

XI'AN IR-PERI



PRELIMINARY

MTC160TS120/180

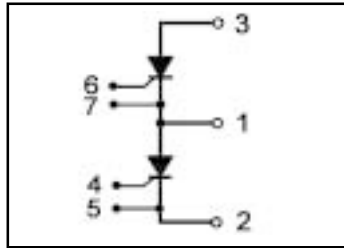
Thyristor Modules INT -A -PAK

Features

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

Benefits

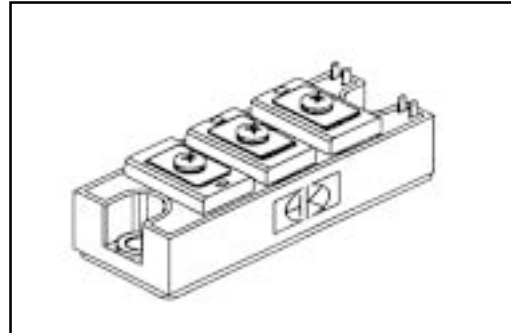
- DC motor control
- Simple AC motor controller
- Light, heat and temperature control



V_{RRM} = 1200V - 1800V
I_{FAVM} = 2x160A
I_{FRMS} = 2x350A

Voltage Ratings

Voltage Code	V _{RRM} (V)	V _{RSM} (V)	I _{RRM} T _J =25 °C(mA)
	V _{DRM} (V)	V _{DSM} (V)	I _{DRM} 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	
I _{FRMS}	T _{VJM} =125 °C	350	A	
I _{FAVM}	T _c =83 °C; 180° sine	170	A	
	T _c =85 °C; 180° sine	160	A	
I _{FSM}	T _{VJ} =45 °C; t=10ms (50 Hz), sine	6000	A	
	V _R =0 t=8.3ms (60 Hz), sine	6400	A	
	T _{VJ} =125 °C; t=10ms (50 Hz), sine	5250	A	
	V _R =0 t=8.3ms (60 Hz), sine	5600	A	
I ² t	T _{VJ} =45 °C; t=10ms (50 Hz), sine	180000	A ² s	
	V _R =0 t=8.3ms (60 Hz), sine	170000	A ² s	
	T _{VJ} =125 °C; t=10ms (50 Hz), sine	137000	A ² s	
	V _R =0 t=8.3ms (60 Hz), sine	128000	A ² s	
di/dt	f=50Hz, t _p =200μs, V _D =2/3V _{DRM} I _G =0.5A, di _G /dt=0.5A/μs, T _{VJ} =T _{VJM}	repetitive, I _T =500A	100	A/μs
		non repetitive, I _T =500A	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	-	0.28	
R _{θJC}	Thermal Resistance, Junction-to- Case DC	-	0.18	°C/W
	Mouting Torque, Case-to-Heatsink	-	4.0	N.m
	Mouting Torque, Case-to-Terminal 1,2 & 3	-	3.0	
	Weight of Module	200	-	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}	-	-	20	mA
V _T	I _T =600A; T _{VJ} =25 °C	-	-	1.84	V
V _{TO}	For power-loss calculations only(T _{VJ} =125 °C)	-	-	0.85	V
r _T		-	-	1.65	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}	-	150	-	μs
Q _S	T _{VJ} =125 °C; I _T =300A, -di/dt=50A/ μs	-	-	550	μC
I _{RM}		-	-	235	A

Case Outline - i-a-pak

