



Micro Commercial Components



Micro Commercial Components  
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**MT160C08T2**  
**MT160C12T2**  
**MT160C16T2**  
**MT160C18T2**

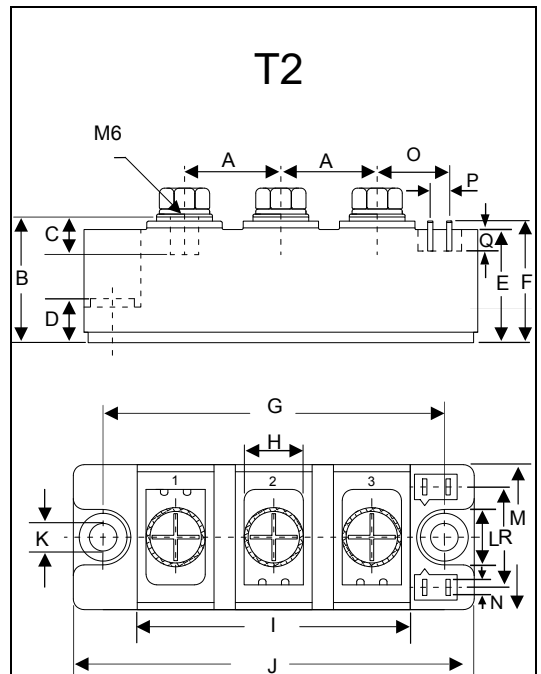
**160 Amp**  
**THYRISTOR MODULE**  
**800~1800 Volts**

## Features

- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- International standard package
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- Simple Mounting

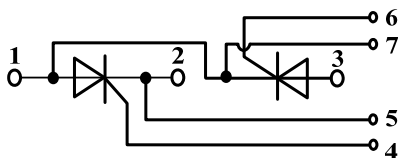
## Applications

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



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.894	0.917	22.50	23.50	
B	1.169	1.193	29.50	30.50	
C	0.343	0.366	8.50	9.50	
D	0.323	0.343	8.00	8.90	
E	1.051	1.075	26.50	27.50	
F	1.130	1.154	28.50	29.50	
G	0.120	0.130	79.50	80.50	
H	0.500	0.524	12.50	13.50	
I	2.501	2.531	63.50	64.50	
J	3.689	3.713	93.50	94.50	
K	0.256		6.50		∅
L	0.500	0.524	12.50	13.50	
M	1.327	1.350	33.50	34.50	
N	0.032X0.11		0.8X2.8		
O	0.677	0.700	17.00	18.00	
P	0.185	0.209	4.50	5.50	
Q	0.185	0.209	4.50	5.50	
R	0.902	0.925	22.70	23.70	

**Circuit**



## Module Type

TYPE	VRRM	VRSM
MT160C08T2	800V	900V
MT160C12T2	1200V	1300V
MT160C16T2	1600V	1700V
MT160C18T2	1800V	1900V

## Maximum Ratings

Symbol	Conditions	Values	Units
$I_{TAV}$	Sine 180°; $T_c=85^\circ\text{C}$	160	A
$I_{TSM}$	$T_{VJ}=45^\circ\text{C}$ t=10ms, sine $T_{VJ}=125^\circ\text{C}$ t=10ms, sine	5400 5000	A
$i^2t$	$T_{VJ}=45^\circ\text{C}$ t=10ms, sine $T_{VJ}=125^\circ\text{C}$ t=10ms, sine	145000 125000	A <sup>2</sup> s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
$T_{vj}$		-40 to 130	°C
$T_{stg}$		-40 to 125	°C
Mt	To terminals(M6)	$3 \pm 15\%$	Nm
Ms	To heatsink(M6)	$5 \pm 15\%$	Nm
di/dt	$T_{VJ}=T_{VJM}$ , $2/3V_{DRM}$ , $I_G=500\text{mA}$ $Tr<0.5\mu\text{s}$ , $tp>6\mu\text{s}$	200	A/ $\mu\text{s}$
dv/dt	$T_J=T_{VJM}$ , $2/3V_{DRM}$ , linear voltage rise	1000	V/ $\mu\text{s}$
a	Maximum allowable acceleration	50	$\text{m/s}^2$
Weight	Module(Approximately)	165	g

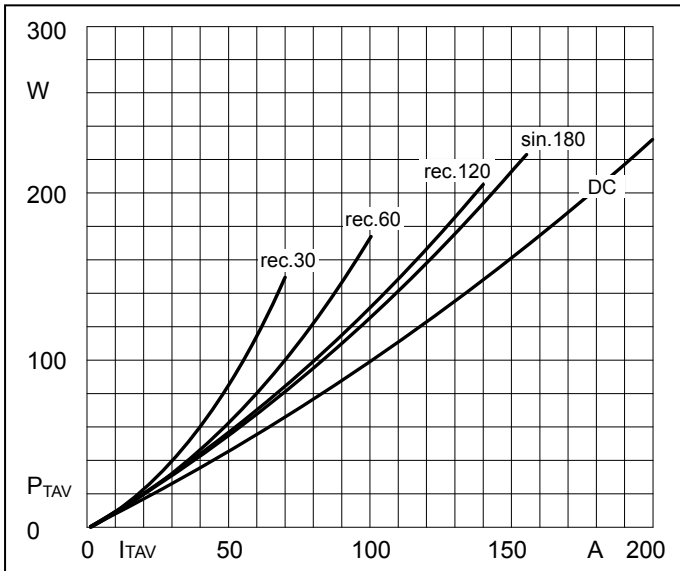
## Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Cont.;per thyristor / per module	0.17/0.085	°C/W
Rth(c-s)	per thyristor / per module	0.1/0.05	°C/W

