MT200U-T2

RoHS COMPLIANT

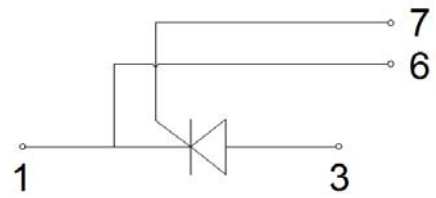
Thyristor Modules

VRRM / VDRM	800 to 1800V
ITAV	200A

Applications

- Power Converters
- Lighting Control
- DC Motor Control and Drives
- Heat and temperature control

Circuit



Features

- International standard package
- High Surge Capability
- Glass passivated chip
- Simple Mounting
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate

Module Type

TYPE	VRRM	VRSM
MT200U08T2	800V	900V
MT200U12T2	1200V	1300V
MT200U16T2	1600V	1700V
MT200U18T2	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°;Tc=85℃	200	A
I_{TSM}	T_{VJ}=45℃ t=10ms, sine T_{VJ}=125℃ t=10ms, sine	5500 5000	A
i^2t	T_{VJ}=45℃ t=10ms, sine T_{VJ}=125℃ t=10ms, sine	151000 125000	A2s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to 130	℃
Tstg		-40 to 125	℃
Mt	To terminals(M6)	3±15%	Nm
Ms	To heat sink(M6)	5±15%	Nm
di/dt	T_{VJ}= T_{VJM} , 2/3V_{DRM} ,I_G =500mA Tr<0.5us,tp>6us	200	A/us
dv/dt	T_J= T_{VJM} ,2/3V_{DRM}, linear voltage rise	1000	V/us
a	Maximum allowable acceleration	50	m/s^2
Weight	Module(Approximately)	165	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	per thyristor	0.16	℃/W
Rth(c-s)	per thyristor	0.1	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{TM}	T=25℃ I_{TM} =500A			1.68	V
I_{RRM}/I_{DRM}	T_{VJ} =T_{VJM} ,V_R=V_{RRM} ,V_D=V_{DRM}			50	mA
V_{TO}	For power-loss calculations only (T_{VJ} =125℃)			0.85	V
r_T	T_{VJ} =T_{VJM}			1.5	mΩ
V_{GT}	T_{VJ} =25℃ , V_D =6V			3	V
I_{GT}	T_{VJ} =25℃ , V_D =6V			200	mA
V_{GD}	T_{VJ} =125℃ , V_D =2/3V_{DRM}			0.25	V
I_{GD}	T_{VJ} =125℃ , V_D =2/3V_{DRM}			10	mA
I_L	T_{VJ} =25℃ , R_G = 33 Ω		300	1000	mA
I_H	T_{VJ} =25℃ , V_D =6V		150	400	mA
tgd	T_{VJ} =25℃, I_G=1A, di_G/dt=1A/us		1		us
tq	T_{VJ} =T_{VJM}		100		us

