MT90C-T1

RoHS COMPLIANT



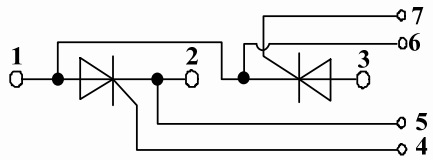
Thyristor Modules

VRRM / VDRM	800 to 1800V
ITAV	90A

Applications

- Power Converters
- Lighting Control
- † • À `

Circuit



Features

- International standard package
- High Surge Capability
- Glass passivated chip
- Simple Mounting
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- UL recognized applied for file no. E360040

Module Type

TYPE	VRRM	VRSM
MT90C08T1	800V	900V
MT90C12T1	1200V	1300V
MT90C16T1	1600V	1700V
MT90C18T1	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°;Tc=85	90	A
I_{TSM}	T_{VJ}=45 t=10ms, sine T_{VJ}=125 t=10ms, sine	2000 1750	A
i^2t	T_{VJ}=45 t=10ms, sine T_{VJ}=125 t=10ms, sine	20000 15000	A2s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to 130	
Tstg		-40 to 125	
Mt	To terminals(M5)	3 ± 15%	Nm
Ms	To heatsink(M6)	5 ± 15%	Nm
di/dt	T_{VJ}= T_{VJM} , 2/3V_{DRM} ,I_G =500mA Tr<0.5us,tp>6us	150	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)	100	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	per thyristor / per module	0.28/0.14	/W
Rth(c-s)	per thyristor / per module	0.2/0.1	/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{TM}	T=25 I_{TM} =300A			1.65	V
I_{RRM}/I_{DRM}	T_{VJ} =T_{VJM} ,V_R=V_{RRM} ,V_D=V_{DRM}			20	mA
V_{TO}	For power-loss calculations only (T_{VJ} =125)			0.9	V
r_T	T_{VJ} =T_{VJM}			2	m
V_{GT}	T_{VJ} =25 , V_D =6V			3	V
I_{GT}	T_{VJ} =25 , V_D =6V			150	mA
V_{GD}	T_{VJ} =125 , V_D =2/3V_{DRM}			0.25	V
I_{GD}	T_{VJ} =125 , V_D =2/3V_{DRM}			6	mA
I_L	T_{VJ} =25 , R_G = 33		300	600	mA
I_H	T_{VJ} =25 , V_D =6V		150	250	mA
tgd	T_{VJ} =25 , I_G=1A, di_G/dt=1A/us		1		us
tq	T_{VJ} =T_{VJM}		100		us

