



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components



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

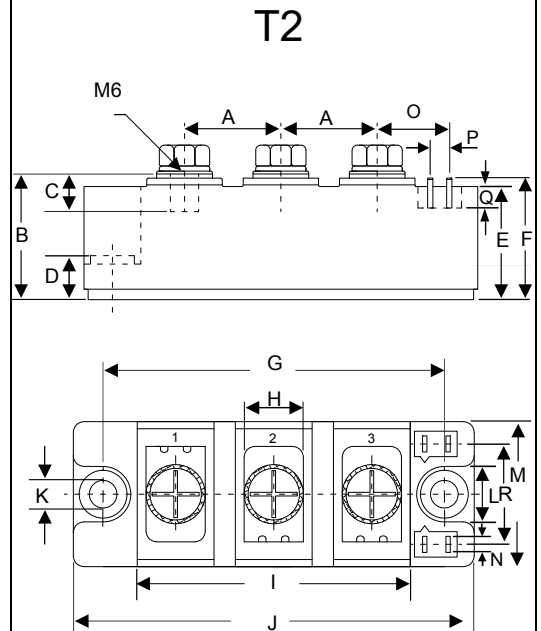
**160 Amp**  
**THYRISTOR MODULE**  
**800~1800 Volts**

## 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

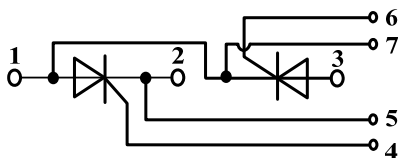
## Applications

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



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.894	.917	22.70	23.30	
B	1.169	1.193	29.70	30.30	
C	.343	.366	8.70	9.30	
D	.323	.343	8.20	8.70	
E	1.051	1.075	26.70	27.30	
F	1.130	1.154	28.70	29.30	
G	.120	.130	79.70	80.30	
H	.500	.524	12.70	13.30	
I	2.501	2.531	63.70	64.30	
J	3.689	3.713	93.70	94.30	
K		.256		6.50	∅
L	.500	.524	12.70	13.30	
M	1.327	1.350	33.70	34.30	
N		0.032X0.11		0.8X2.8	
O	.677	.700	17.20	17.80	
P	.185	.209	4.70	5.30	
Q	.185	.209	4.70	5.30	
R	.902	.925	22.90	23.50	

