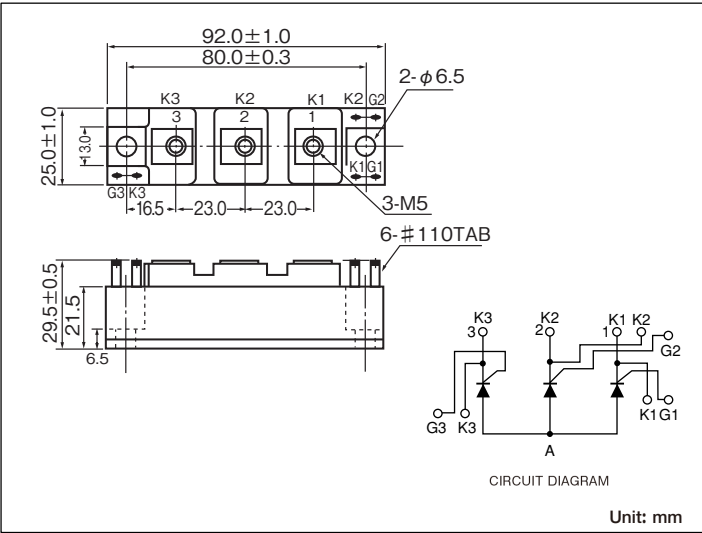


Thyristor Module (Non-Isolated Type)

PWB60A30/40

- 《Features》
- $I_{T(AV)}$ 60A (each device)
 - High Surge Current 1800 A (60Hz)
 - Easy Construction
 - Non-isolated. Mounting base as common Anode terminal

- 《Applications》
- Power Supply / Welding equipment



■ Maximum Ratings (Tj=25°C unless otherwise specified)

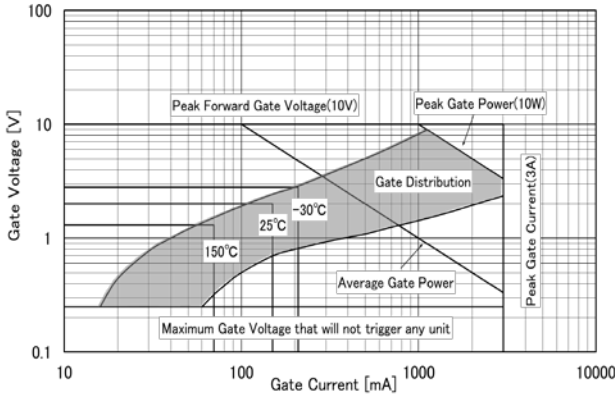
Item	Symbol	Unit	PWB60A30	PWB60A40
Repetitive Peak Reverse Voltage	V_{RRM}	V	300	400
Non-Repetitive Peak Reverse Voltage	V_{RSM}	V	360	480
Repetitive Peak off-State Voltage	V_{DRM}	V	300	400

Item	Symbol	Unit	Ratings	Conditions
Average On-State Current	$I_{T(AV)}$	A	60	Single phase, half wave, 180° conduction angle, Tc:123°C
R.M.S. On-State Current	$I_{T(RMS)}$	A	94	Single phase, half wave, 180° conduction angle, Tc:123°C
Surge On-State Current	I_{TSM}	A	1640/1800	1/2cycle, 50/60Hz, peak value, non-repetitive
I^2t (for fusing)	I^2t	A ² s	13500	
Peak Gate Power Dissipation	P_{GM}	W	10	
Average Gate Power Dissipation	$P_{G(AV)}$	W	1	
Peak Gate Current	I_{FGM}	A	3	
Peak Gate Voltage (Forward)	V_{FGM}	V	10	
Peak Gate Voltage (Reverse)	V_{RGM}	V	5	
Critical Rate of Rise of On-State Current	di/dt	A/ μ s	50	$I_G=150mA$ $V_D=1/2V_{DRM}$ $dI_G/dt=1A/ μ s$
Operating Junction Temperature	T_j	°C	-30 to +150	
Storage Temperature	T_{stg}	°C	-30 to +125	
Mounting Torque	Mounting M6	N·m (kgf·cm)	4.7 (48)	Recommended Value 2.5 to 3.9 (25 to 40)
	Terminal M5		2.7 (28)	Recommended Value 1.5 to 2.5 (15 to 25)
Mass		g	170	

