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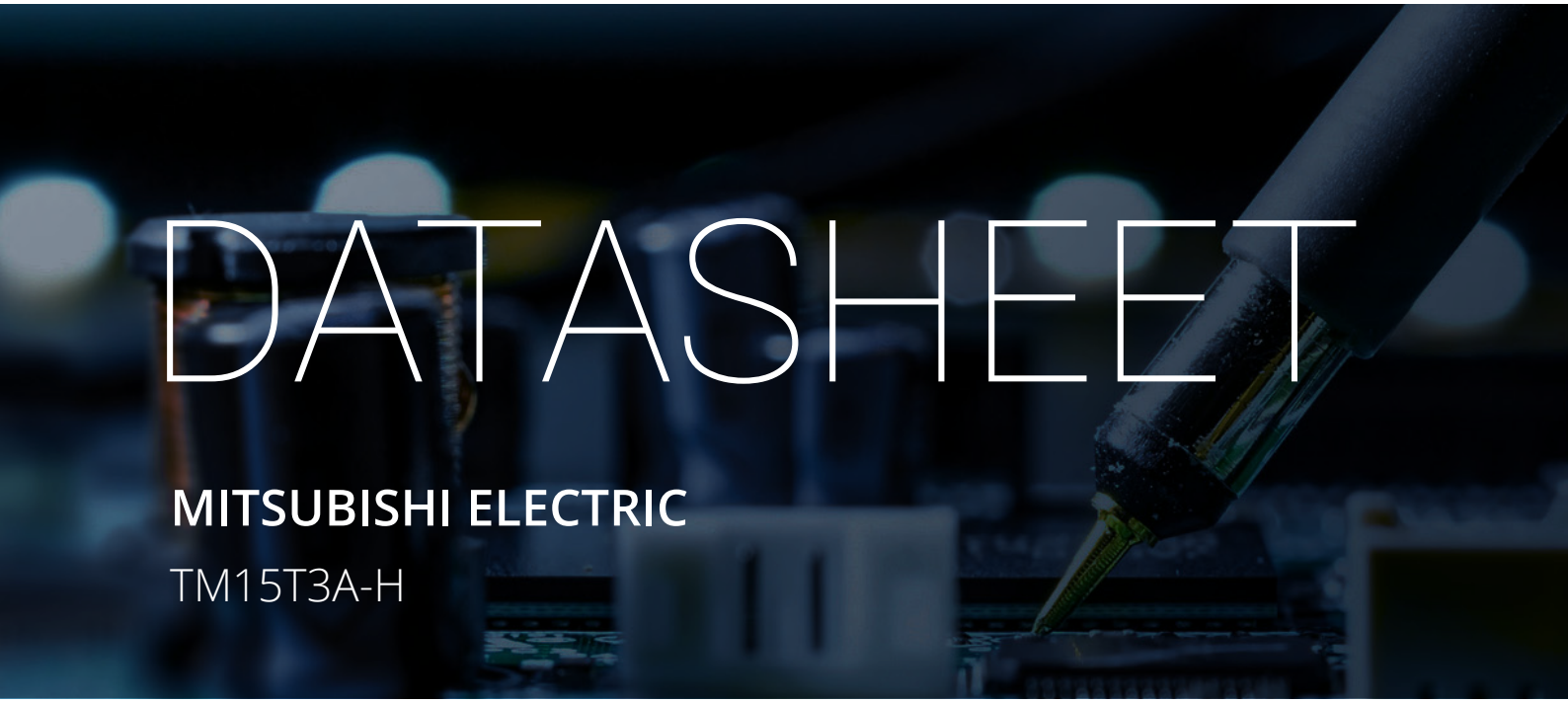
Centrum automatyki przemysłowej



DATASHEET

MITSUBISHI ELECTRIC

TM15T3A-H

OTHER SYMBOLS:

TM15T3AH, TM15T3A H, TM15T3A-H

RGB ELEKTRONIKA AGACIAK CIACIEK SPÓŁKA JAWNA

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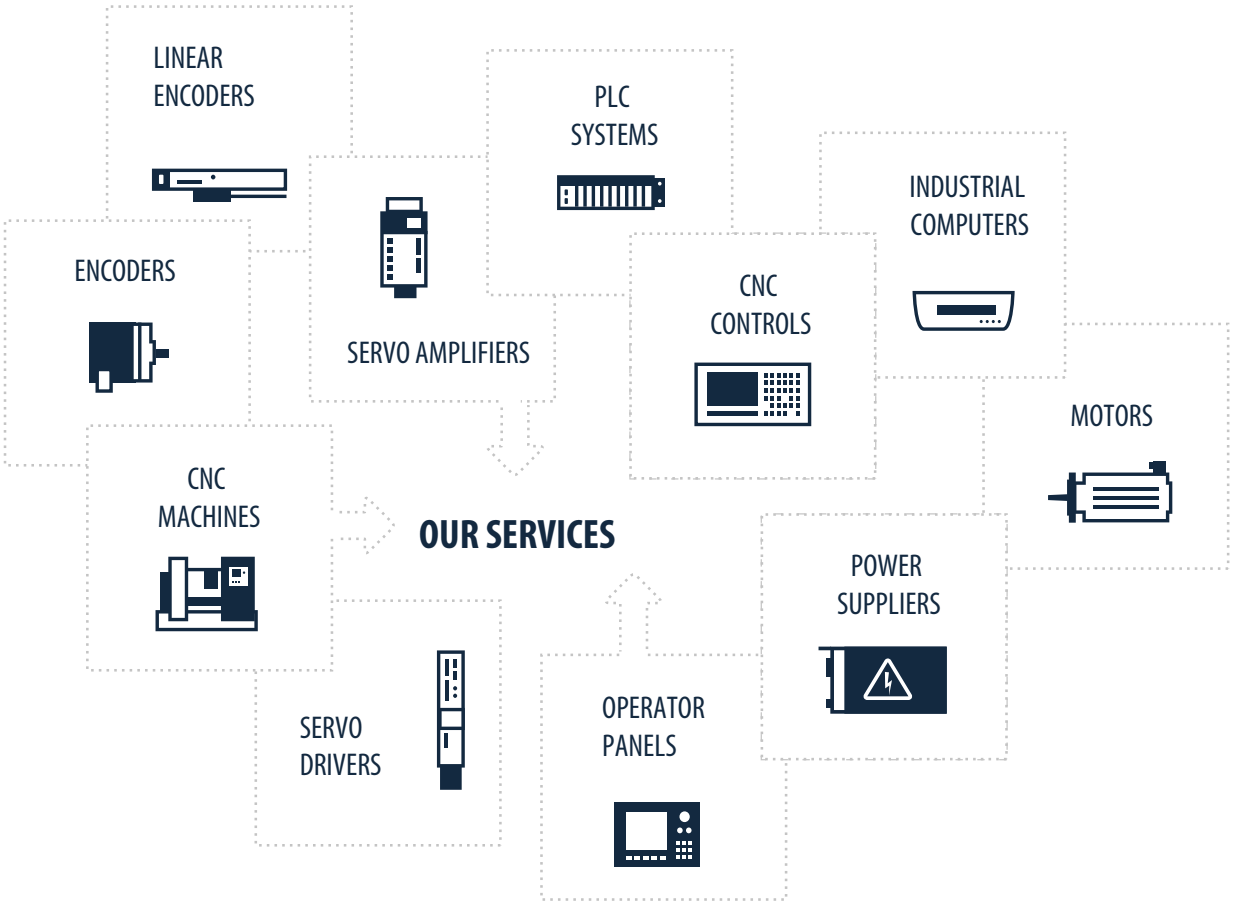
Repair **this product** with RGB ELEKTRONIKA

ORDER A DIAGNOSIS »



At our premises in Wrocław, we have a fully equipped servicing facility. Here we perform all the repair works and test each later sold unit. Our trained employees, equipped with a wide variety of tools and having several testing stands at their disposal, are a guarantee of the highest quality service.