**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

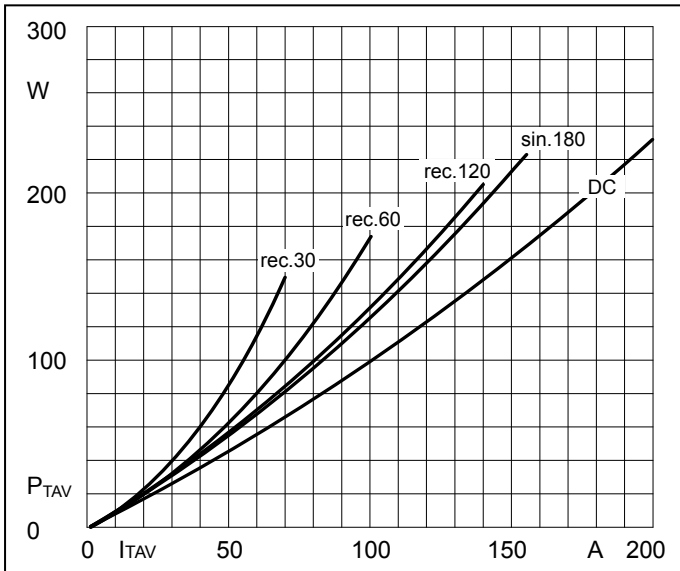
## Thermal Characteristics

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

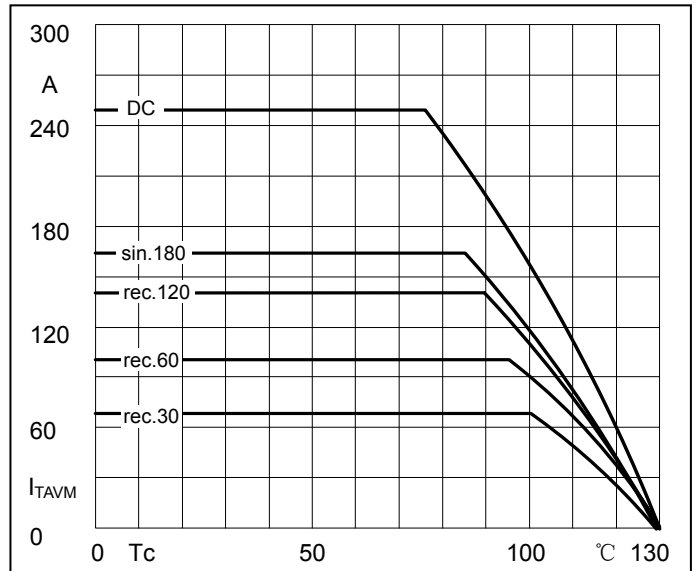
## Electrical Characteristics

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	mΩ
$V_{GT}$	$T_{VJ}=25^\circ\text{C}$ , $V_D=6\text{V}$		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		us
tq	$v_J=T_{VJM}$	100		us

