

Thyristor Modules

V_{RRM} / V_{DRM}	800 to 1800V
I_{TAV}	160 A

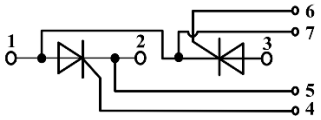
Applications

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

Features

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

Circuit



Module Type

TYPE	V_{RRM}	V_{RSM}
MT160C08T2	800V	900V
MT160C12T2	1200V	1300V
MT160C16T2	1600V	1700V
MT160C18T2	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Single phase ,half wave 180°conduction Tc=85□	160	A
I_{TSM}	t=10ms T_J=25□	4000	A
I^2t	t=10ms T_J =25□	80000	A^2s
V_{ISO}	AC 50Hz/60Hz; R.M.S; 1min	3000	V
T_J		-40 to +125	□
Tstg		-40 to +125	□
Mt	To Terminals(M6)	5±15%	N·m
Ms	To Heatsink(M6)	5±15%	N·m
di/dt	T_j =125□, 2/3V_{DRM} ,I_G =500mA Tr<0.5us,tp>6us	200	A/us
a	Maximum allowable acceleration	50	m/s^2
Weight		165	g

Thermal Characteristics

Symbol	Item	Conditions	Units
Rth(j-c)	Junction to Case(Per Thyristor)	0.2	□/W
Rth(c-s)	Case to Heat Sink	0.05	□/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{TM}	T_J =25□ ITM=500A			1.65	V
I_{RRM}/I_{DRM}	T_J =25□ ,V_R=V_{RRM} ,V_D=V_{DRM}			30	mA
V_{T0}	T_J=25□			0.85	V
rT	T_J=25□			1.5	mΩ
V_{GT}	T_J=25□, V_D =6V			3	V
I_{GT}	T_J=25□, V_D =6V			150	mA
V_{GD}	T_J=125□, V_D =2/3V_{DRM}			0.25	V
I_{GD}	T_J=125□, V_D =2/3V_{DRM}			10	mA
I_L	T_J=25□, R_G = 33 Ω		100	300	mA
I_H	T_J=25□, V_D=6V		60	200	mA
t_{gd}	T_J =25□, I_G=1A, diG/dt=1A/us		1		us
t_q	T_J=125□		100		us
dv/dt	T_{Jj} =125□,2/3V_{DRM}, linear voltage rise		1000		V/us

