

THYRISTOR MODULE

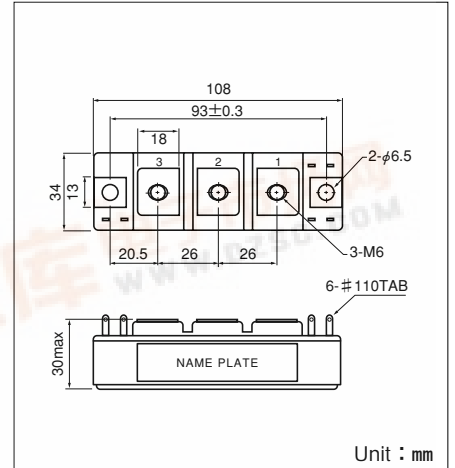
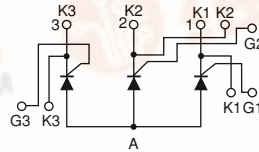
PWB200AA

PWB200AA is a Thyristor module suitable for low voltage, 3 phase recifier applications.

- $I_{T(AV)}$ 200A (each device)
- high Surge Current 6000 A (60Hz)
- Easy Construction
- Non-isolated. Mounting base as common Anode terminal

(Applications)

Welding power Supply
Various DC power Supply



Maximum Ratings

Symbol	Item	Ratings		Unit
		PWB200AA30	PWB200AA40	
V_{RRM}	Repetitive Peak Reverse Voltage	300	400	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	360	480	V
V_{DRM}	Repetitive Peak Off-State Voltage	300	400	V

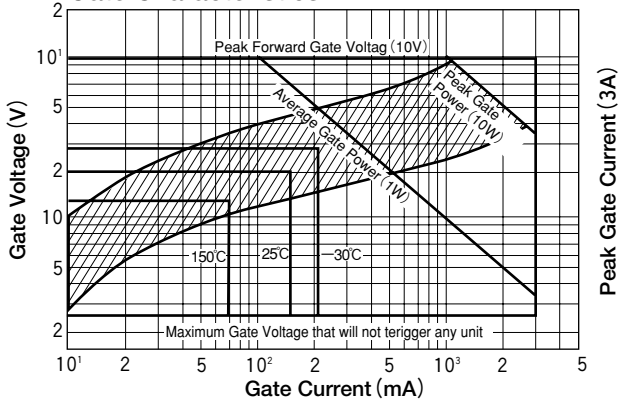
Symbol	Item	Conditions	Ratings	Unit
$I_{T(AV)}$	Average On-State Current	Single phase, half wave, 180° conduction, $T_c : 121^\circ\text{C}$	200	A
$I_{T(RMS)}$	R.M.S. On-State Current	Single phase, half wave, 180° conduction, $T_c : 121^\circ\text{C}$	314	A
I_{TSM}	Surge On-State Current	1/2 cycle, 50Hz/60Hz, peak value, non-repetitive	5400/6000	A
I^2t	I^2t		1499400	A ² S
P_{GM}	Peak Gate Power Dissipation		10	W
$P_{G(AV)}$	Average Gate Power Dissipation		1	W
I_{FGM}	Peak Gate Current		3	A
V_{FGM}	Peak Gate Voltage (Forward)		10	V
V_{RGM}	Peak Gate Voltage (Reverse)		5	V
di/dt	Critical Rate of Rise of On-State Current	$I_G=200\text{mA}, T_j=25^\circ\text{C}, V_D=1/2V_{DRM}, di/dt=1\text{A}/\mu\text{s}$	50	A/ μs
T_j	Operating Junction Temperature		-40 to +150	°C
T_{stg}	Storage Temperature		-40 to +125	°C
Mounting torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
	Terminal (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	
Mass			280	g

