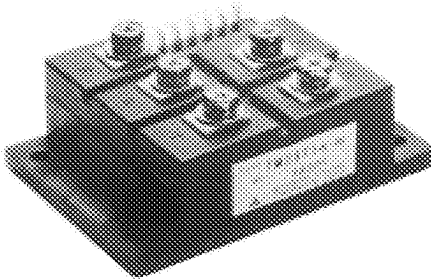


TM25T3A-M,-H

MEDIUM POWER GENERAL USE
INSULATED TYPE

TM25T3A-M,-H



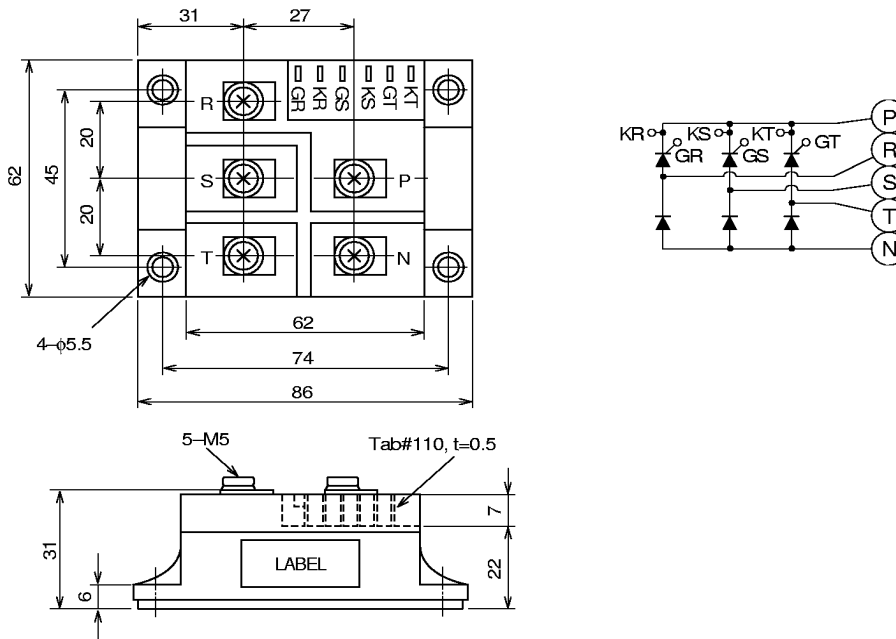
- **I_o** DC output current **60A**
 - **VRRM** Repetitive peak reverse voltage
..... **400/800V**
 - **VDRM** Repetitive peak off-state voltage
..... **400/800V**
 - **3 Phase Mix Bridge**
 - **Insulated Type**
 - **UL Recognized**
- Yellow Card No. E80276 (N)
File No. E80271

APPLICATION

DC motor control, NC equipment, AC motor control, contactless switches,
electric furnace temperature control, light dimmers

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



Feb.1999



TM25T3A-M,-H

MEDIUM POWER GENERAL USE
INSULATED TYPE

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Voltage class		Unit
		M	H	
VRRM	Repetitive peak reverse voltage	400	800	V
VRSM	Non-repetitive peak reverse voltage	480	960	V
VR(DC)	DC reverse voltage	320	640	V
VDRM	Repetitive peak off-state voltage	400	800	V
VDSM	Non-repetitive peak off-state voltage	480	960	V
Vb(DC)	DC off-state voltage	320	640	V