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BUY »

MITSUBISHI THYRISTOR MODULES

TM15T3A-M,-H

MEDIUM POWER GENERAL USE
INSULATED TYPE

TM15T3A-M,-H

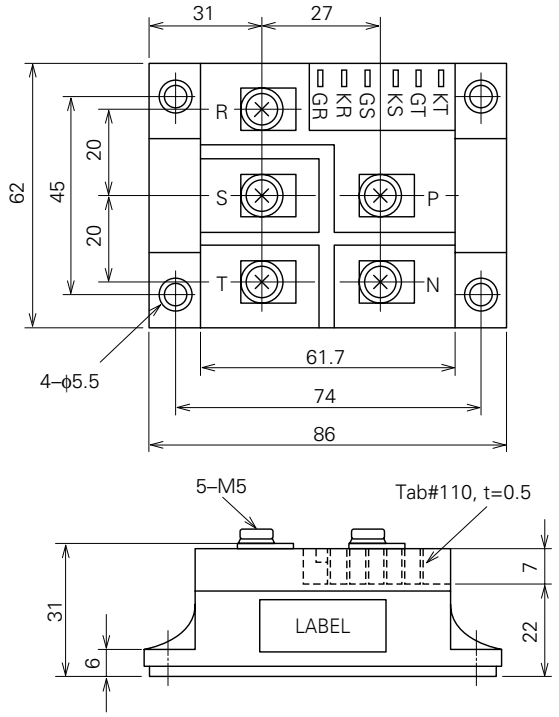
- **I_O** DC output current **30A**
- **V_{RRM}** Repetitive peak reverse voltage **400/800V**
- **V_{DRM}** Repetitive peak off-state voltage **400/800V**
- **3 Phase Mix Bridge**
- **Insulated Type**
- **UL Recognized**
  Yellow Card No. E80276 (N)
  File No. E80271

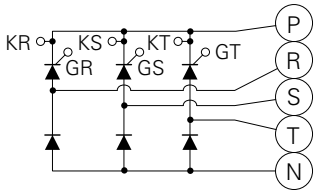
APPLICATION

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

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm





MITSUBISHI ELECTRIC

TM15T3A-M,-H

MEDIUM POWER GENERAL USE
INSULATED TYPE

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Voltage class		Unit
		M	H	
V_{RRM}	Repetitive peak reverse voltage	400	800	V
V_{RSM}	Non-repetitive peak reverse voltage	480	960	V
$V_{R\ (DC)}$	DC reverse voltage	320	640	V
V_{DRM}	Repetitive peak off-state voltage	400	800	V
V_{DSM}	Non-repetitive peak off-state voltage	480	960	V
$V_{D\ (DC)}$	DC off-state voltage	320	640	V

Symbol	Parameter	Conditions	Ratings	Unit
I_O	DC output current	3-phase fullwave rectified, TC=104°C	30	A
I_{TSM}, I_{FSM}	Surge (non-repetitive) current	One half cycle at 60Hz, peak value	300	A
I^2t	I^2t for fusing	Value for one cycle of surge current	3.8×10^2	A^2s
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 of off-state	T_j=125°C, V_{DRM} applied	—	—	4.0	mA
V_{TM}, V_{FM}	current	T_j=125°C, I_{TM}=I_{FM}=75A, instantaneous meas.	—	—	1.5	V
dv/dt	Forward voltage	T_j=125°C, V_D=2/3V_{DRM}	500	—	—	V/μs
V_{GT}	Critical rate of rise of off-state voltage	T_j=25°C, V_D=6V, R_L=2Ω	—	—	2.0	V
V_{GD}	Gate trigger voltage	T_j=125°C, V_D=1/2V_{DRM}	0.25	—	—	V
I_{GT}	Gate non-trigger voltage	T_j=25°C, V_D=6V, R_L=2Ω	10	—	50	mA
$R_{th\ (j-c)}$	Gate trigger current	Junction to case (per 1/6 module)	—	—	1.8	°C/W
$R_{th\ (c-f)}$	Thermal resistance	Case to fin, Conductive grease applied (per 1/6 module)	—	—	0.36	°C/W
—	Contact thermal resistance 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.

