

XI'AN IR-PERI



Company

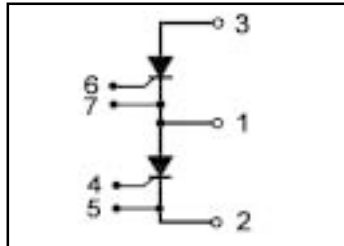
PRELIMINARY

MTC40TA120/180

Thyristor Modules Add -A -PAK

Features

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



VRRM = 1200V- 1800V

IFAVM = 2x40A

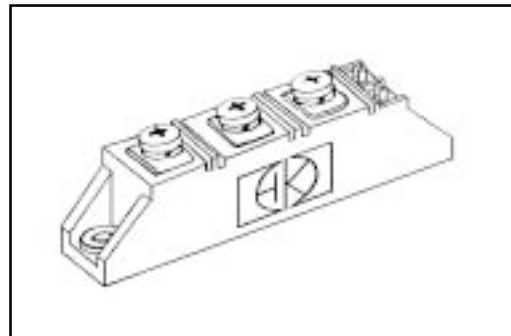
IFRMS = 2x70A

Benefits

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

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	70	A	
IFAVM	T _c =83 °C; 180° sine	43	A	
	T _c =85 °C; 180° sine	40	A	
IFSM	T _{VJ} =45 °C; t=10ms (50 Hz),sine	1050	A	
	V _R =0 t=8.3ms (60 Hz),sine	1100	A	
	T _{VJ} =125 °C; t=10ms (50 Hz),sine	900	A	
	V _R =0 t=8.3ms (60 Hz),sine	970	A	
I ² t	T _{VJ} =45 °C; t=10ms (50 Hz),sine	5600	A ² s	
	V _R =0 t=8.3ms (60 Hz),sine	5280	A ² s	
	T _{VJ} =125 °C; t=10ms (50 Hz),sine	4000	A ² s	
	V _R =0 t=8.3ms (60 Hz),sine	3750	A ² s	
di/dt	f=50Hz, t _p =200μs, V _D =2/3V _{DRM}	repetitive, I _T =150A	150	A/μs
	I _G =0.45A, di _G /dt=0.45A/μs, T _{VJ} =T _{VJM}		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 θ JS	Thermal Resistance, Junction-to- Sink DC	-	0.75	
R θ JC	Thermal Resistance, Junction-to- Case DC	-	0.55	°C/W
	Mouting Torque, Case-to-Heatsink	-	4.0	N.m
	Mouting Torque, Case-to-Terminal 1,2 & 3	-	3.0	
	Weight of Module	100	-	g

Electrical Characteristics (unless otherwise specified)

	Test Conditions	Min.	Typ.	Max.	Units
I _{RRM} , I _{DRM}	T _{VJ} =T _{VJM} ; V _R =V _{RRM} ; V _D =V _{DRM}	-	-	5	mA
V _T	I _T =200A; T _{VJ} =25 °C	-	-	1.65	V
V _{TO}	For power-loss calculations only (T _{VJ} =125 °C)	-	-	0.85	V
r _T		-	-	5.3	mΩ
V _{GT}	V _D =6V; T _{VJ} =25 °C	-	-	1.5	V
I _{GT}	V _D =6V; T _{VJ} =25 °C	-	-	100	mA
V _{GD}	T _{VJ} =T _{VJM} ; V _D =2/3V _{DRM}	-	-	0.2	V
I _{GD}		-	-	10	mA
I _L	T _{VJ} =25 °C; t _p =10μs; V _D =6V; I _G =0.45A; di _G /dt=0.45A/μs	-	-	450	mA
I _H	T _{VJ} =25 °C; V _D =6V	-	-	200	mA
t _{gd}	T _{VJ} =25 °C; V _D =1/2V _{DRM} ; I _G =0.45A; di _G /dt=0.45A/μs	-	-	2	μs
t _q	T _{VJ} =T _{VJM} ; I _T =120A, t _p =200 μs; -di/dt=10A/ μs V _R =100V; dv/dt=20V/ μs; V _D =2/3V _{DRM}	-	150	-	μs
Q _s	T _{VJ} =125 °C; I _T =50A, -di/dt=0.64A/ μs	-	-	80	μC
I _{RM}		-	-	9	A

Case Outline - a-a-pak

