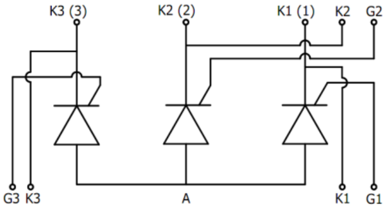
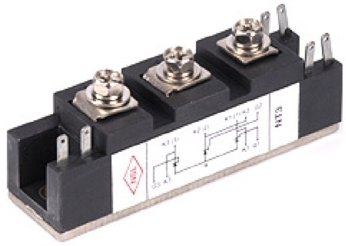
Non-isolated Thyristor Module, 80A

Features

- Low voltage three-phase
- High surge current capability
- Easy construction
- Non-isolated
- Mounting base as common anode





Voltage Ratings (T_C = 25°C unless otherwise specified)

Parameter	Symbol	PWB80A30	PWB80A40	Units
Maximum repetitive peak reverse voltage	V_{RRM}	300	400	V
Maximum non-repetitive peak reverse voltage	V_{RSM}	360	480	V
Maximum repetitive peak off-state voltage	V_{DRM}	300	400	V

Electrical Characteristics (T_C = 25°C unless otherwise specified)

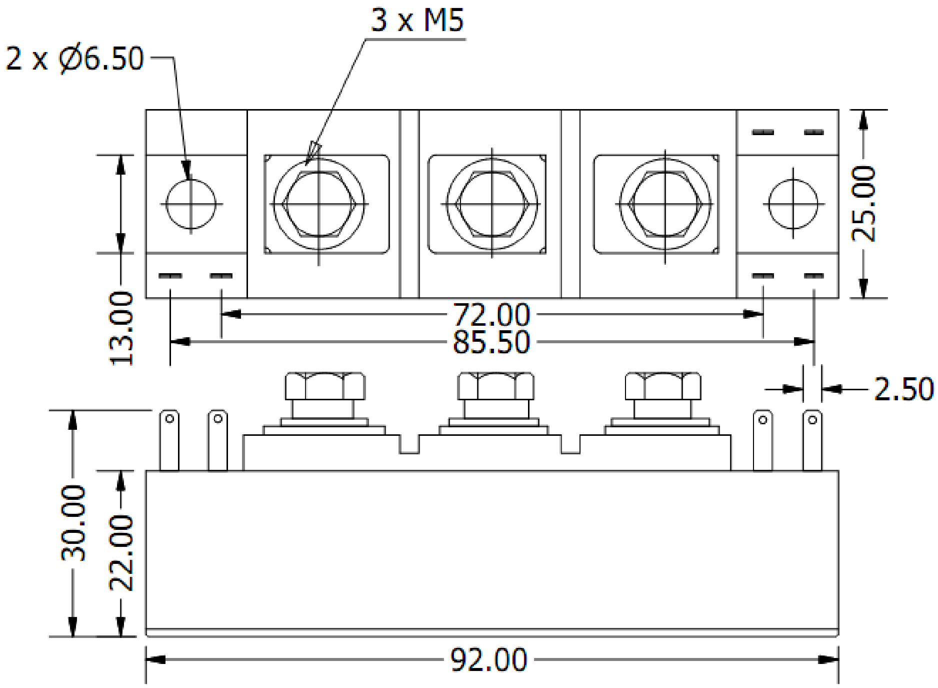
Parameter	Conditions	Symbol	Values	Units
Average on-state current	Single phase, half-wave, 180° conduction @ T_C = 116°C	$I_{T(AV)}$	80	A
R.M.S. on-state current		$I_{T(RMS)}$	125	A
On-state surge current	half cycle, 50Hz/60Hz, peak value, non-repetitive	I_{TSM}	2500	A
I^2t required for fusing		I^2t	31250	A^2S
Peak gate power dissipation		P_{GM}	10	W
Average gate power dissipation		$P_{GM(AV)}$	1	W
Peak gate current		I_{GM}	3	A
Peak gate voltage (forward)		V_{FGM}	10	V
Peak gate voltage (reverse)		V_{RGM}	5	V
Critical rate of rise of on-state current	I_G = 200mA, V_D = ½ V_{DRM} , dI_G/dt = 1 A/µs, T_J=25°C	di/dt	50	A/µs
Critical rate of rise of off-state voltage	T_J = 150°C, V_D = $^{2/3}$ V_{DRM} , exponential wave	dv/dt	50	V/µs
Holding current	T_J=25°C	I_H	100	mA
Peak on-state voltage	T_J=25°C	V_{TM}	1.20	V
Repetitive Peak Reverse Current	T_J=150°C, single phase, half wave	I_{RRM}	12	mA
Gate Trigger Current	T_J = 25°C, I_T = 1A, V_D=6V	I_{GT}	150	mA
Gate Trigger Voltage	T_J = 25°C, I_T = 1A, V_D=6V	V_{GT}	2	V

Thermal & Mechanical Specifications (T_C = 25°C unless otherwise specified)

Parameter	Symbol	Values	Units
Operating junction temperature range	T_J	-30 to +150	°C
Storage temperature range	T_{STG}	-30 to +125	°C
Thermal resistance, junction to case	$R_{th(JC)}$	0.35	°C/W

Package Outline

(All dimensions in mm)



Ordering Table

PWB	80	A	40
1	2	3	4

1 – Half-bridge Thyristor Module
2 - Current Rating = $I_{F(AV)}$
3 – Package type
4 – Voltage = V_{RRM} (Voltage Ratings Table)