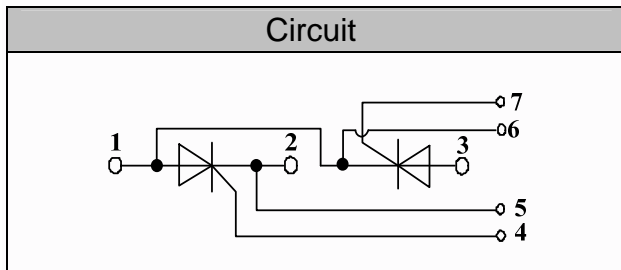


Thyristor Modules

VRRM / VDRM 800 to 1800V
ITAV 40A

Applications

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



Features

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

Module Type

TYPE	VRRM	VRSM
MT40C08T1	800V	900V
MT40C12T1	1200V	1300V
MT40C16T1	1600V	1700V
MT40C18T1	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°; Tc=85	40	A
I_{TSM}	$T_{VJ}=45$ t=10ms, sine	1000	A
	$T_{VJ}=125$ t=10ms, sine	850	
i^2t	$T_{VJ}=45$ t=10ms, sine	5000	A ² s
	$T_{VJ}=125$ t=10ms, sine	3600	
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to 125	
Tstg		-40 to 125	3f 15%
Ms	To heatsink(M6)	5 f 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)	Cont.;per thyristor / per module	0.65/0.33	/W
Rth(c-s)	per thyristor / per module	0.2/0.1	/W



Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{TM}	$T=25$ $I_{TM}=200A$			1.95	V
I_{RRM}/I_{DRM}	$T_{VJ}=T_{VJM}$, $V_R=V_{RRM}$, $V_D=V_{DRM}$			15	mA
V_{TO}	For power-loss calculations only ($T_{VJ}=125$)			1.0	V
r_T	$T_{VJ}=T_{VJM}$			4.5	m
V_{GT}	$T_{VJ}=25$, $V_D=6V$			2.5	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
tgδ	$T_{VJ}=25$, $I_G=1A$, $di_G/dt=1A/us$		1		us
tq	$T_{VJ}=T_{VJM}$		80		us



