

XI'AN IR-PERI



Company

PRELIMINARY

MFC310TM120/180

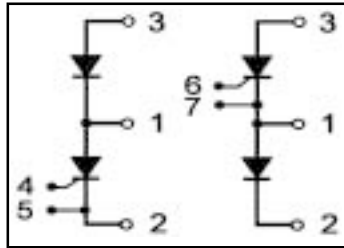
Thyristor Modules MAGN -A -PAK

Features

- International standard package
With DBC ceramic base plate
- Planar passivated chips
- High surge capability
- UL recognition pending

Benefits

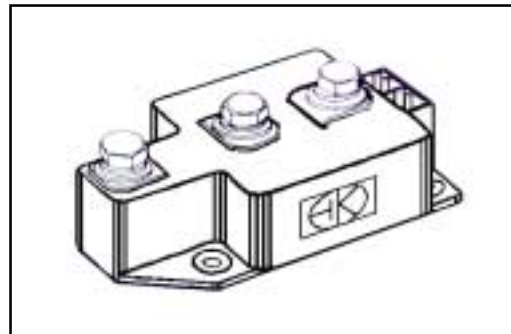
- DC motor control
- Simple AC motor controller
- Light, heat and temperature control



VRRM = 1200V- 1800V
IFAVM = 2x310A
IFRMS = 2x500A

Voltage Ratings

Voltage Code	VRRM(V)	VRSM(V)	IRRM T _J =25°C(mA)
	VDRM(V)	VDSM(V)	IDRM T _J =25°C(mA)
120	1200	1300	1.0
140	1400	1500	1.0
160	1600	1700	1.0
180	1800	1900	1.0



Absolute Maximum Ratings

Symbol	Test Conditions	Max.	Units	
IFRMS	T _{VJM} =125°C	500	A	
IFAVM	T _c =83°C; 180° sine	320	A	
	T _c =85°C; 180° sine	310	A	
IFSM	T _{VJ} =45°C; t=10ms (50 Hz),sine	9200	A	
	V _R =0 t=8.3ms (60 Hz),sine	9800	A	
	T _{VJ} =125°C; t=10ms (50 Hz),sine	8000	A	
	V _R =0 t=8.3ms (60 Hz),sine	8600	A	
I ² t	T _{VJ} =45°C; t=10ms (50 Hz),sine	420000	A ² s	
	V _R =0 t=8.3ms (60 Hz),sine	400000	A ² s	
	T _{VJ} =125°C; t=10ms (50 Hz),sine	320000	A ² s	
	V _R =0 t=8.3ms (60 Hz),sine	306000	A ² s	
di/dt	f=50Hz, t _p =200μs, V _D =2/3V _{DRM} I _G =1.0A, di _G /dt=1.0A/μs, T _{VJ} =T _{VJM}	repetitive, I _T =960A	100	A/μs
		non repetitive, I _T =320A	500	A/μs
dv/dt	T _{VJ} =T _{VJM} ; V _D =2/3V _{DRM} (linear voltage rise)	1000	V/μs	
V _{ISOL}	RMS Isolation Voltage, Any Terminal To Case, t=1 min	2500	V	
T _{VJ}		-40 to +125	°C	
T _{VJM}		125		
T _{STG}		-40 to +125		

Thermal / Mechanical Characteristics

	Parameter	Typ.	Max.	Units
R _{θJS}	Thermal Resistance, Junction-to- Sink DC	-	0.20	°C/W
R _{θJC}	Thermal Resistance, Junction-to- Case DC	-	0.12	°C/W
	Mouting Torque, Case-to-Heatsink	-	4.0	N.m
	Mouting Torque, Case-to-Terminal 1,2 & 3	-	12j«15	N.m
	Weight of Module	230	-	g

Electrical Characteristics (unless otherwise specified)

	Test Conditions	Min.	Typ.	Max.	Units
IRRM, IDRM	T _{VJ} =T _{VJM} ; V _R =V _{RRM} ; V _D =V _{DRM}	-	-	50	mA
V _T & V _F	I _T =600A; T _{VJ} =25°C	-	-	1.33	V
V _{TO}	For power-loss calculations only(T _{VJ} =125°C)	-	-	0.8	V
r _T		-	-	0.82	mΩ
V _{GT}	V _D =6V; T _{VJ} =25°C	-	-	2.0	V
I _{GT}	V _D =6V; T _{VJ} =25°C	-	-	150	mA
V _{GD}	T _{VJ} =T _{VJM} ; V _D =2/3V _{DRM}	-	-	0.25	V
I _{GD}		-	-	10	mA
I _L	T _{VJ} =25°C; t _p =30μs; V _D =6V; I _G =0.45A; di _G /dt=0.45A/μs	-	-	200	mA
I _H	T _{VJ} =25°C; V _D =6V	-	-	150	mA
t _{gd}	T _{VJ} =25°C; V _D =1/2V _{DRM} ; I _G =0.5A; di _G /dt=0.5A/μs	-	-	2	μs
t _q	T _{VJ} =T _{VJM} ; I _T =160A, t _p =200 μs; -di/dt=10A/ μs V _R =100V; dv/dt=20V/ μs; V _D =2/3V _{DRM}	-	200	-	μs
Q _S	T _{VJ} =125°C; I _T =300A, -di/dt=50A/ μs	-	-	760	μC
I _{RM}		-	-	275	A

Case Outline - m-a-pak