Performance Curves

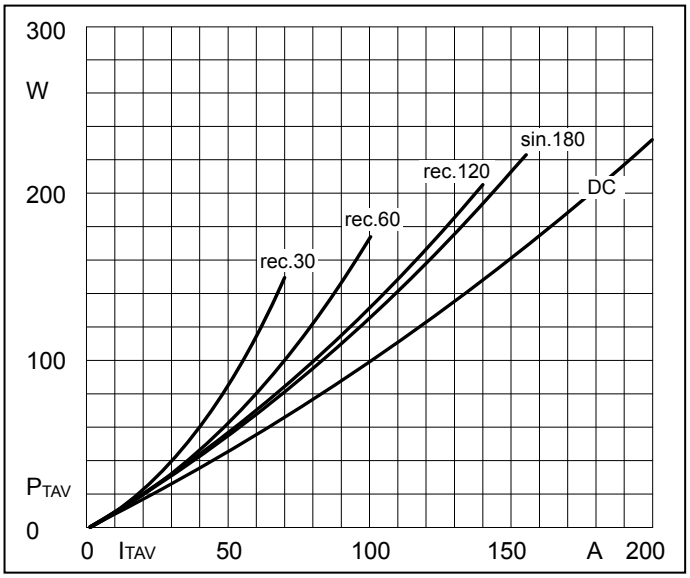


Fig1. Power dissipation

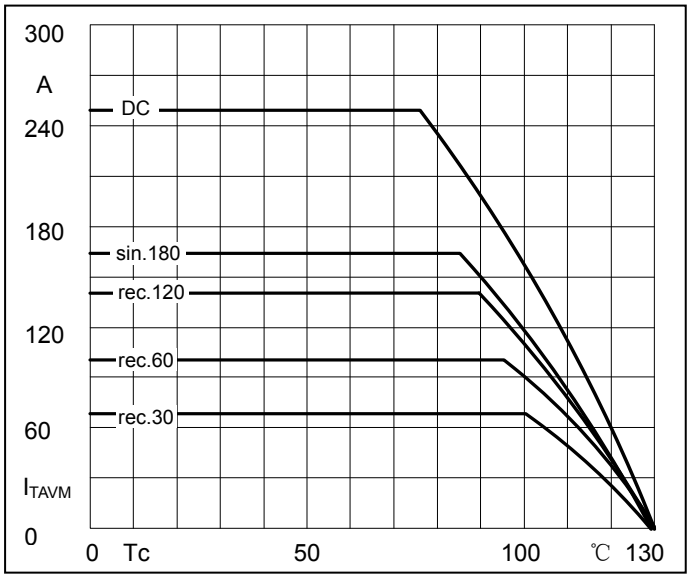


Fig2.Forward Current Derating Curve

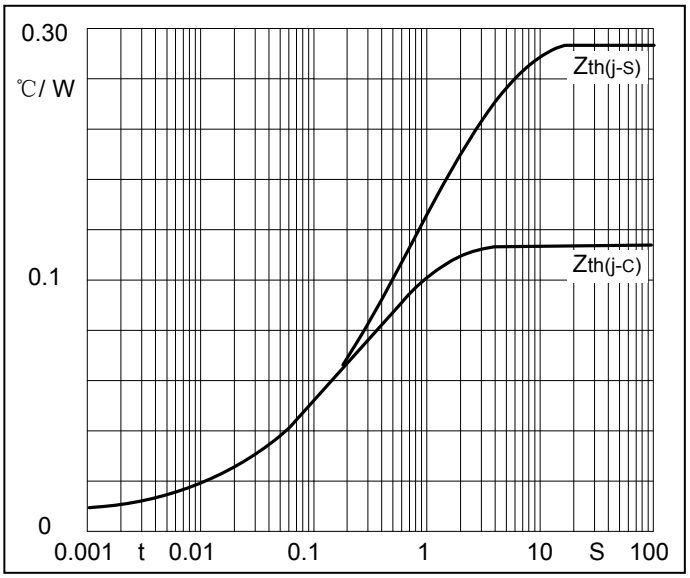