Electrical Characteristics

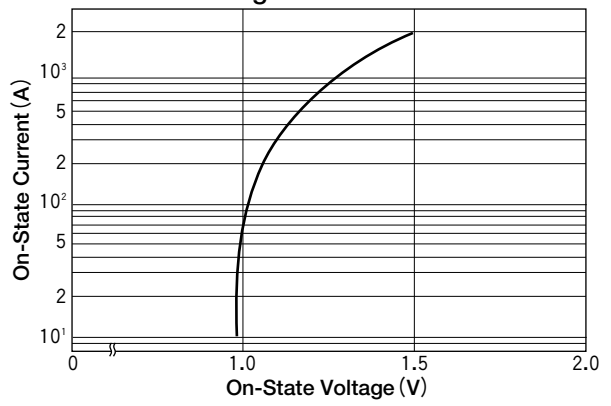
Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Repetitive Peak Off-State Current, max.	at V_{DRM} , Single phase, half wave, $T_j=150^\circ\text{C}$	60	mA
I_{RRM}	Repetitive Peak Reverse Current, max.	at V_{DRM} , Single phase, half wave, $T_j=150^\circ\text{C}$	60	mA
V_{TM}	Peak On-State Voltage, max.	On-State Current 630A, $T_j=25^\circ\text{C}$ Inst. measurement	1.20	V
I_{GT}	Gate Trigger Current, max.	$T_j=25^\circ\text{C}, I_T=1\text{A}, V_D=6\text{V}$	150	mA
V_{GT}	Gate Trigger Voltage, max.	$T_j=25^\circ\text{C}, I_T=1\text{A}, V_D=6\text{V}$	2	V
V_{GD}	Non-Trigger Gate, Voltage. min.	$T_j=150^\circ\text{C}, V_D=1/2V_{DRM}$	0.25	V
t_{gt}	Turn On Time, max.	$I_T=200\text{A}, I_G=200\text{mA}, T_j=25^\circ\text{C}, V_D=1/2V_{DRM}, di/dt=1\text{A}/\mu\text{s}$	10	μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_j=150^\circ\text{C}, V_D=2/3V_{DRM}$, Exponential wave.	200	V/ μs
I_H	Holding Current, typ.	$T_j=25^\circ\text{C}$	70	mA
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case (1/3 Module)	0.12	°C/W



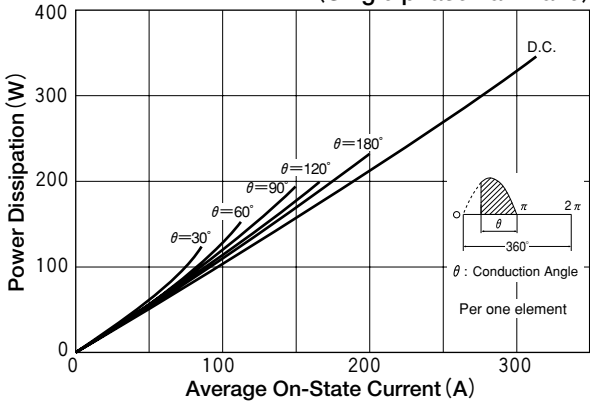
Gate Characteristics



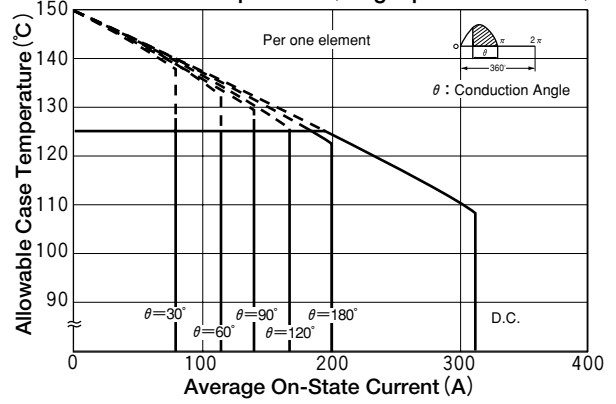
On-State Voltage max



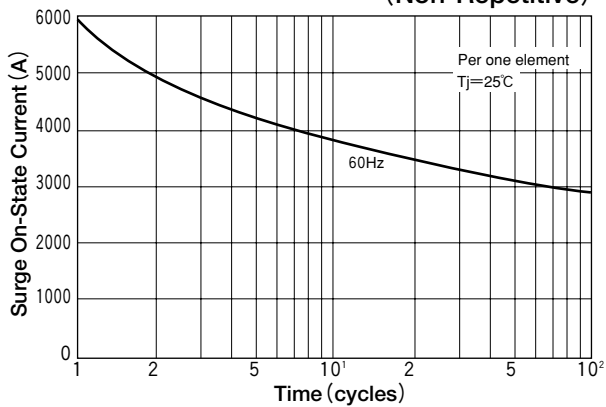
Average On-State Current Vs Power Dissipation (Single phase half wave)



Average On-State Current Vs Maximum Allowable Case Temperature (Single phase half wave)



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