Performance Curves

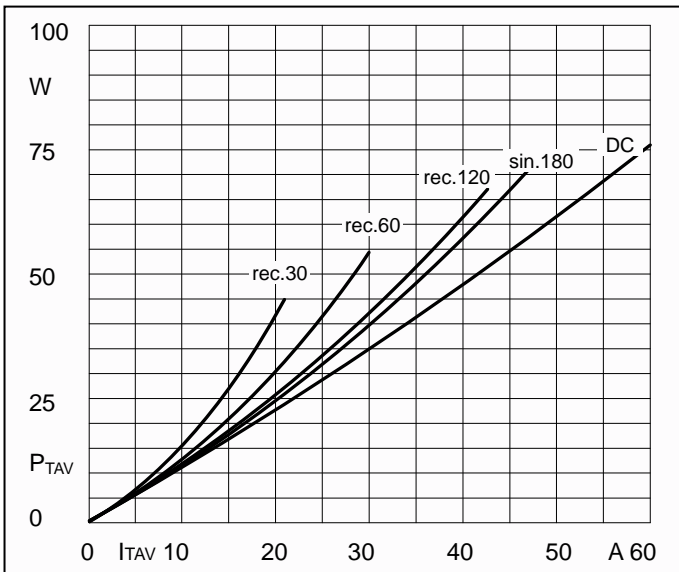


Fig1. Power dissipation

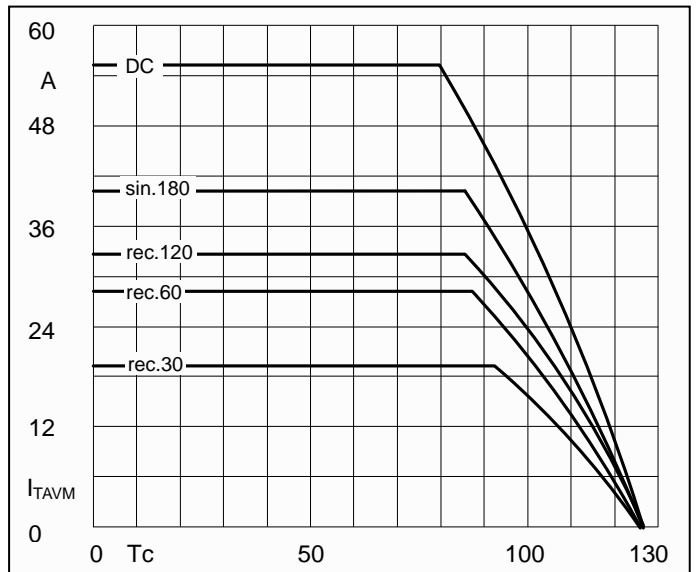


Fig2. Forward Current Derating Curve

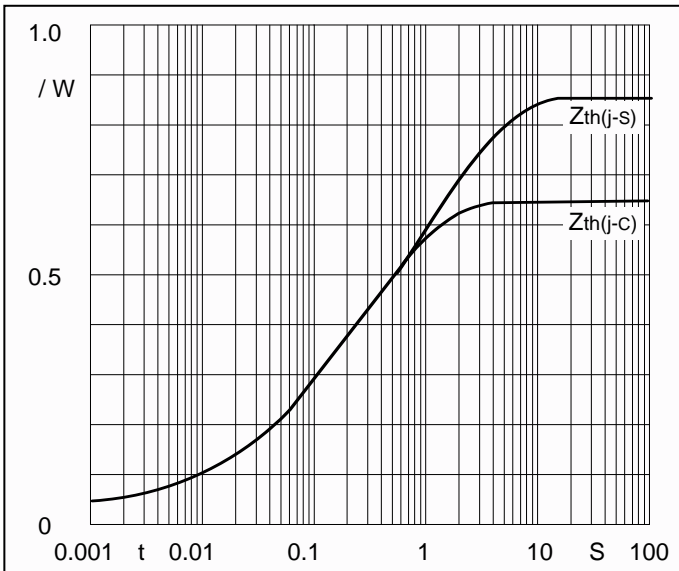


Fig3. Transient thermal impedance

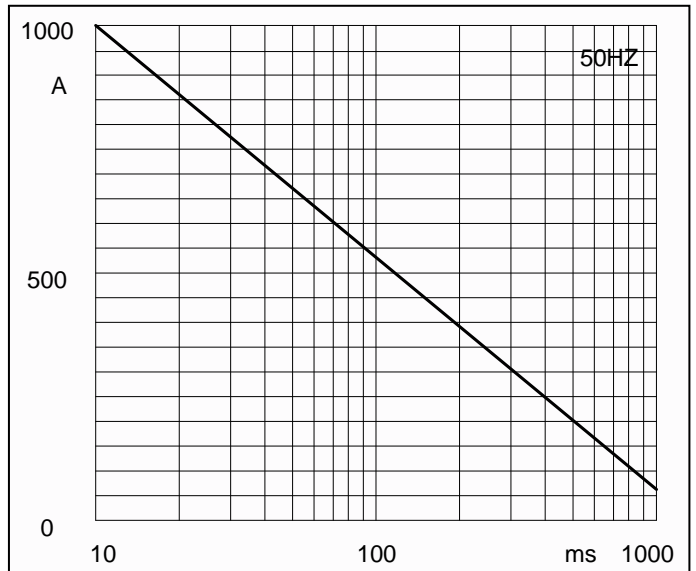


