

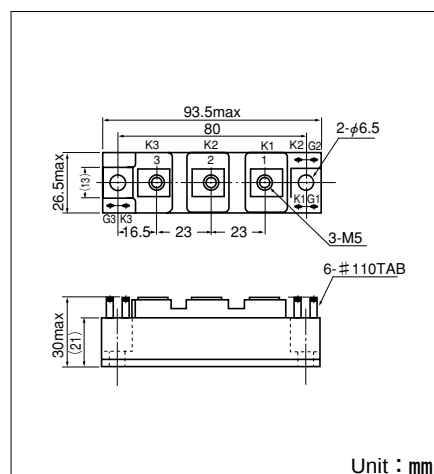
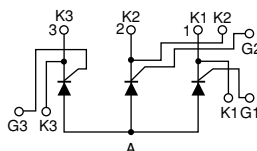
PWB130A

PWB130A is a Thyristor module suitable for low voltage, 3 phase rectifier applications.

- $I_{T(AV)}$ 130A (each device)
- high Surge Current 3500 A (50/60Hz)
- Easy Construction
- Non-isolated. Mounting base as common Anode terminal

(Applications)

Welding power Supply
Various DC power Supply



■ Maximum Ratings

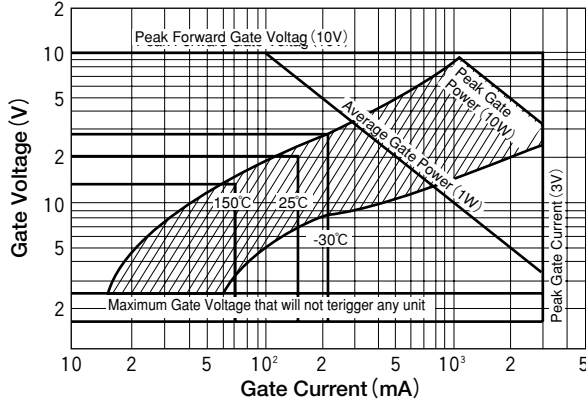
Symbol	Item	Ratings			Unit
		PWB130A20	PWB130A30	PWB130A40	
VRRM	Repetitive Peak Reverse Voltage	200	300	400	V
VRSM	Non-Repetitive Peak Reverse Voltage	240	360	480	V
VDRM	Repetitive Peak Off-State Voltage	200	300	400	V

Symbol	Item		Conditions	Ratings	Unit
I _{T(AV)}	Average On-State Current		Single phase, half wave, 180° conduction, T _c : 112℃	130	A
I _{T(RMS)}	R.M.S. On-State Current		Single phase, half wave, 180° conduction, T _c : 112℃	204	A
I _{TSM}	Surge On-State Current		½cycle, 50Hz/60Hz, peak value, non-repetitive	3200/3500	A
I ² t	I ² t			51000	A²S
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 On-State Current		I _G =200mA, T _j =25℃, V _D =½V _{DRM} , dI _G /dt=1A/μs	50	A/μs
T _j	Operating Junction Temperature			−30 to +150	℃
T _{stg}	Storage Temperature			−30 to +125	℃
	Mounting torque	Mounting (M6)	Recommended 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended 1.5-2.5 (15-25)	2.7 (28)	
	Mass			170	g

