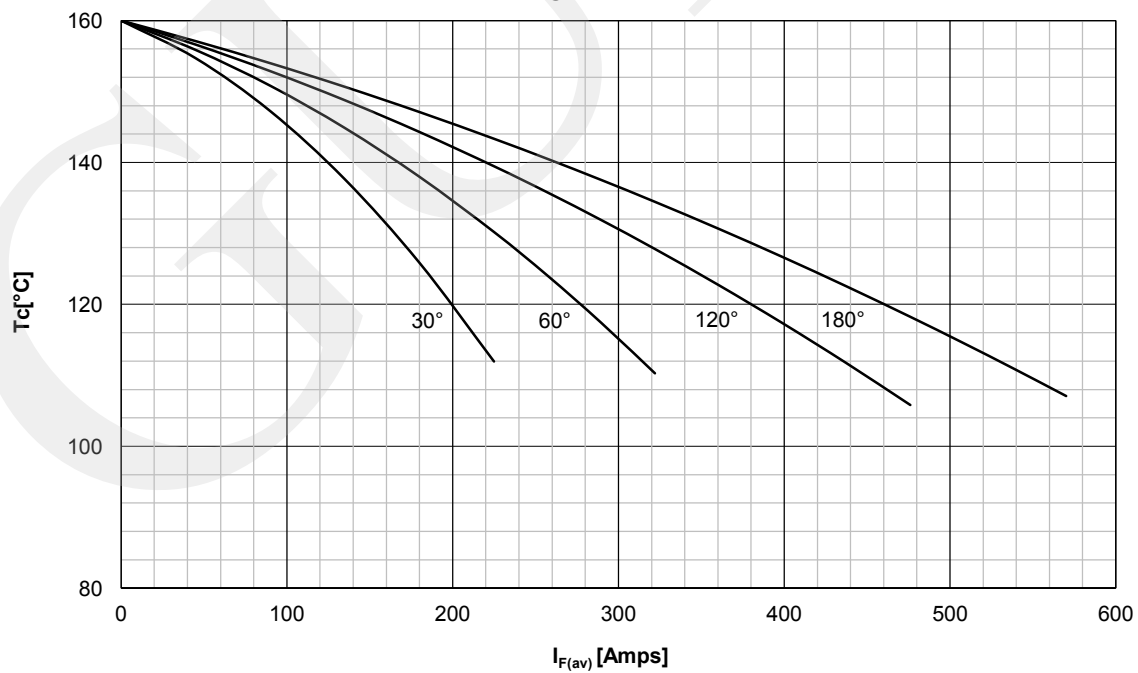
- Power Supplies
- Free-wheeling Diodes
- Uncontrolled Rectifiers
- Battery chargers

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		160	3600	V
I_{RRM}	Repetitive peak reverse current	$V = V_{RRM}$	160	40	mA
CONDUCTING					
$I_{F(AV)}$	Mean Forward current	180° sin ,50 Hz, T _c =105°C		510	A
I_{FRMS}	RMS Forward current			895	A
I_{FSM}	Surge Forward current	Sine wave, 10 ms Without reverse voltage	25	12500	A
			160	11800	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	781 x 10 ³	A ² s
			160	696 x 10 ³	A ² s
V_F	Peak Forward voltage	Peak forward current = 1500A	160	1.48	V
$V_{F(TO)}$	Threshold voltage		160	0.95	V
r_F	Forward slope resistance		160	0.34	mΩ
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case		0.065	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink		0.02	°C/W
T_j	Max. junction temperature			160	°C
T_{stg}	Storage temperature			-40 160	°C
M	Mounting Torque			16.6 - 20.7	NM
W	Weight (Approx.)			900	gm