Symbol	Parameter	Conditions	Ratings	Unit
Io	DC output current	3-phase fullwave rectified, TC=76.6°C	60	A
ITSM, IFSM	Surge (non-repetitive) current	One half cycle at 60Hz, peak value	500	A
I _{F1}	I _{F1} for fusing	Value for one cycle of surge current	1.0 x 10 ³	A ² s
di/dt	Critical rate of rise of on-state current	V _D =1/2V _{DRM} , I _G =0.5A, T _J =125°C	100	A/μs
P _{GM}	Peak gate power dissipation		5.0	W
P _{G(AV)}	Average gate power dissipation		0.5	W
V _{FGM}	Peak gate forward voltage		10	V
V _{RGM}	Peak gate reverse voltage		5.0	V
I _{FGM}	Peak gate forward current		2.0	A
T _J	Junction temperature		-40~125	°C
T _{stg}	Storage temperature		-40~125	°C
V _{iso}	Isolation voltage	Charged part to case	2500	V
—	Mounting torque	Main terminal screw M5	1.47~1.96	N·m
			15~20	kg·cm
		Mounting screw M5	1.47~1.96	N·m
			15~20	kg·cm
—	Weight	Typical value	310	g

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I _{RRM}	Repetitive peak reverse current	T _J =125°C, V _{RRM} applied	—	—	4.0	mA
I _{DRM}	Repetitive peak off-state current	T _J =125°C, V _{DRM} applied	—	—	4.0	mA
V _{TM} , V _{FM}	Forward voltage	T _J =125°C, I _{TM} =I _{FM} =75A, instantaneous meas.	—	—	1.4	V
dv/dt	Critical rate of rise of off-state voltage	T _J =125°C, V _D =2/3V _{DRM}	500	—	—	V/μs
V _{GT}	Gate trigger voltage	T _J =25°C, V _D =6V, R _L =2Ω	—	—	2.0	V
V _{GD}	Gate non-trigger voltage	T _J =125°C, V _D =1/2V _{DRM}	0.25	—	—	V
I _{GT}	Gate trigger current	T _J =25°C, V _D =6V, R _L =2Ω	10	—	50	mA
R _{th(j-c)}	Thermal resistance	Junction to case (per 1/6 module)	—	—	1.5	°C/W
R _{th(c-f)}	Contact thermal resistance	Case to fin, Conductive grease applied (per 1/6 module)	—	—	0.36	°C/W
—	Insulation resistance	Measured with a 500V megohmmeter between main terminal and case	10	—	—	MΩ

Note: Items of the above table applies to the Thyristor part and the Diode part as circled in the following tables.



TM25T3A-M,-H

MEDIUM POWER GENERAL USE
INSULATED TYPE

MAXIMUM RATINGS

Item	VRRM	VRSM	VR(DC)	VDRM	VDSM	Vd(DC)	IT(RMS)	IT(AV)	ITSM	I ² t	di/dt
							IF(RMS)	IF(AV)	IFSM		
Thyristor	○	○	○	○	○	○	○	○	○	○	○
Diode	○	○	○	—	—	—	○	○	○	○	—

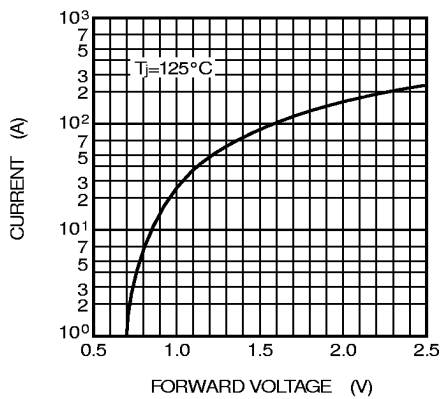
Item	PGM	PG(AV)	VFGM	IFGM	Tj	Tstg
Thyristor	○	○	○	○	○	○
Diode	—	—	—	—	○	○

ELECTRICAL CHARACTERISTICS

Item	IRRM	IDRM	VTM	dv/dt	VGT	VGD	IGT	Rth(j-c)	Rth(c-f)
			VFM						
Thyristor	○	○	○	○	○	○	○	○	○
Diode	○	—	○	—	—	—	—	○	○

PERFORMANCE CURVES

MAXIMUM FORWARD CHARACTERISTIC



RATED SURGE (NON-REPETITIVE) CURRENT