TM15T3A-M,-H

MEDIUM POWER GENERAL USE
INSULATED TYPE

MAXIMUM RATINGS

Item	V_{RRM}	V_{RSM}	$V_{R\ (DC)}$	V_{DRM}	V_{DSM}	$V_{D\ (DC)}$	$I_{T\ (RMS)}$ / $I_{F\ (RMS)}$	$I_{T\ (AV)}$ / $I_{F\ (AV)}$	I_{TSM} / I_{FSM}	I^2t	di/dt
Thyristor	○	○	○	○	○	○	○	○	○	○	○
Diode	○	○	○	—	—	—	○	○	○	○	—

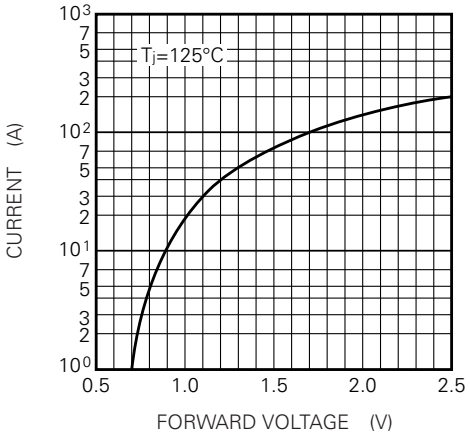
Item	P_{GM}	$P_{G\ (AV)}$	V_{FGM}	I_{FGM}	T_j	T_{stg}
Thyristor	○	○	○	○	○	○
Diode	—	—	—	—	○	○

ELECTRICAL CHARACTERISTICS

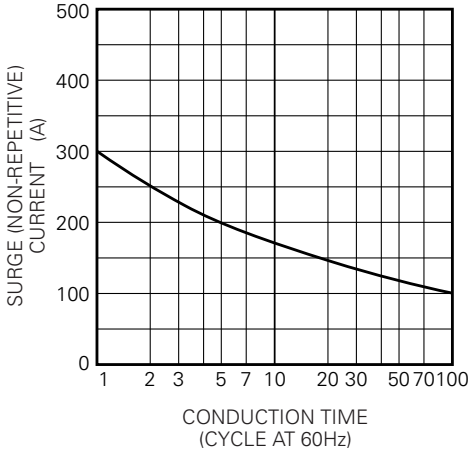
Item	I_{RRM}	I_{DRM}	V_{TM} / V_{FM}	dv/dt	V_{GT}	V_{GD}	I_{GT}	$R_{th\ (j-c)}$	$R_{th\ (c-f)}$
Thyristor	○	○	○	○	○	○	○	○	○
Diode	○	—	○	—	—	—	—	○	○

PERFORMANCE CURVES

MAXIMUM FORWARD CHARACTERISTIC

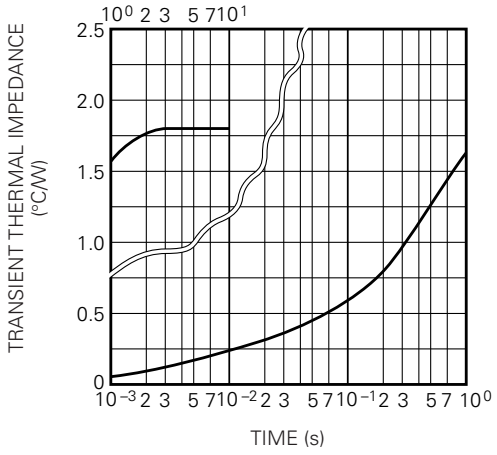


RATED SURGE (NON-REPETITIVE) CURRENT

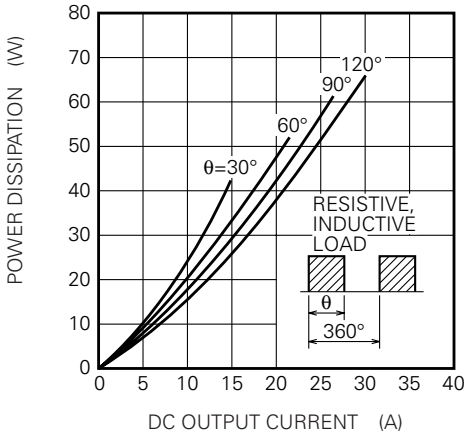


MITSUBISHI ELECTRIC

MAXIMUM TRANSIENT THERMAL IMPEDANCE (JUNCTION TO CASE) (PER SINGLE ELEMENT)



MAXIMUM POWER DISSIPATION (THREE PHASE FULLWAVE RECTIFIED)



LIMITING VALUE OF THE DC OUTPUT CURRENT (THREE PHASE FULLWAVE RECTIFIED)