



SCD7110

Power Rectifier Diodes

Features

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

Key Parameters

V_{RRM}	= 600V
$I_{F(AV)}$	= 7110A
I_{FSM}	= 62000A
$V_{F(TO)}$	= 0.74V
r_F	= 0.026mΩ

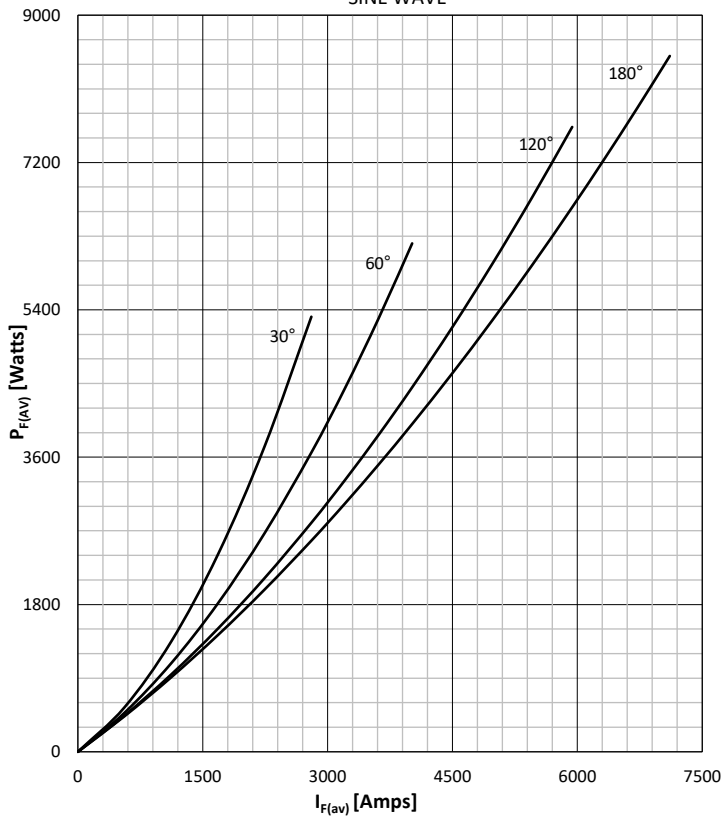
Applications

- Uncontrolled Rectifiers
- Welding

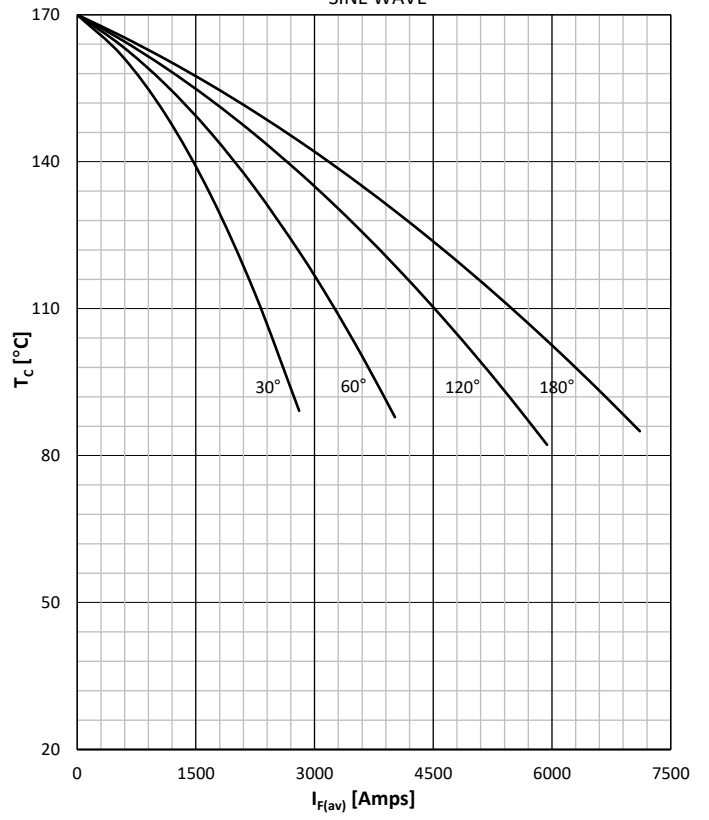
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		170	600	V
V_{RSM}	Non-repetitive peak reverse voltage		170	600	V
I_{RRM}	Repetitive peak reverse current	$V = V_{RRM}$	170	50	mA
CONDUCTING					
$I_{F(AV)}$	Mean forward current	180° sin, 50 Hz, T _c =85°C, double side cooled		7110	A
I_{FRMS}	RMS current	T _c =85°C, double side cooled		11163	A
I_{FSM}	Surge forward current	Sine wave, 10 ms Without reverse voltage	25	62000	A
			170	55000	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	19220 x 10 ³	A ² s
			170	15125 x 10 ³	A ² s
V_F	Forward voltage	On-state current = 5000A	25	1.05	V
$V_{F(TO)}$	Threshold voltage		170	0.74	V
r_F	Forward slope resistance		170	0.026	mΩ
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, double side cooled		0.01	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		0.005	°C/W
T_j	Max. junction temperature			170	°C
T_{stg}	Storage temperature			-40 ... 170	°C
M	Clamping force			22	KN
W	Weight (Approx.)			140	gm

