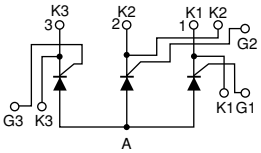
THYRISTOR MODULE

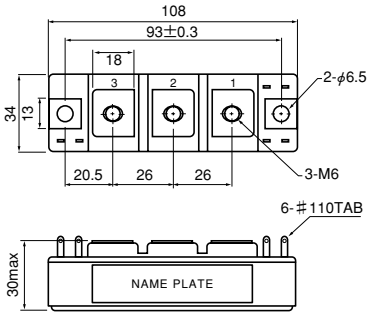
PWB200AA

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





Unit：mm

■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, Tc：121℃	200	A
$I_{T(RMS)}$	R.M.S. On-State Current		Single phase, half wave, 180˚conduction, Tc：121℃	314	A
I_{TSM}	Surge On-State Current		½cycle, 50Hz/60Hz, peak value, non-reqetitive	5400/6000	A
I^2t	I^2t			1499400	A^2S
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=200mA, Tj=25℃, V_D=½V_{DRM}, dI_G/dt=1A/μs	50	A/μs
Tj	Operating Junction Temperature			−40 to +150	℃
Tstg	Storage Temperature			−40 to +125	℃
	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, Tj=150℃	60	mA
I_{RRM}	Repetitive Peak Reverse Current, max.	at V_{DRM}, Single phase, half wave, Tj=150℃	60	mA
V_{TM}	Peak On-State Voltage, max.	On-State Current 630A, Tj=25℃Inst. measurement	1.20	V
I_{GT}	Gate Trigger Current, max.	Tj=25℃, I_T=1A, V_D=6V	150	mA
V_{GT}	Gate Trigger Voltage, max.	Tj=25℃, I_T=1A, V_D=6V	2	V
V_{GD}	Non-Trigger Gate, Voltage. min.	Tj=150℃, V_D=½V_{DRM}	0.25	V
tgt	Turn On Time, max.	I_T=200A, I_G=200mA, Tj=25℃, V_D=½V_{DRM}, dI_G/dt=1A/μs	10	μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	Tj=150℃, V_D=⅔V_{DRM}, Exponential wave.	200	V/μs
I_H	Holding Current, typ.	Tj=25℃	70	mA
Rth(j-c)	Thermal Impedance, max.	Junction to case（⅓Module）	0.12	℃/W

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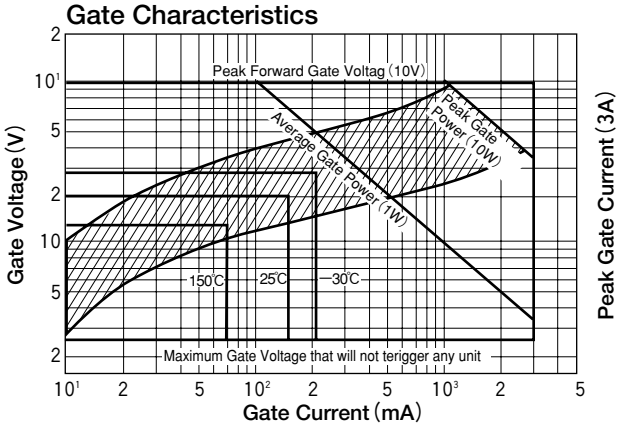
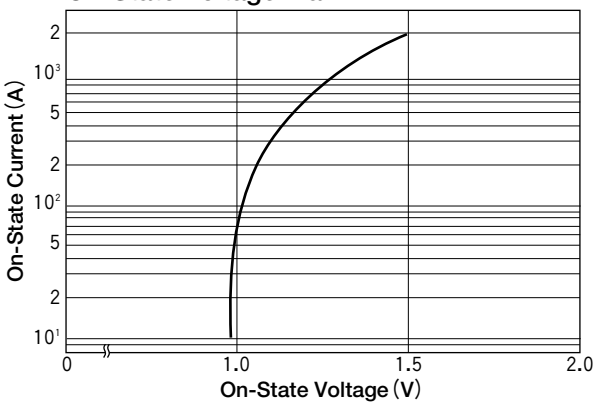
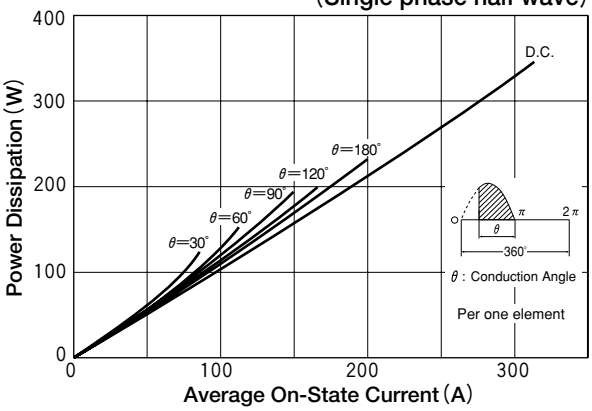
Gate Characteristics



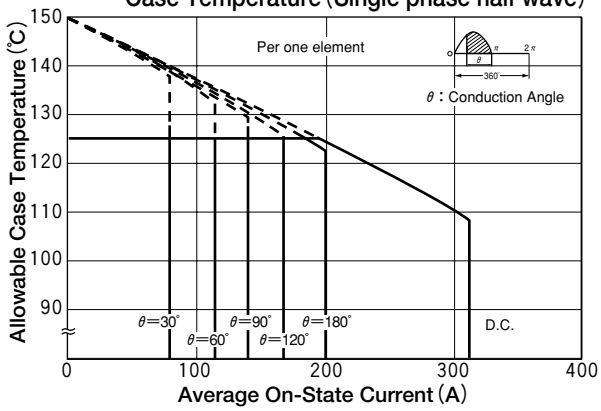
On-State Voltage max



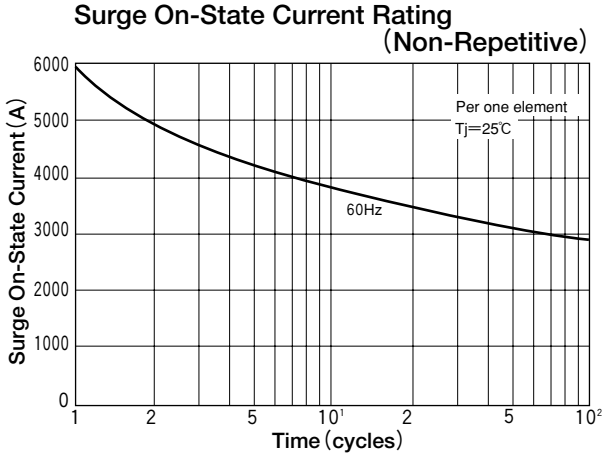
Average On-State Current Vs Power Dissipation (Single phase half wave)



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



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance