



### Power Rectifier Diodes

#### Features

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

#### Key Parameters

$V_{RRM}$	= 800V
$I_{F(AV)}$	= 5636A
$I_{FSM}$	= 52000A
$V_{F(TO)}$	= 0.698V
$r_F$	= 0.059m $\Omega$

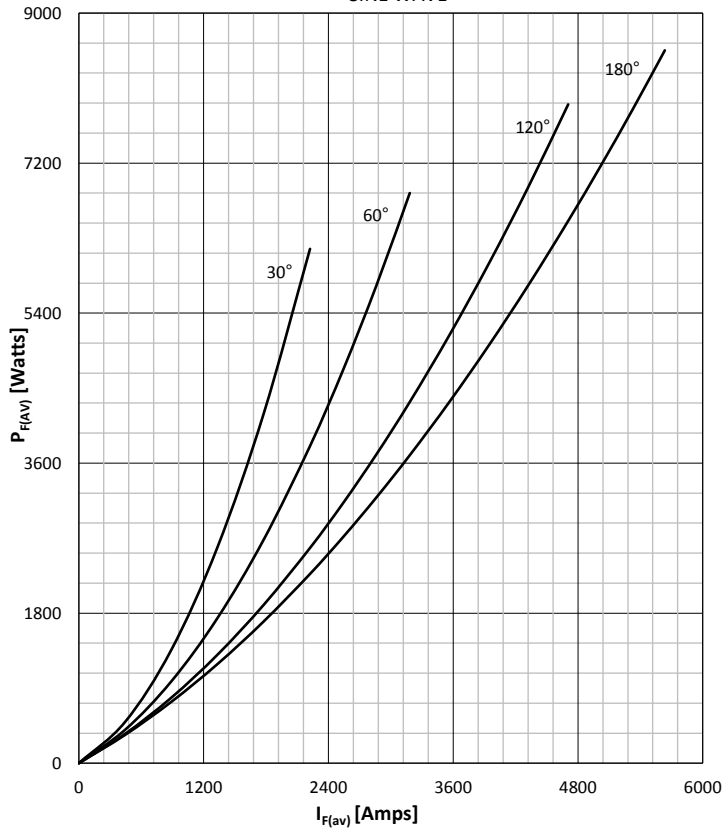
#### Applications

- Traction Rectifiers
- Uncontrolled Rectifiers
- Welding
- Induction Heating / Melting

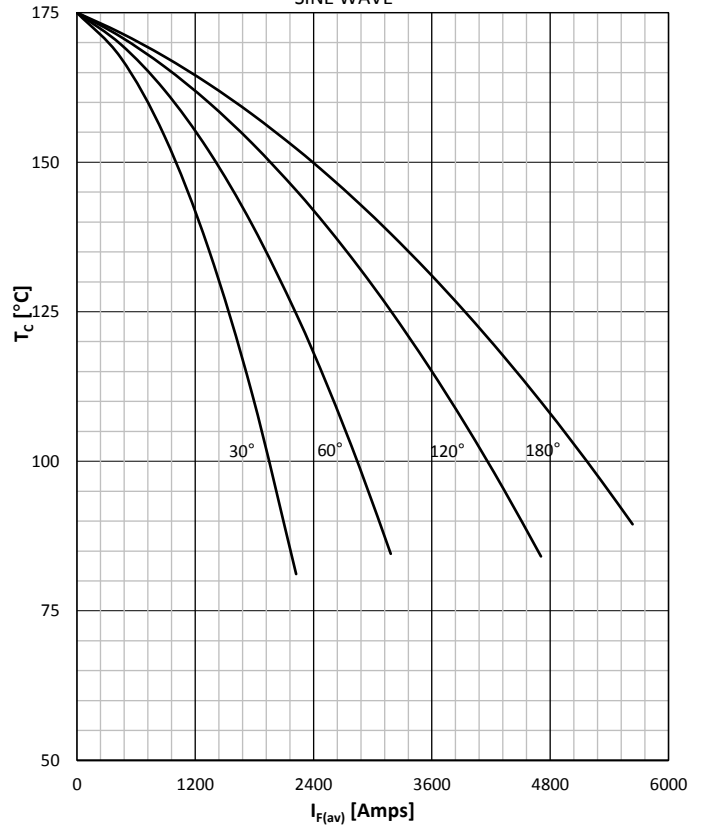
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
$V_{RRM}$	Repetitive peak reverse voltage		175	800	V
$V_{RSM}$	Non-repetitive peak reverse voltage		175	900	V
$I_{RRM}$	Repetitive peak reverse current	$V = V_{RRM}$	175	50	mA
<b>CONDUCTING</b>					
$I_{F(AV)}$	Mean forward current	180° sin, 50 Hz, T <sub>c</sub> =85°C, double side cooled		5636	A
$I_{FRMS}$	RMS current			8848	A
$I_{FSM1}$	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	52000	A
			175	50600	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	13520 x 10 <sup>3</sup>	A <sup>2</sup> s
			175	12801 x 10 <sup>3</sup>	A <sup>2</sup> s
$I_{FSM2}$	Surge forward current	Sine wave, 30Cycles, 50Hz Without reverse voltage	175	29000	A
$V_F$	Forward voltage	On-state current = 5000A	175	1.0	V
$V_{F(TO)}$	Threshold voltage		175	0.698	V
$r_F$	Forward slope resistance		175	0.059	m $\Omega$
<b>MOUNTING</b>					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, double side cooled		0.010	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		0.004	°C/W
$T_j$	Max. junction temperature			175	°C
$T_{stg}$	Storage temperature			-40 .... 175	°C
$M$	Clamping force			25 - 31	KN
$W$	Weight (Approx.)			550	gm