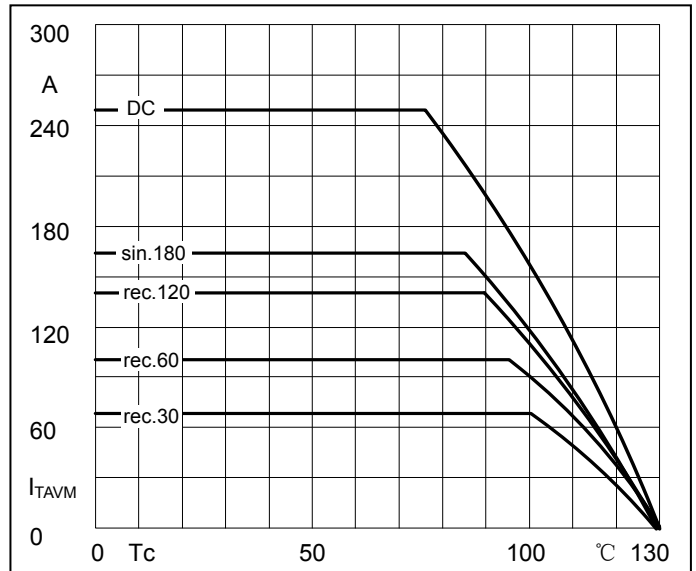
## Electrical Characteristics

Symbol	Conditions	Values		Units
$V_{TM}$	$T=25^\circ\text{C}$ $I_{TM}=500\text{A}$		1.7	V
$I_{RRM}/I_{DRM}$	$T_{VJ}=T_{VJM}$ , $V_R=V_{RRM}$ , $V_D=V_{DRM}$		40	mA
$V_{TO}$	For power-loss calculations only ( $T_{VJ}=125^\circ\text{C}$ )		0.85	V
$r_T$	$T_{VJ}=T_{VJM}$		1.5	m $\Omega$
$V_{GT}$	$T_{VJ}=25^\circ\text{C}$ , $V_D=6\text{V}$		3	V
$I_{GT}$	$T_{VJ}=25^\circ\text{C}$ , $V_D=6\text{V}$		150	mA
$V_{GD}$	$T_{VJ}=125^\circ\text{C}$ , $V_D=2/3V_{DRM}$		0.25	V
$I_{GD}$	$T_{VJ}=125^\circ\text{C}$ , $V_D=2/3V_{DRM}$		10	mA
$I_L$	$T_{VJ}=25^\circ\text{C}$ , $R_G=33\ \Omega$	300	1000	mA
$I_H$	$T_{VJ}=25^\circ\text{C}$ , $V_D=6\text{V}$	150	400	mA
tgD	$T_{VJ}=25^\circ\text{C}$ , $I_G=1\text{A}$ , $di_G/dt=1\text{A}/\mu\text{s}$	1		$\mu\text{s}$
tq	$v_J=T_{VJM}$	100		$\mu\text{s}$