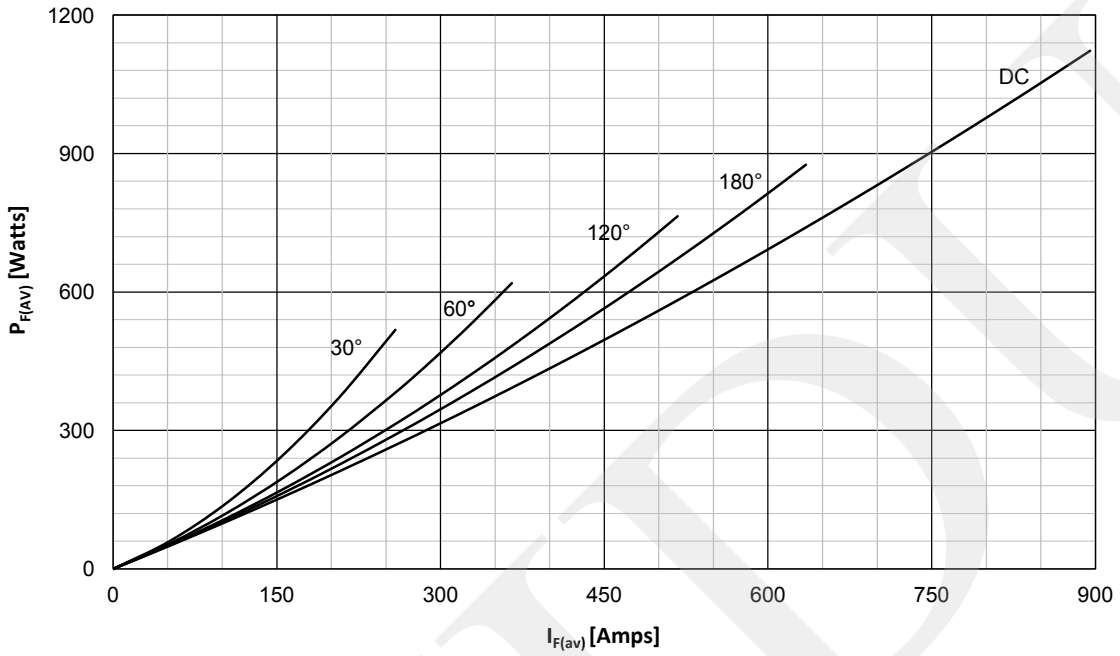
DISSIPATION CHARACTERISTICS
SINE WAVE



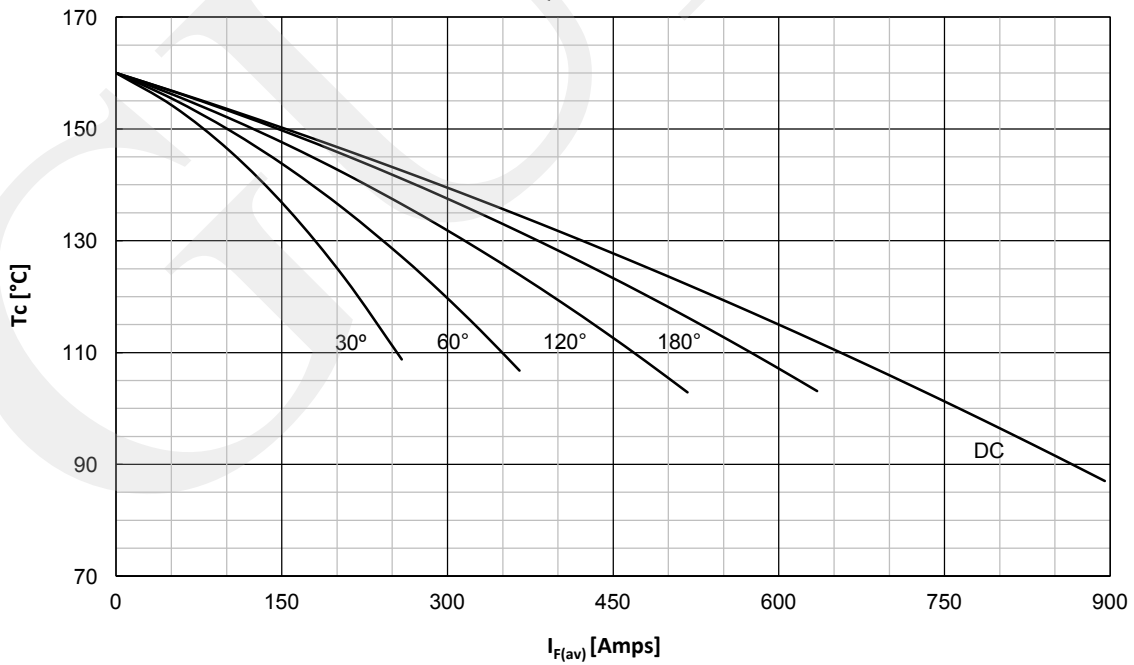
FORWARD CURRENT DERATING CURVE
SINE WAVE