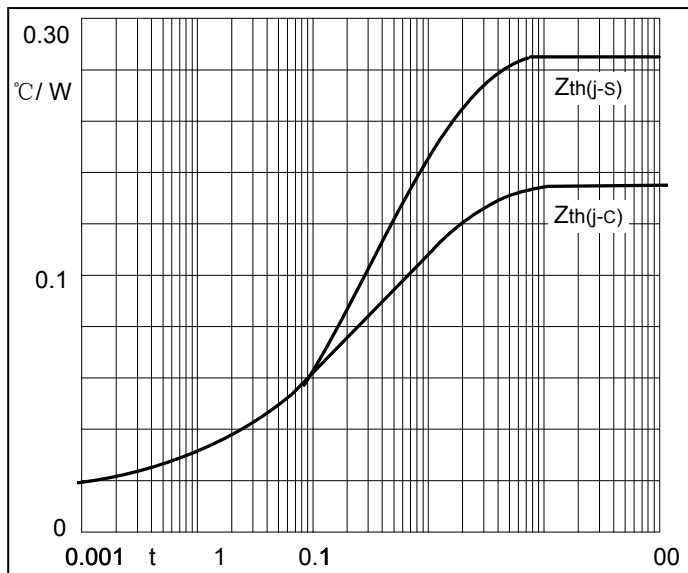
**Performance Curves**



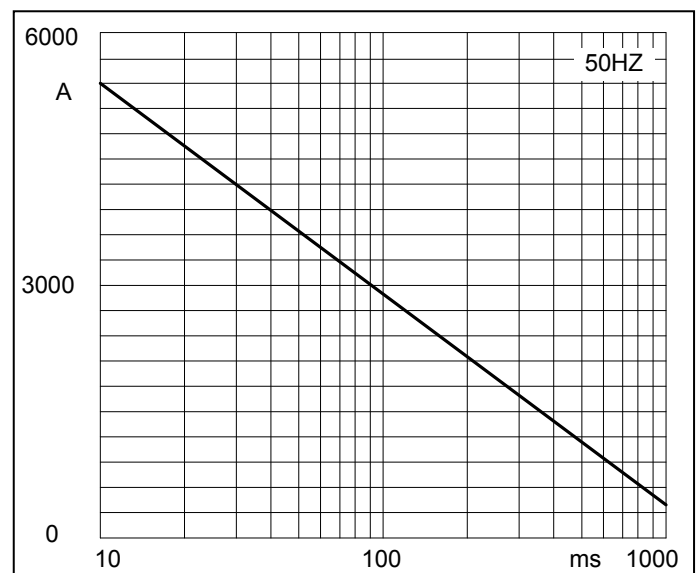
**Fig1. Power dissipation**



**Fig2. Forward Current Derating Curve**



**Fig3. Transient thermal impedance**



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

Performance Curves

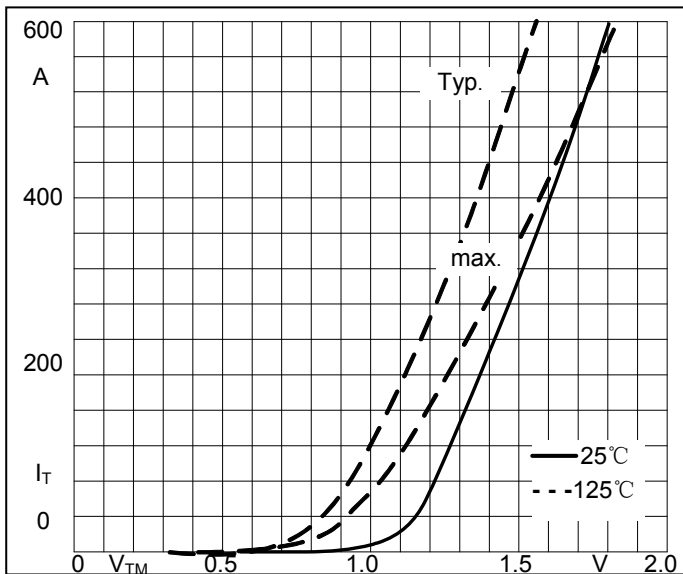


Fig5. Forward Characteristics

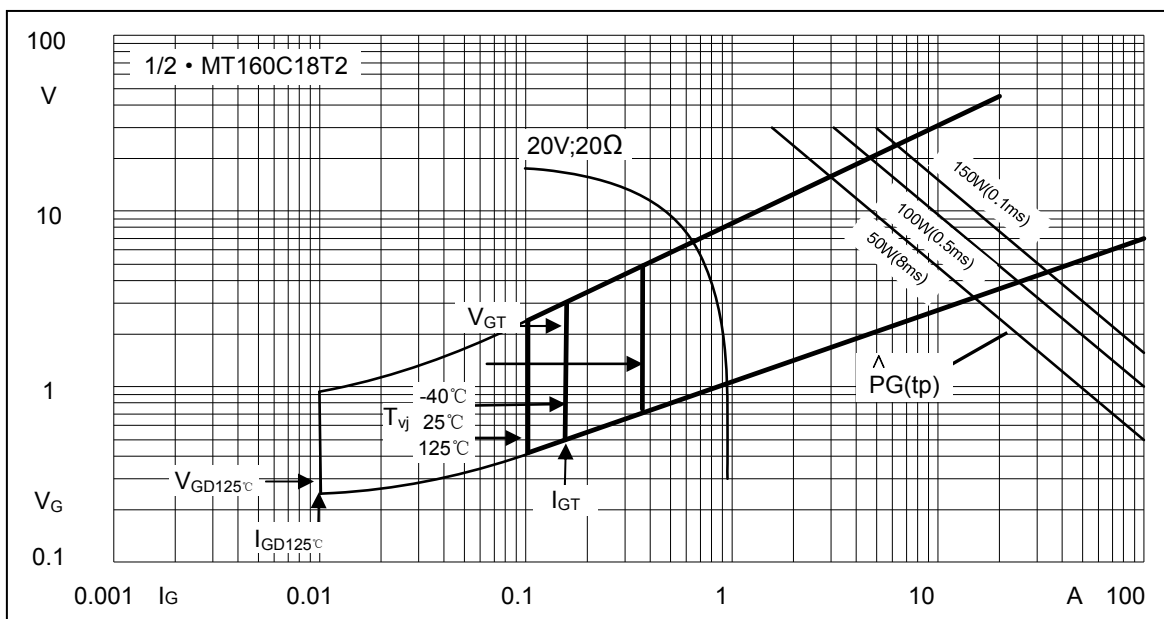


Fig6. Gate trigger Characteristics



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### Ordering Information :

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

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