Fig3. Transient thermal impedance

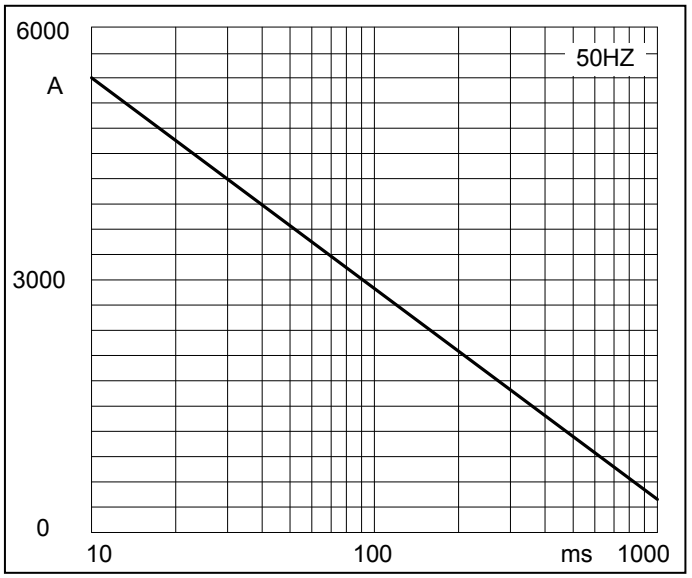


Fig4. Max Non-Repetitive Forward Surge Current

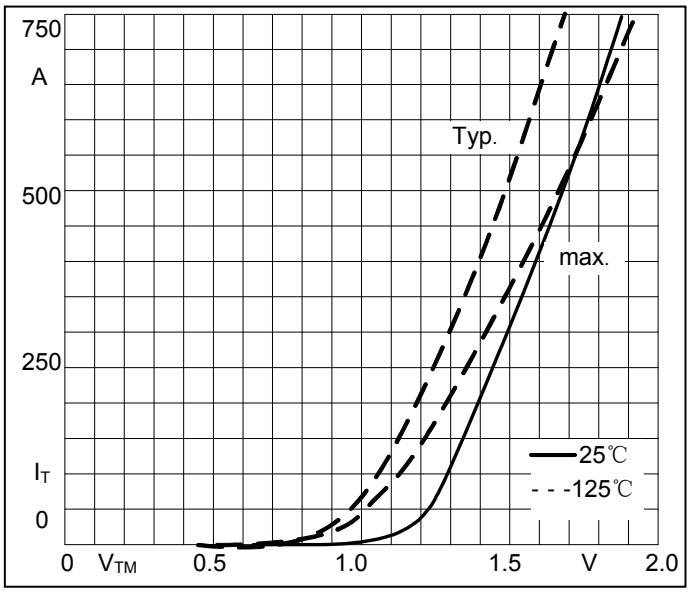