DISSIPATION CHARACTERISTICS
SQUARE WAVE

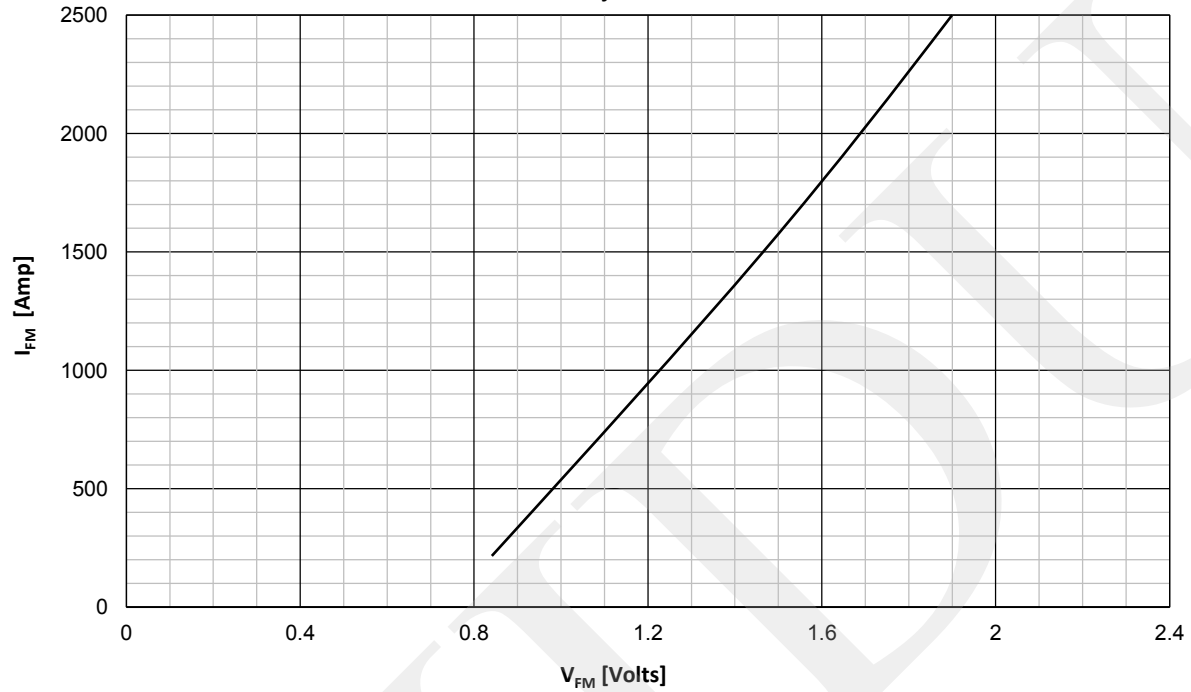


FORWARD CURRENT DERATING CURVE
SQUARE WAVE

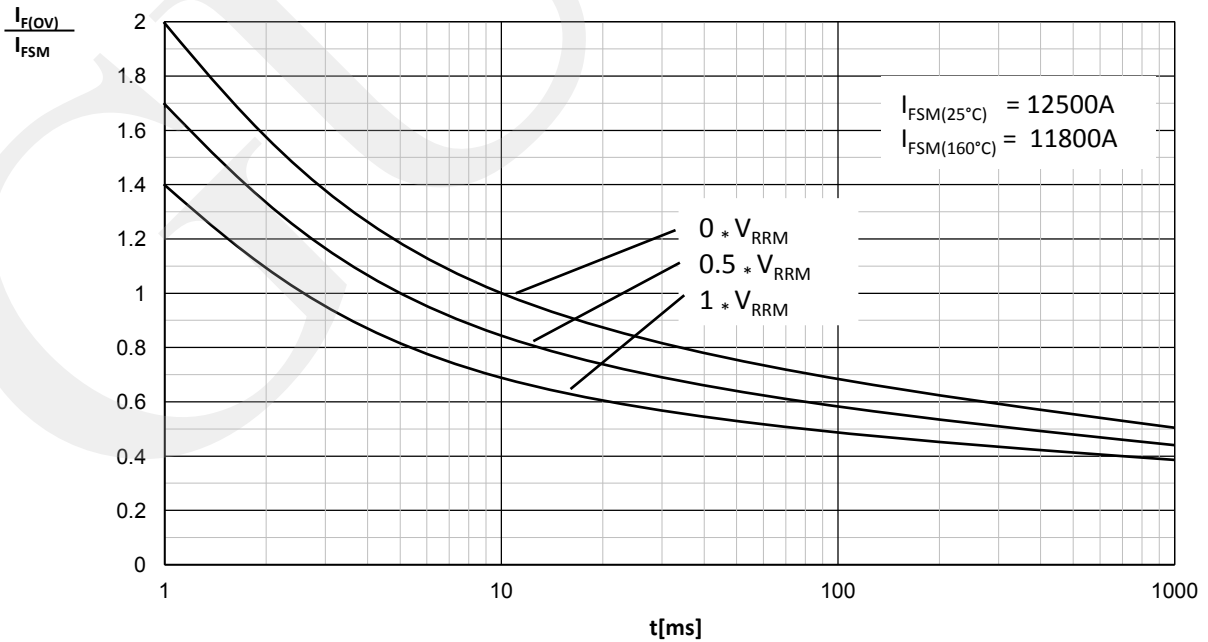


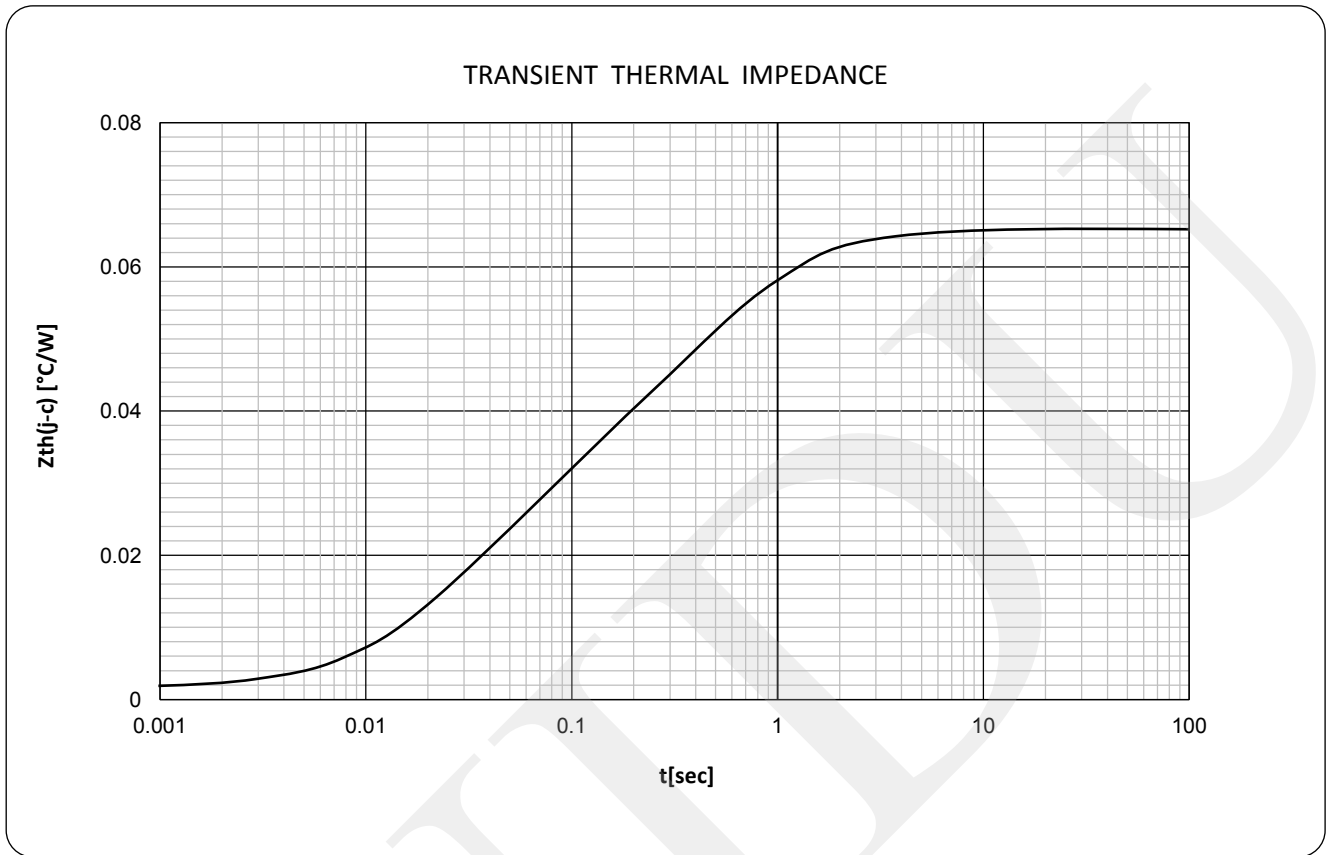
FORWARD CHARACTERISTICS

$T_j = 160^\circ\text{C}$



SURGE CHARACTERISTICS





ORDERING INFORMATION

GDZP	510	N	36	F
Rectifier Diode	Current code	Polarity R= Base Anode N= Base Cathode	Voltage Code Code X 100 = V_{RRM}	F = Flat Base

Order Code GDZP510N36F – 3600V V_{RRM} , Flat base, Diode with base Cathode

Outline