**DISSIPATION CHARACTERISTICS**

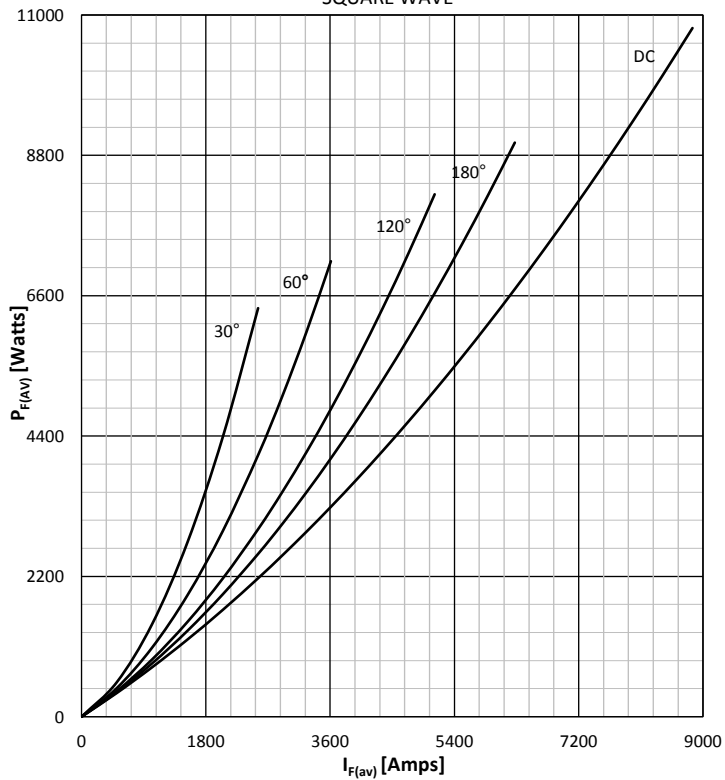
SINE WAVE


**DISSIPATION CHARACTERISTICS**

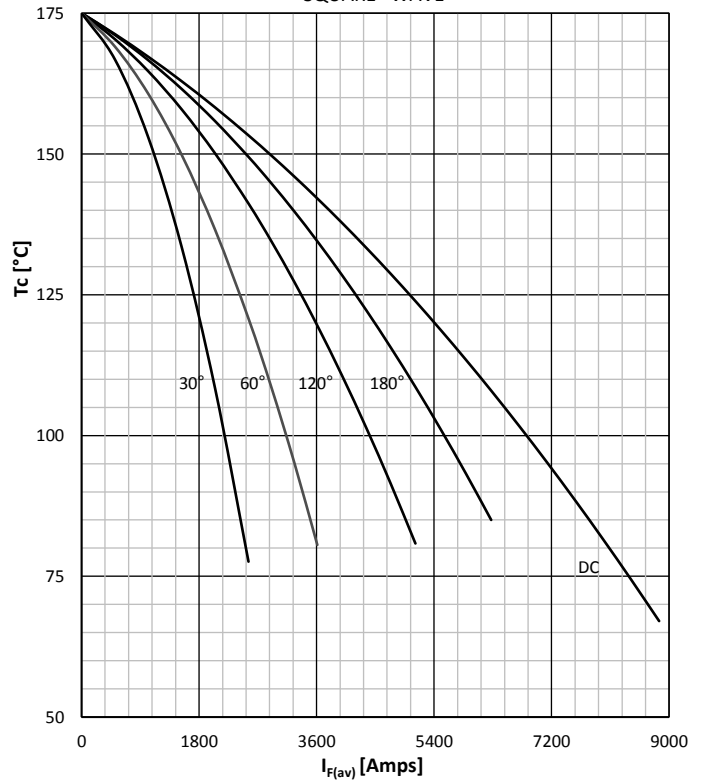
SINE WAVE

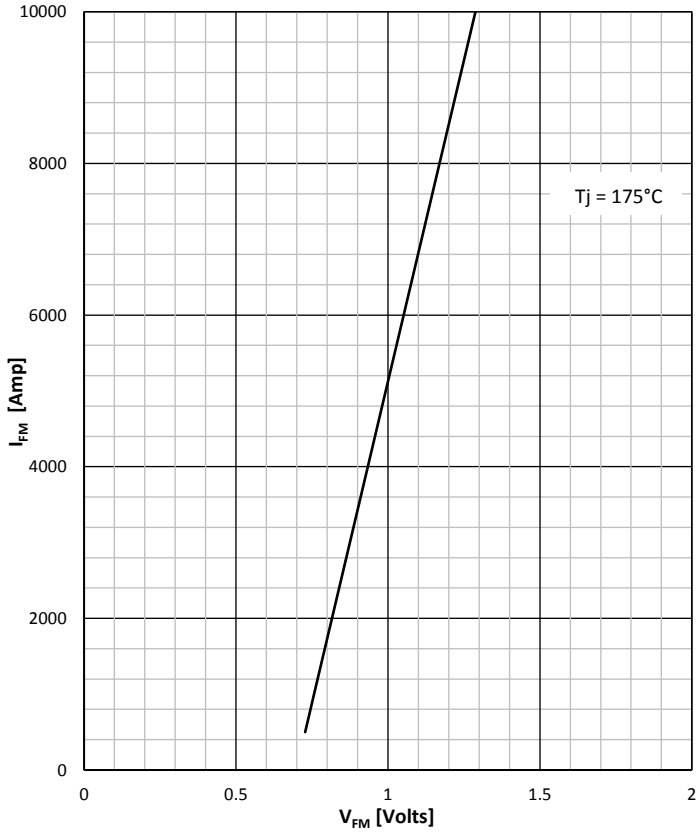