DISSIPATION CHARACTERISTICS

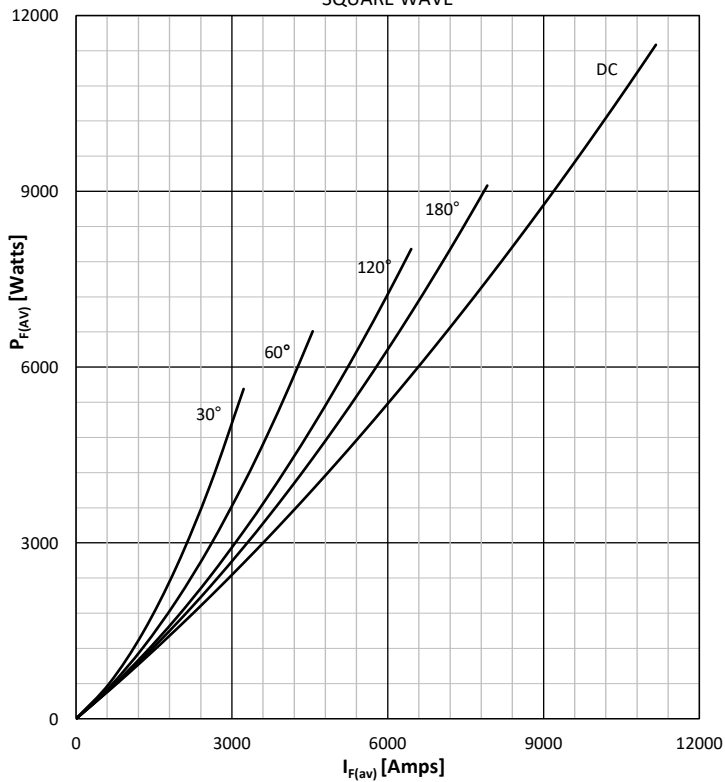
SINE WAVE


FORWARD CURRENT DERATING CURVE

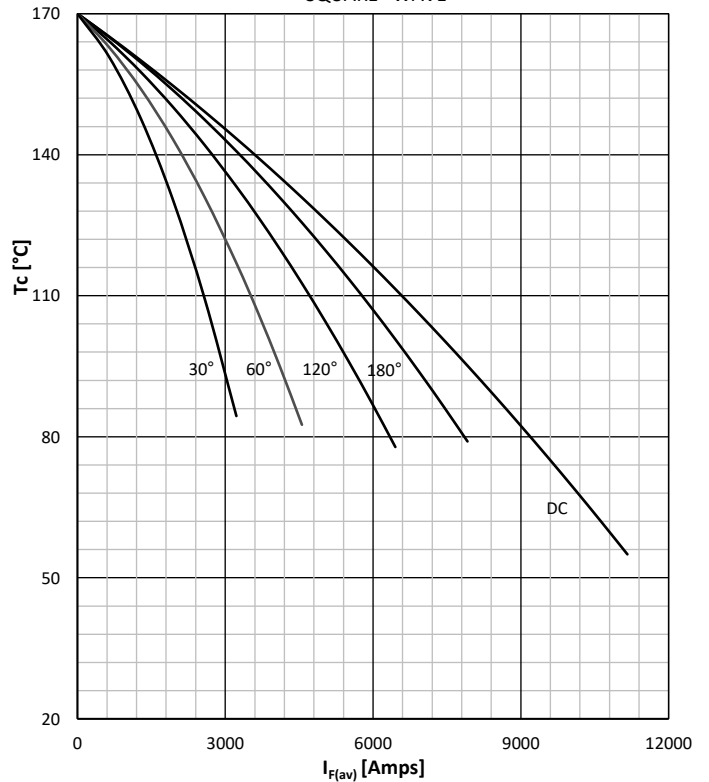
SINE WAVE

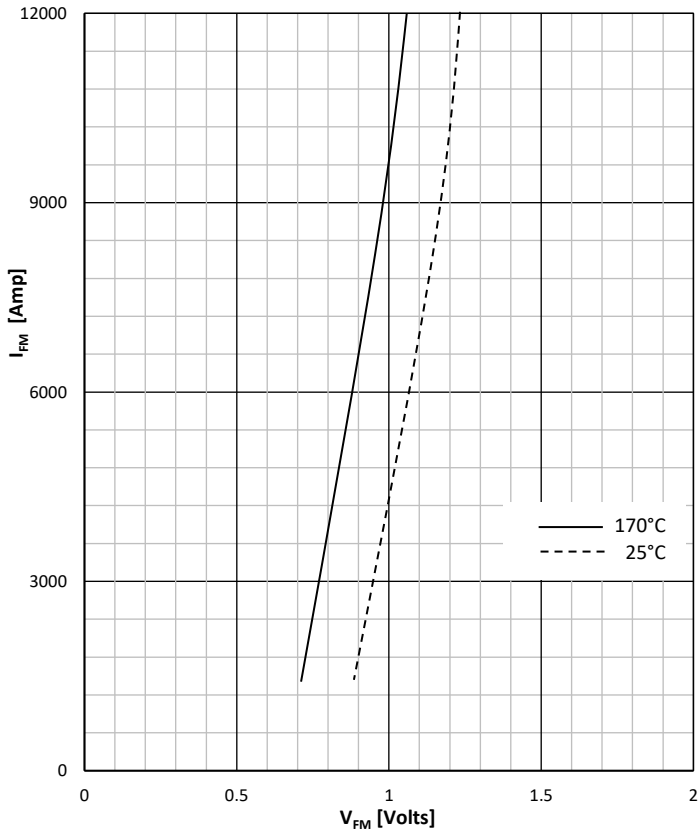
