

THYRISTOR MODULE (THREE PHASES A.C. CONTROL)

PFB15AA

TOP



UL:E76102 (M)

PFB15AA is a 6 chip Thyristor module which contains 3 independent back-to-back SCR configurations.

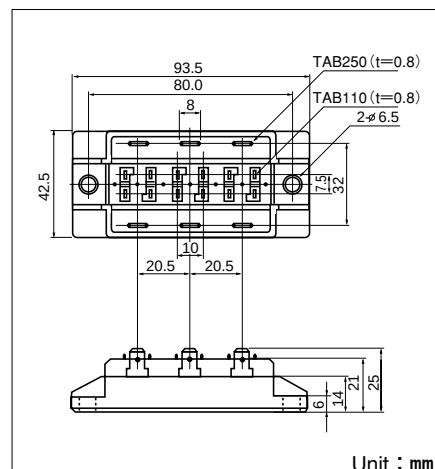
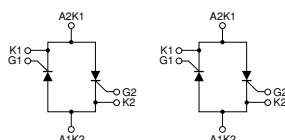
- Easy construction by 3 phase back-to back SCRs in one package.
- high voltage 1600V

(Applications)

SSR

3 Phase Motor Control

Heater Control



Maximum Ratings

(T_j=25°C unless otherwise specified)

Symbol	Item	Ratings					Unit
		PFB15AA80	PFB15AA100	PFB15AA120	PFB15AA140	PFB15AA160	
V _{DRM}	Repetitive Peak Off-State Voltage	800	1000	1200	1400	1600	V

Symbol	Item	Conditions	Ratings	Unit
I _{T(AV)}	Average On-State Current	Single phase, half wave, 180° conduction, T _c : 77°C	15	A
I _{T(RMS)}	R.M.S. On-State Current	T _c : 77°C	33	A
I _{TSM}	Surge On-State Current	1/2 cycle, 50Hz/60Hz, peak value, non-repetitive	320/350	A
I ² t	I ² t		512	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 =100mA, T _j =25°C, V _D =1/2 V _{DRM} , di _G /dt=1A/μs	100	A/μs
V _{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V
T _j	Operating Junction Temperature		-40 to +125	°C
T _{stg}	Storage Temperature		-40 to +125	°C
	Mounting Torque (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
	Mass		160	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 =125°C	10	mA
V _{TM}	Peak On-State Voltage, max.	On-State Current 45A, T _j =125°C Inst. measurement	1.75	mV
I _{GT} /V _{GT}	Gate Trigger Current/Voltage, max.	T _j =25°C, I _T =1A, V _D =6V	70/3	mA/V
V _{GD}	Non-Trigger Gate, Voltage. min.	T _j =125°C, V _D =1/2 V _{DRM}	0.25	V
t _{gt}	Turn On Time, max.	I _T =15A, I _G =100mA, T _j =25°C, V _D =1/2 V _{DRM} , di _G /dt=1A/μs	10	μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	T _j =125°C, V _D =2/3 V _{DRM} , Exponential wave.	500	V/μs
I _H	Holding Current, typ.	T _j =25°C	50	mA
I _L	Latching Current, typ.	T _j =25°C	100	mA
R _{th(j-c)}	Thermal Impedance, max. (one element)	Junction to case	1.90	°C/W
R _{th(j-c)}	Thermal Impedance, max. (six element)	Junction to case	0.317	°C/W

