

XI'AN IR-PERI



Company

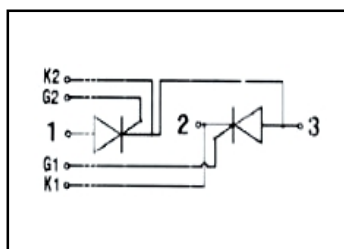
PRELIMINARY

MTC250TG160A

Thyristor Modules MAGN -A -PAK

Features

- International standard package
With ALN ceramic base plate
- Electrically isolated base plate
- High surge capability



$V_{RRM}=1600V$
 $I_{FAV} =2 \times 250A$
 $I_{FRMS}=2 \times 420A$

Benefits

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

Voltage Ratings

Voltage Code	060	080	120	140	160	180	200	240
$V_{RRM}(V)$ $V_{DRM}(V)$	600	800	1200	1400	1600	1800	2000	2400
$V_{RSM}(V)$ $V_{DSM}(V)$	720	960	1300	1500	1700	1900	2100	2500

Absolute Maximum Ratings

Symbol	Test Conditions		Max.	Units
IFRMS	TVJM=125 °C		420	A
IFAVM	TC=83 °C;180° sine		260	A
	TC=85 °C;180° sine		250	A
IFSM	TVJ=45°C; t=10ms (50 Hz),sine		9200	A
	VR=0 t=8.3ms (60 Hz),sine		9800	A
	TVJ=125°C; t=10ms (50 Hz),sine		8000	A
	VR=0 t=8.3ms (60 Hz),sine		8600	A
I²t	TVJ=45°C; t=10ms (50 Hz),sine		420000	A²s
	VR=0 t=8.3ms (60 Hz),sine		400000	A²s
	TVJ=125°C; t=10ms (50 Hz),sine		320000	A²s
	VR=0 t=8.3ms (60 Hz),sine		306000	A²s
di/dt	f=50Hz, tp=200µs, Vd=2/3VDRM	repetitive, IT=780A	100	A/µs
	IG=1.0A, dig/dt=1.0A/µs, TVJ=TVJM	non repetitive, IT=260A	500	A/µs
dv/dt	TVJ=TVJM; VD=2/3VDRM (linear voltage rise)		1000	V/µs
VISOL	RMS Isolation Voltage, Any Terminal To Case, t=1 min		2500	V
TVJ			-40 to +125	°C
TVJM			125	
TSTG			-40 to +125	

Thermal / Mechanical Characteristics

	Parameter	Typ.	Max.	Units
R _{θJS}	Thermal Resistance, Junction-to- Sink DC	-	0.15	°C/W
R _{θJC}	Thermal Resistance, Junction-to- Case DC	-	0.10	°C/W
	Mounting Torque, Case-to-Heatsink	-	4.0	N.m
	Mounting Torque, Case-to-Terminal 1,2 & 3	-	8-11	N.m
	Weight of Module	870	-	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}	-	-	50	mA
V _T	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 - TGA