Performance Curves

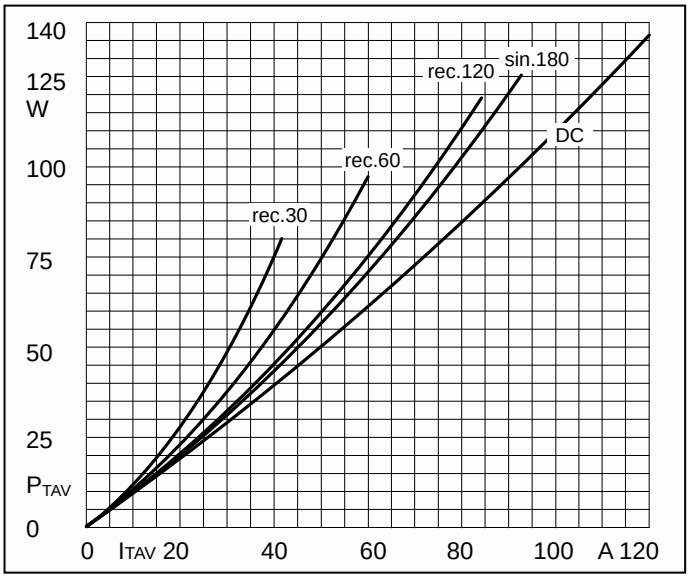


Fig1. Power dissipation

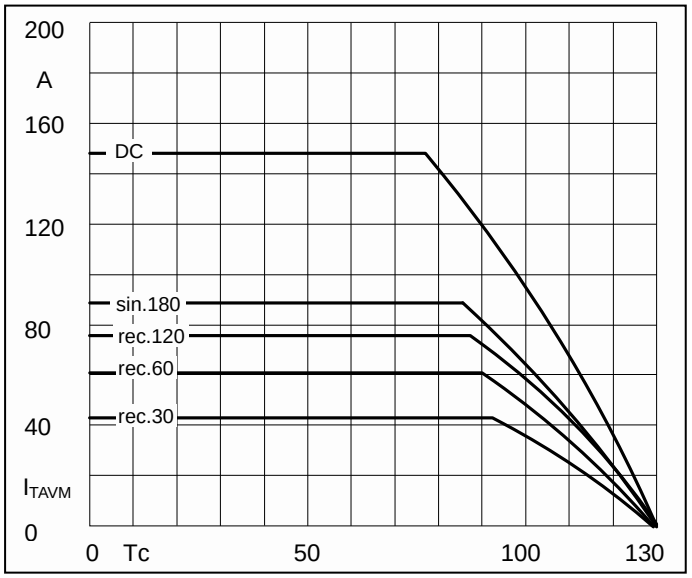


Fig2.Forward Current Derating Curve

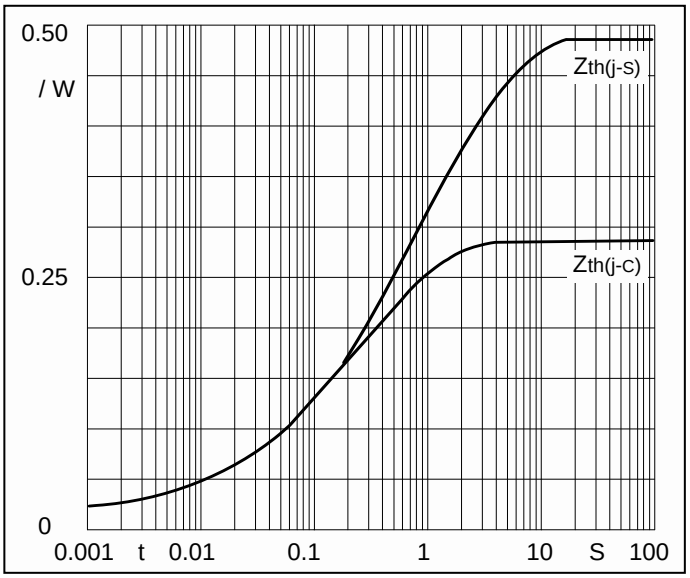


Fig3. Transient thermal impedance

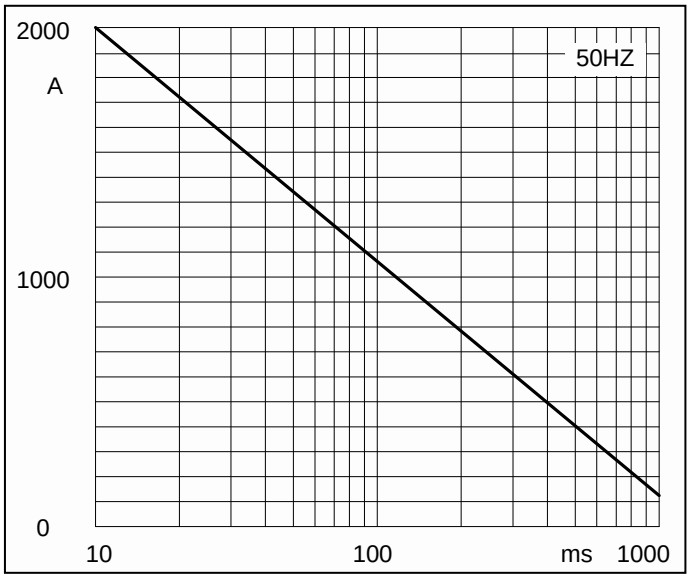