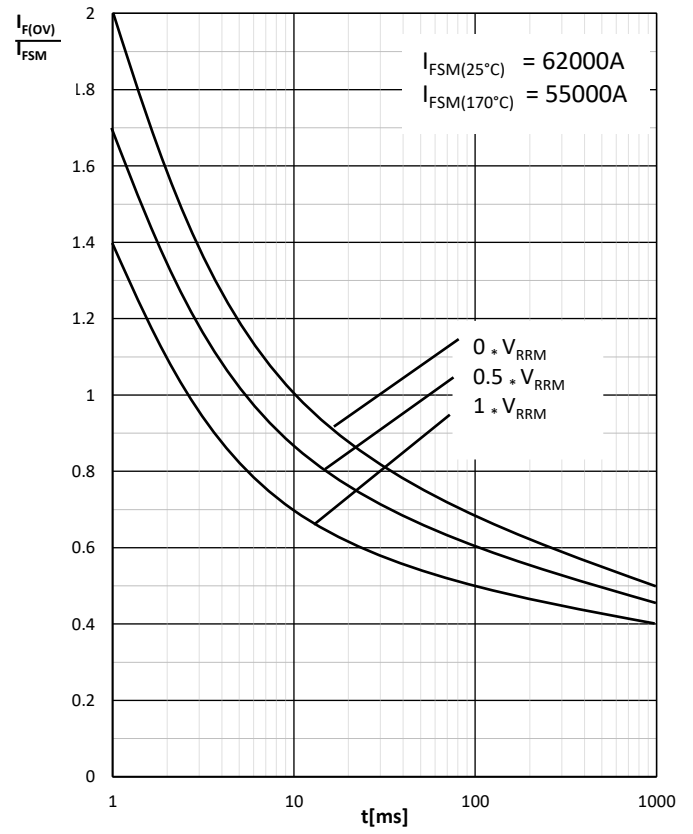

DISSIPATION CHARACTERISTICS

SQUARE WAVE


FORWARD CURRENT DERATING CURVE

SQUARE WAVE



FORWARD CHARACTERISTIC

SURGE CHARACTERISTICS

TRANSIENT THERMAL IMPEDANCE, DSC