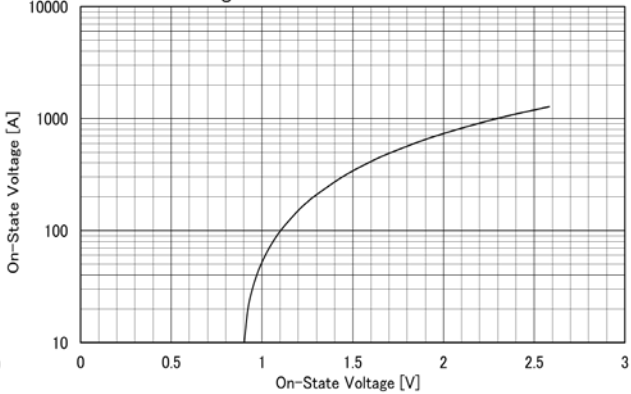
■ Electrical Characteristics (Tj=25°C unless otherwise specified)

Item	Symbol	Unit	Ratings	Conditions
Repetitive Peak Off-State Current, max	I_{DRM}	mA	10	at V_{DRM} , Single phase, half wave
Repetitive Peak Reverse Current, max	I_{RRM}	mA	10	at V_{RRM} , Single phase, half wave
Peak On-State Voltage, max	V_{TM}	V	1.25	On-State Current 180A Inst. measurement
Gate Trigger Current, max	I_{GT}	mA	150	$I_T=1A$ $V_D=6V$
Gate Trigger Voltage, max	V_{GT}	V	2	$I_T=1A$ $V_D=6V$
Non-Trigger Gate Voltage, min	V_{GD}	V	0.25	$T_j=150^{\circ}C$ $V_D=1/2V_{DRM}$
Turn On Time, max.	t_{gt}	μ s	10	$I_T=60A$ $I_G=150mA$ $V_D=1/2V_{DRM}$ $dI_G/dt=1A/ μ s$
Critical Rate of Rise of Off-State Voltage, min	dv/dt	V/ μ s	50	$T_j=150^{\circ}C$ $V_D=2/3V_{DRM}$ Exponential wave.
Holding Current, typ.	I_H	mA	100	
Thermal Resistance, max	R_{th}	°C/W	0.35	Junction to case

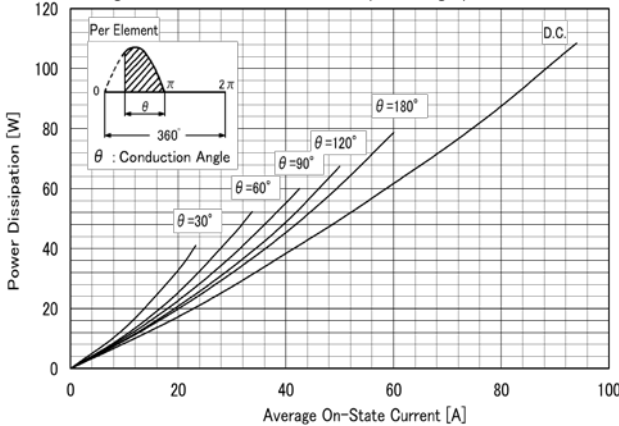
Gate Characteristics



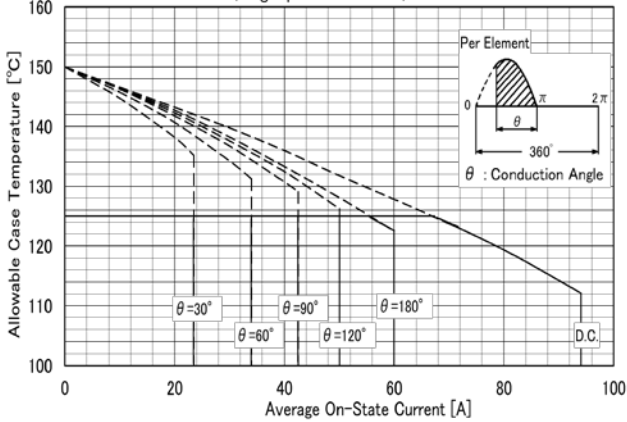
On-State Voltage



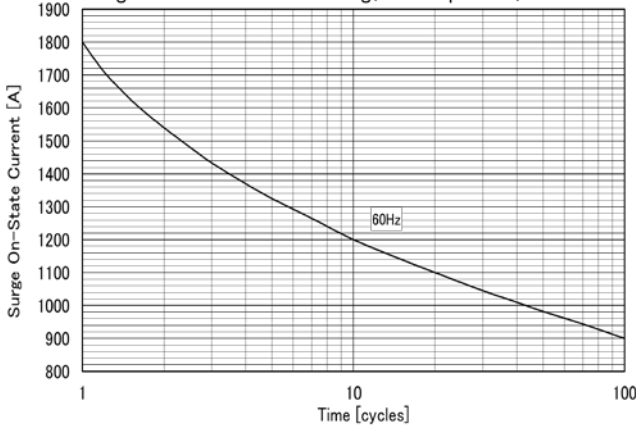
Average On-State Current vs. Power Dissipation(Single phase half wave)



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



Surge On-State Current Rating(Non-Repetitive)



Transient Thermal Impedance