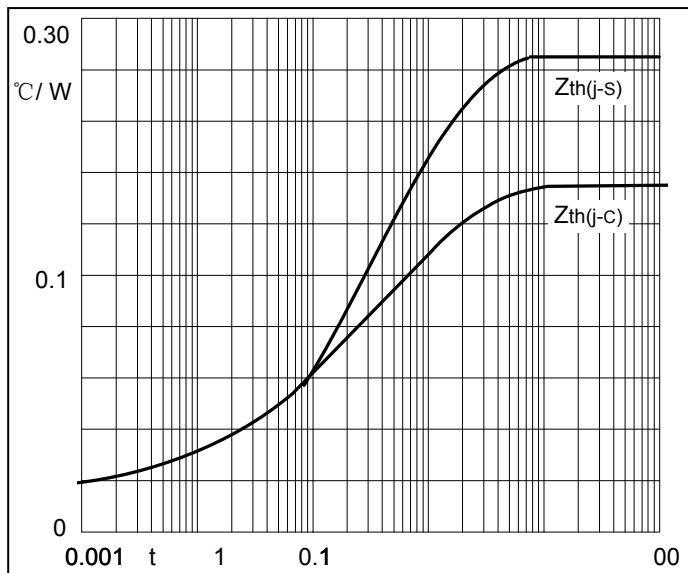
**Performance Curves**



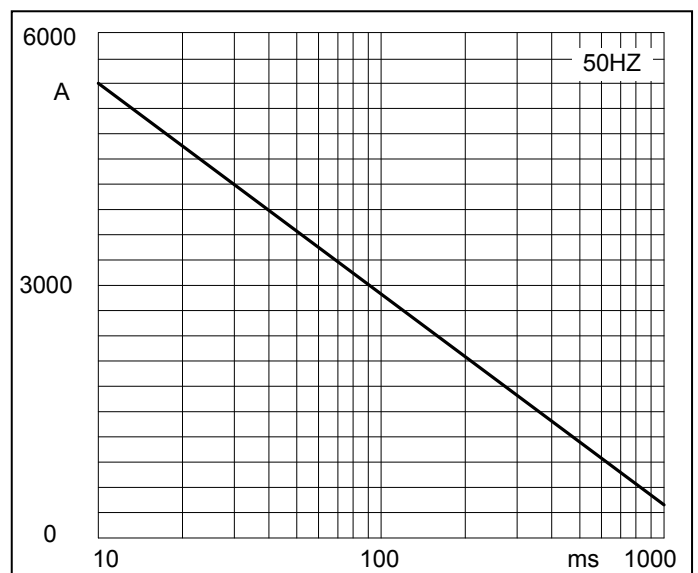
**Fig1. Power dissipation**



**Fig2. Forward Current Derating Curve**

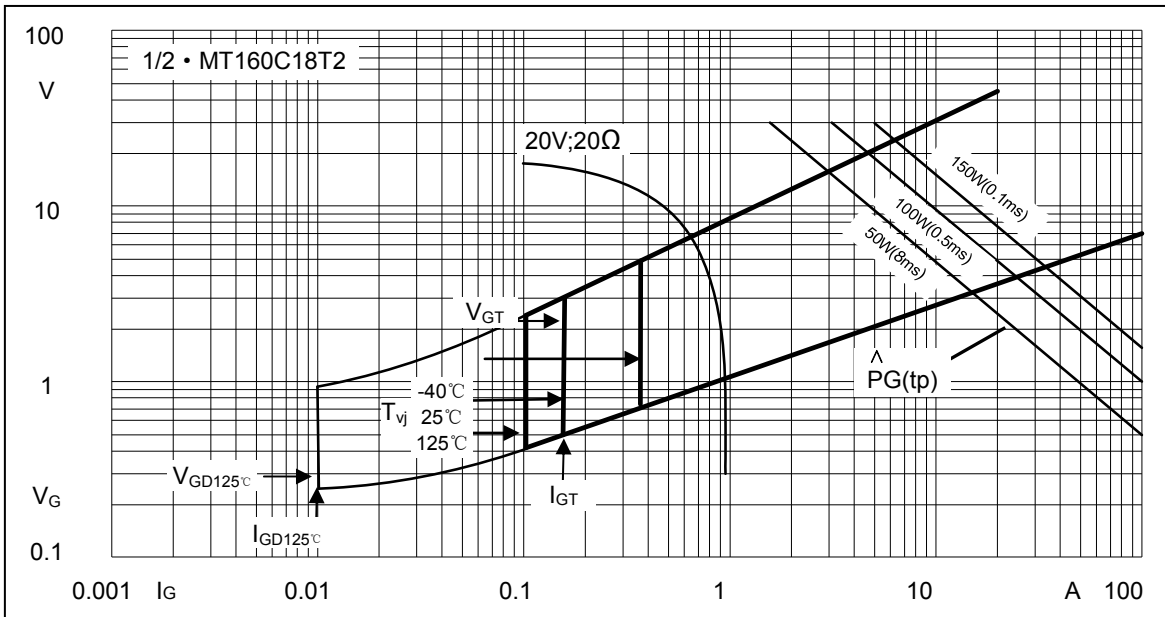
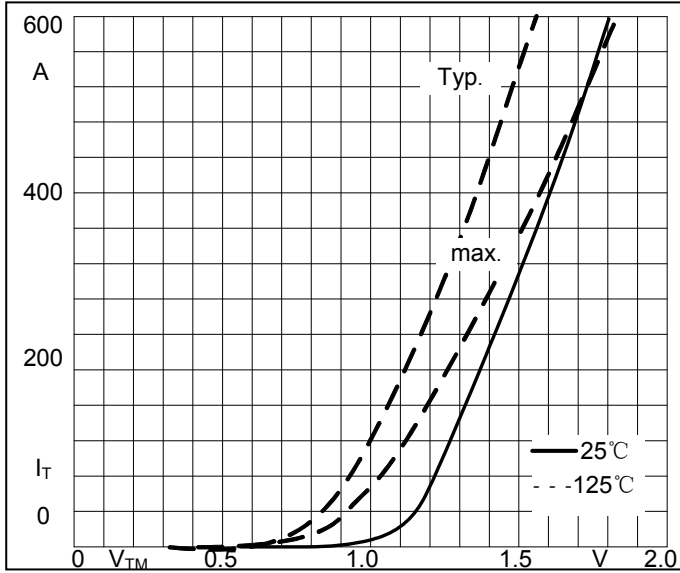


**Fig3. Transient thermal impedance**



**Fig4. Max Non-Repetitive Forward Surge Current**

Performance Curves





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Ordering Information :

Device	Packing
Part Number-BP	Bulk: 8PCS/BOX ;80PCS/CTN

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