Fig4. Max Non-Repetitive Forward Surge Current

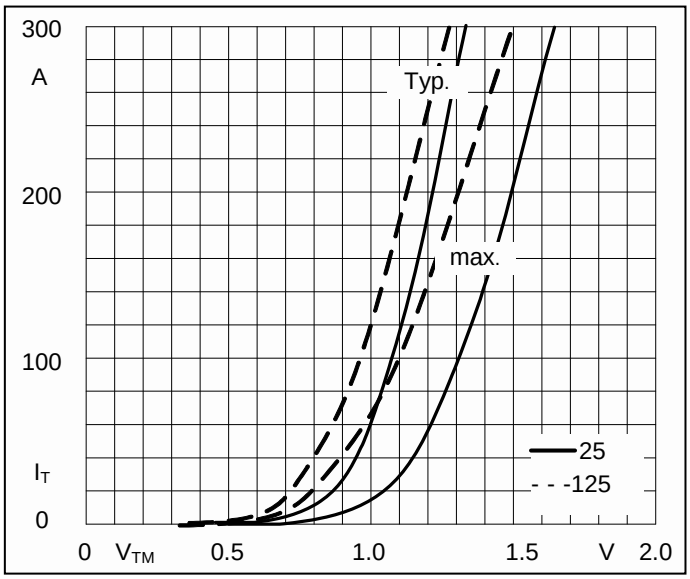


Fig5. Forward Characteristics

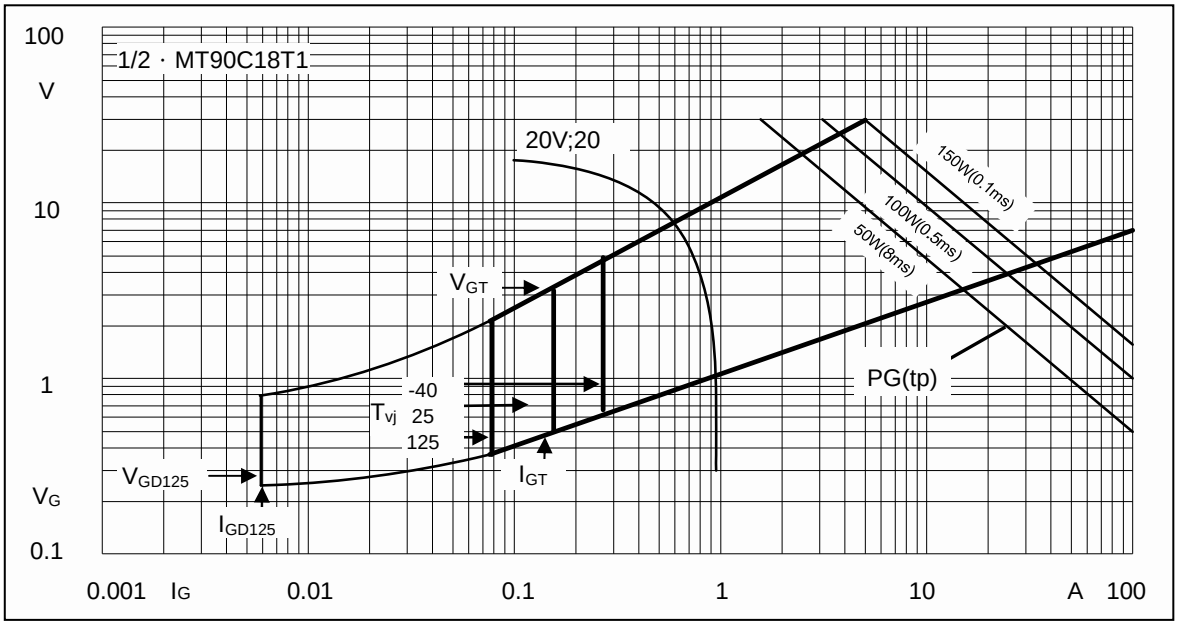
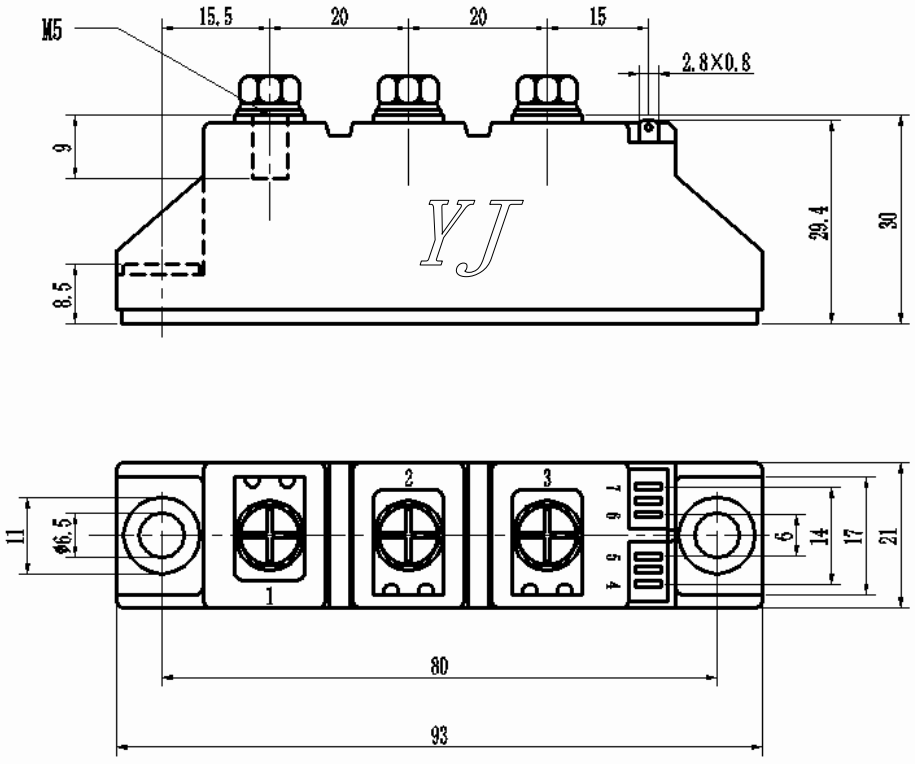


Fig6. Gate trigger Characteristics

Package Outline Information

CASE: T1



Dimensions in mm