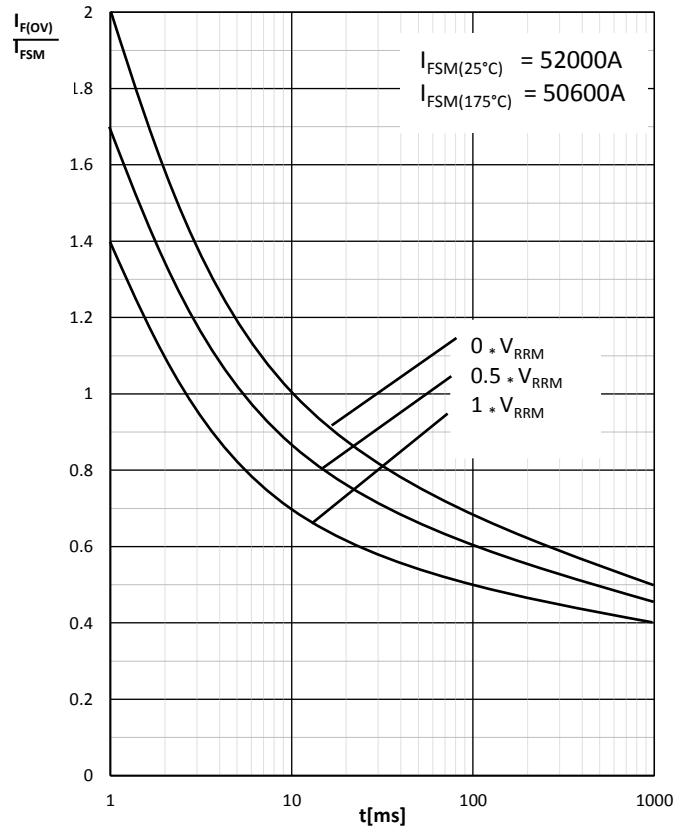

**DISSIPATION CHARACTERISTICS**

SQUARE WAVE


**FORWARD CURRENT DERATING CURVE**

SQUARE WAVE



**FORWARD CHARACTERISTIC**

**SURGE CHARACTERISTICS**

**TRANSIENT THERMAL IMPEDANCE**