Performance Curves

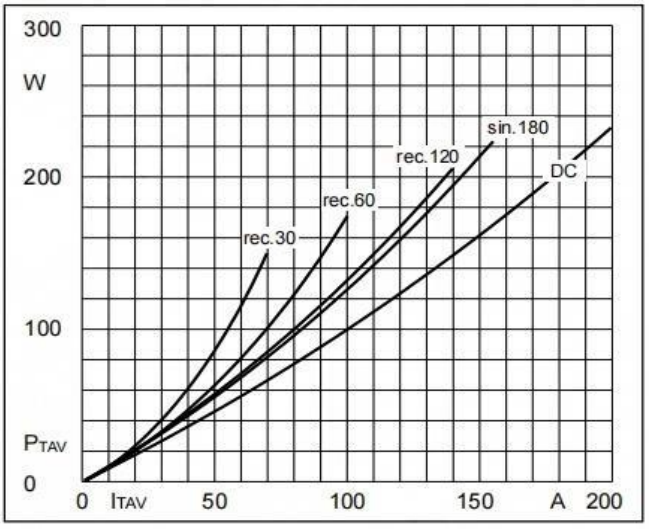


Fig1. Power dissipation

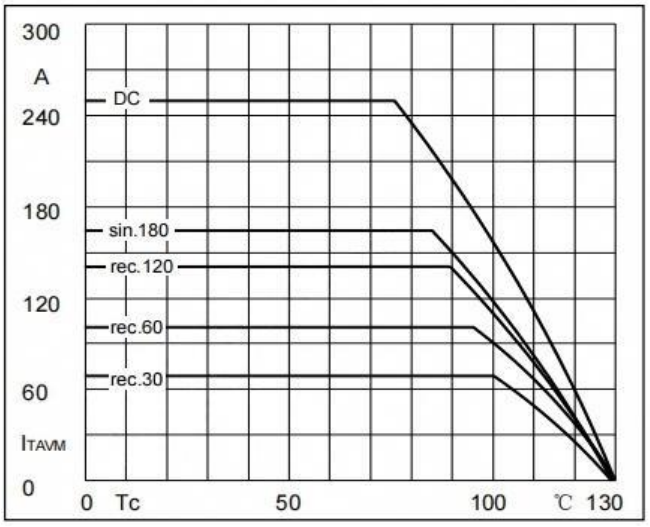


Fig2.Forward Current Derating Curve

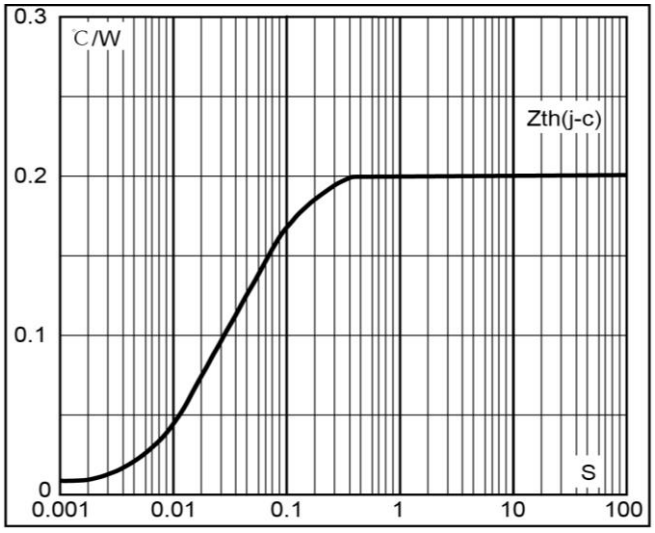


Fig3. Transient thermal impedance

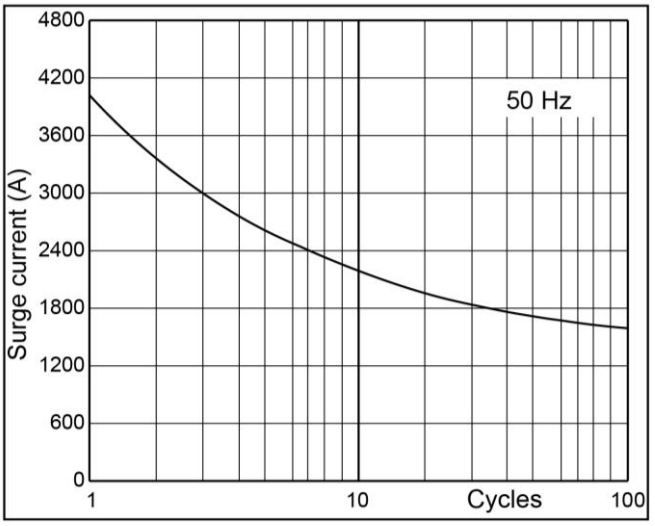


Fig4. Max Non-Repetitive Forward Surge Current

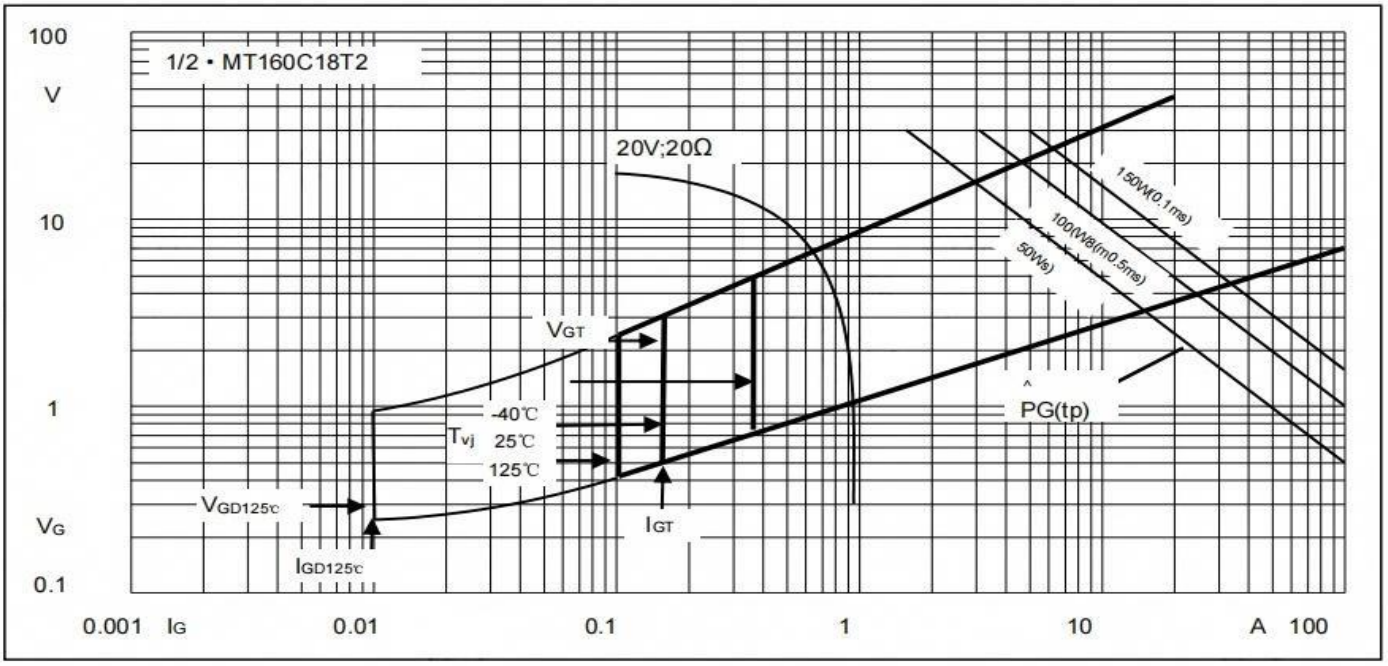
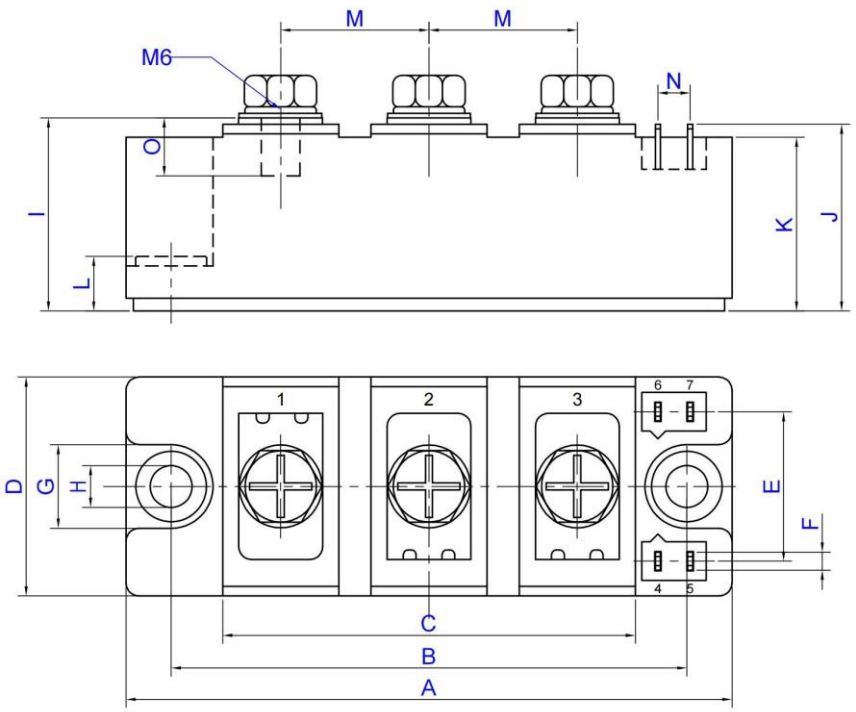


Fig5. Gate trigger Characteristics

Package Outline Information

CASE: T2



DIM	Min (mm)	Max (mm)	Note
A	93.5	94.5	
B	79.5	80.5	
C	63.5	64.5	
D	33.5	34.5	
E	22.7	23.7	
F	2.3	3.3	
G	12.5	13.5	
H	6.2	6.8	Ø
I	29.5	30.5	
J	29	30	
K	26.5	27.5	
L	8.2	8.8	
M	22.5	23.5	
N	4.5	5.5	
O	13.5	15.5	

Packing Standard

Item	Length: A(mm)	Width: B(mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	48	8
Outer Carton	545	295	240	80

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