Fig5. Forward Characteristics

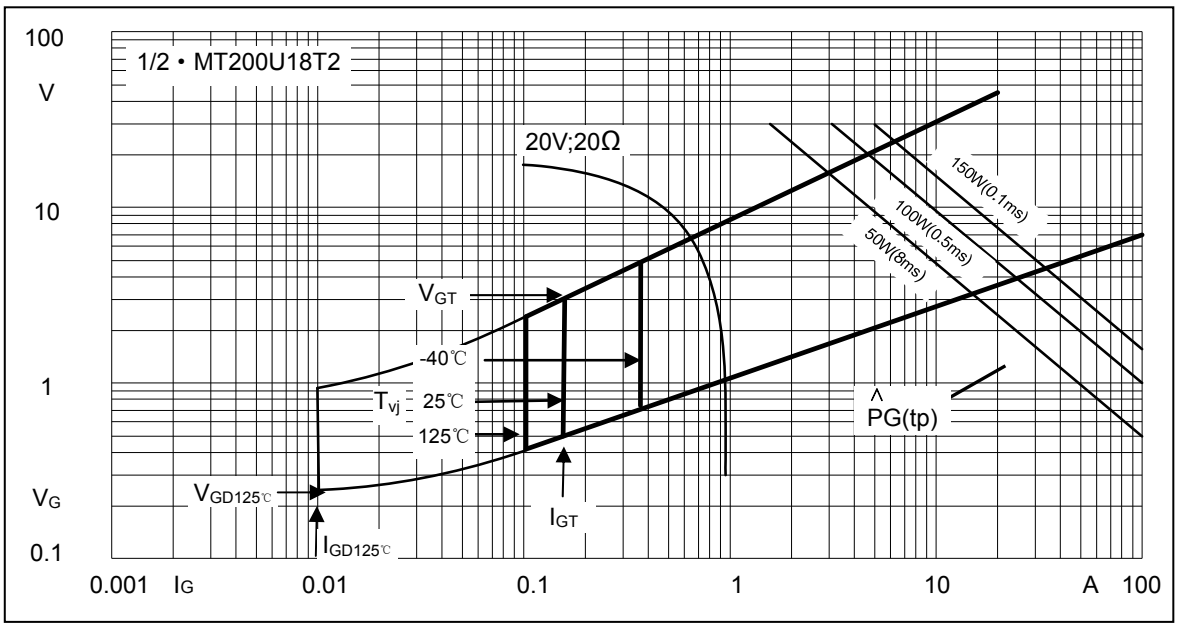
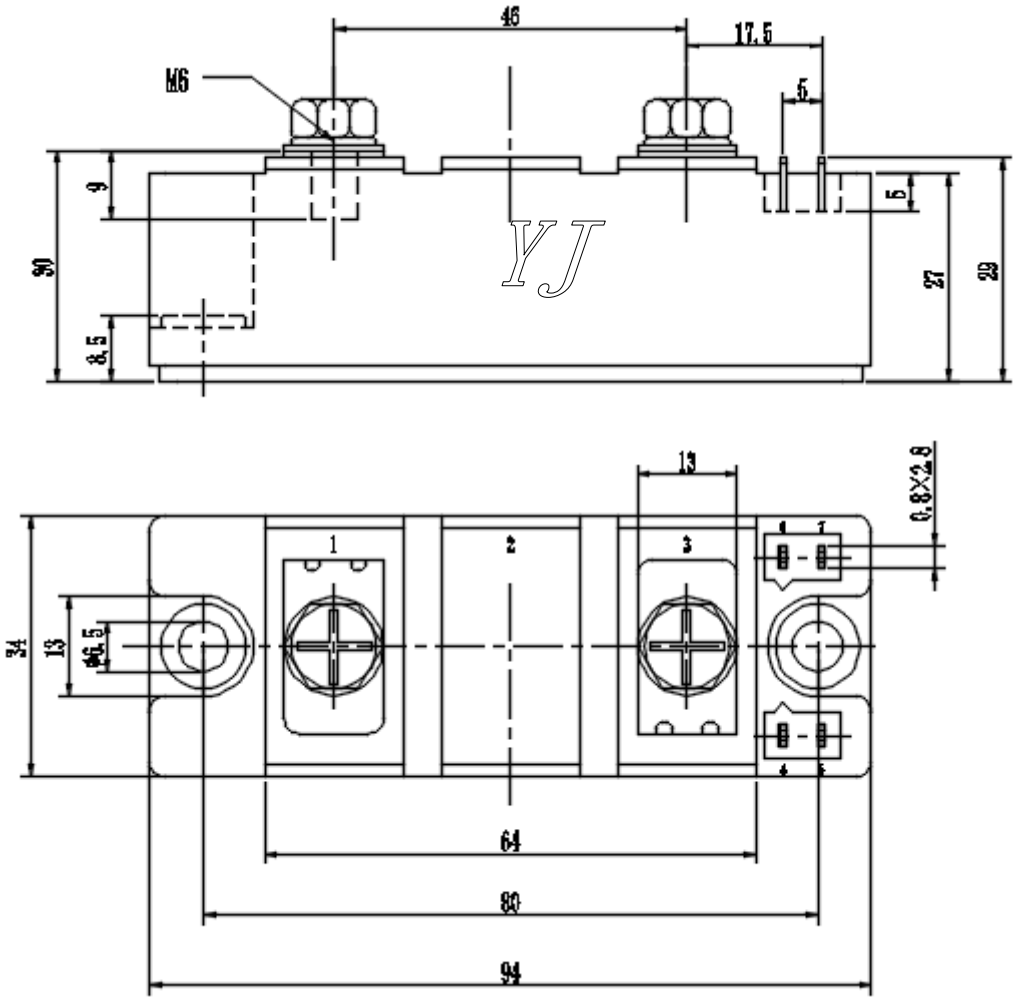


Fig6. Gate trigger Characteristics

Package Outline Information

CASE: T2



Dimensions in mm