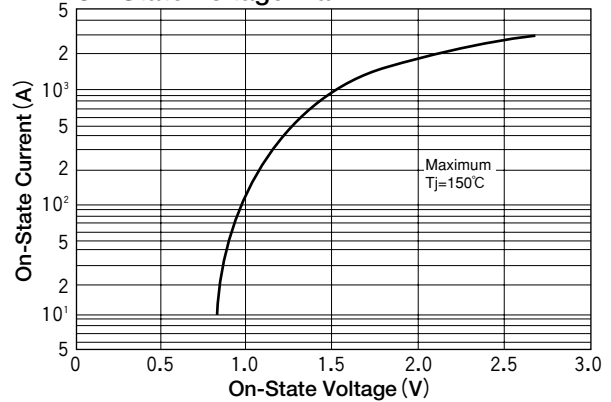
■ Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Mix.	Typ.	Min.	
IDRM	Repetitive Peak Off-State Current, max.	at V_{DRM} , single phase, half wave, $T_j=150^{\circ}C$			30	mA
IRRM	Repetitive Peak Reverse Current, max.	at V_{DRM} , single phase, half wave, $T_j=150^{\circ}C$			30	mA
V_{TM}	Peak On-State Voltage, max.	On-State Current 410A, $T_j=150^{\circ}C$ Inst. measurement			1.2	V
I_{GT}	Gate Trigger Current, max.	$T_j=25^{\circ}C$, $I_T=1A$, $V_D=6V$			150	mA/V
V_{GT}	Gate Trigger Voltage, max.	$T_j=25^{\circ}C$, $I_T=1A$, $V_D=6V$			2	mA/V
V_{GD}	Non-Trigger Gate, Voltage. min.	$T_j=150^{\circ}C$, $V_D=\frac{1}{2}V_{DRM}$	0.25			V
tgt	Turn On Time, max.	$I_T=100A$, $I_G=200mA$, $T_j=25^{\circ}C$, $V_D=\frac{1}{2}V_{DRM}$, $dI_G/dt=1A/\mu s$			10	μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_j=150^{\circ}C$, $V_D=\frac{2}{3}V_{DRM}$, Exponential wave.	50			V/ μs
I_H	Holding Current, typ.	$T_j=25^{\circ}C$			70	mA
Rth (j-c)	Thermal Impedance, max.	Junction to case ($\frac{1}{3}$ Module)			0.2	$^{\circ}C/W$

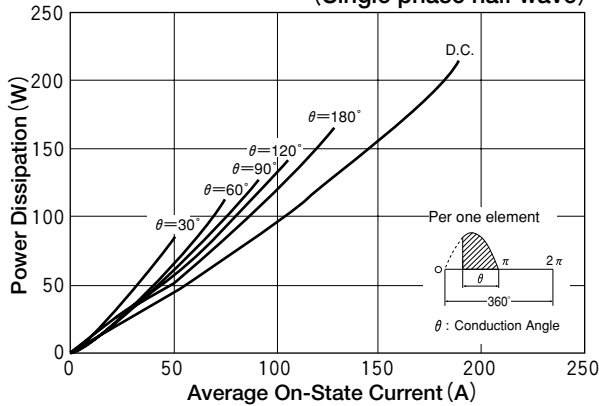
Gate Characteristics



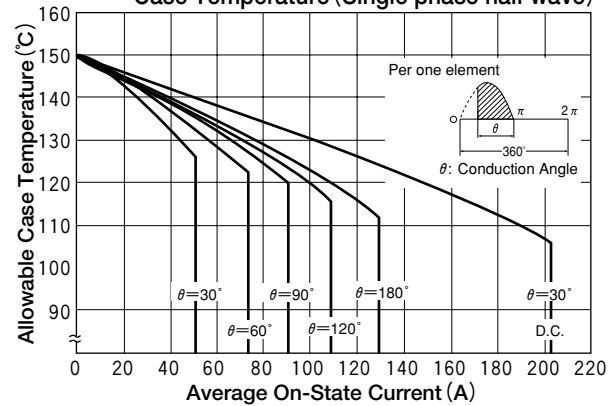
On-State Voltage max



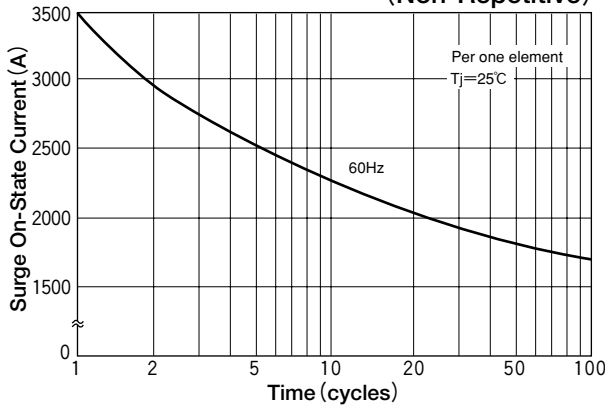
Average On-State Current Vs Power Dissipation (Single phase half wave)



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



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