Fig4. Max Non-Repetitive Forward Surge Current

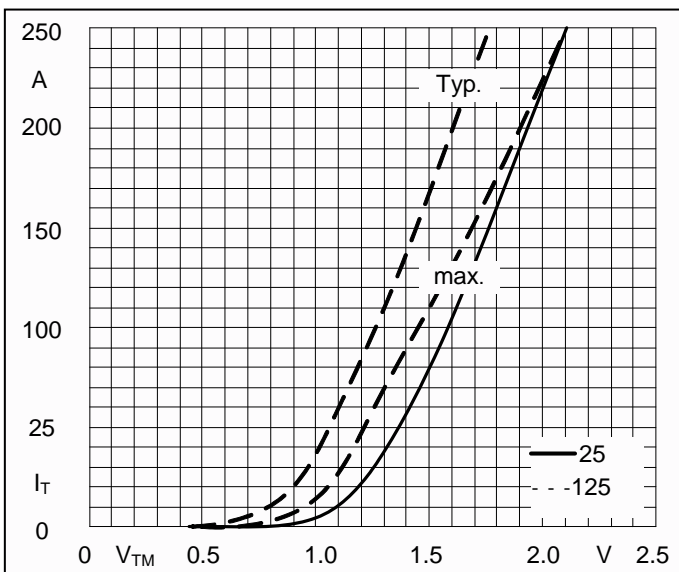


Fig5. Forward Characteristics

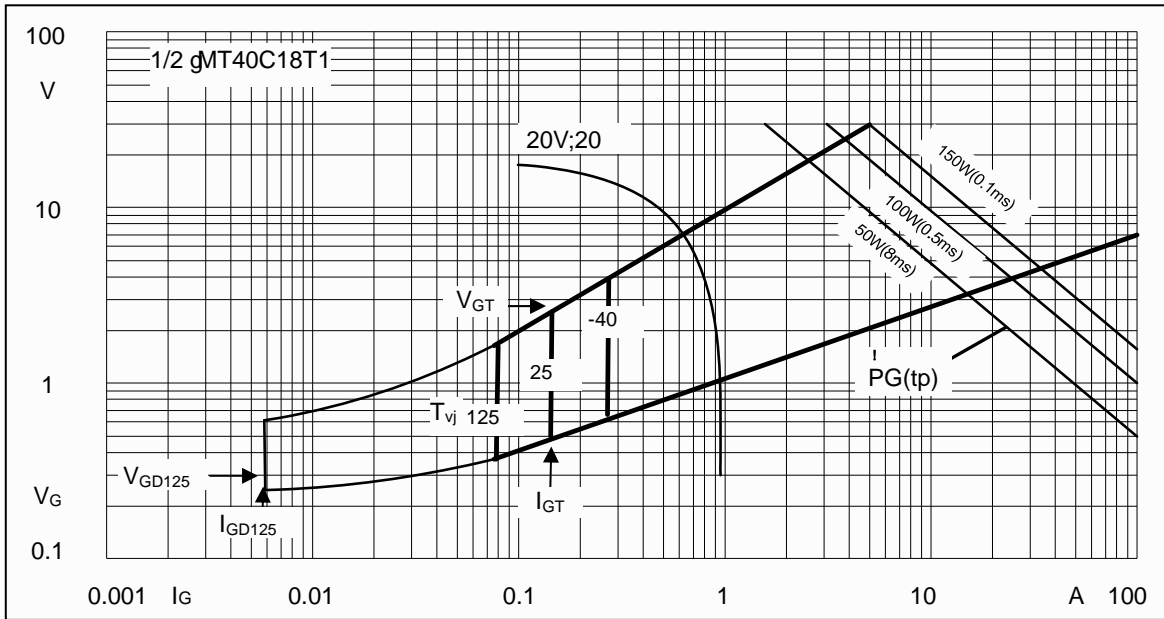
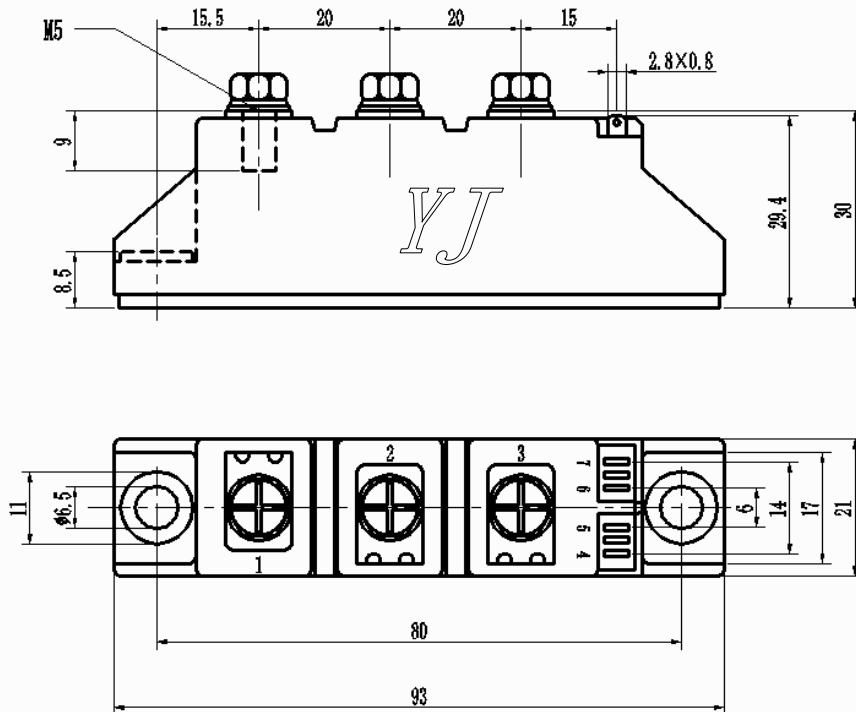


Fig6. Gate trigger Characteristics

Package Outline Information

CASE: T1



Dimensions in mm