



Micro Commercial Components



Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

MT160C08T2
MT160C12T2
MT160C16T2
MT160C18T2

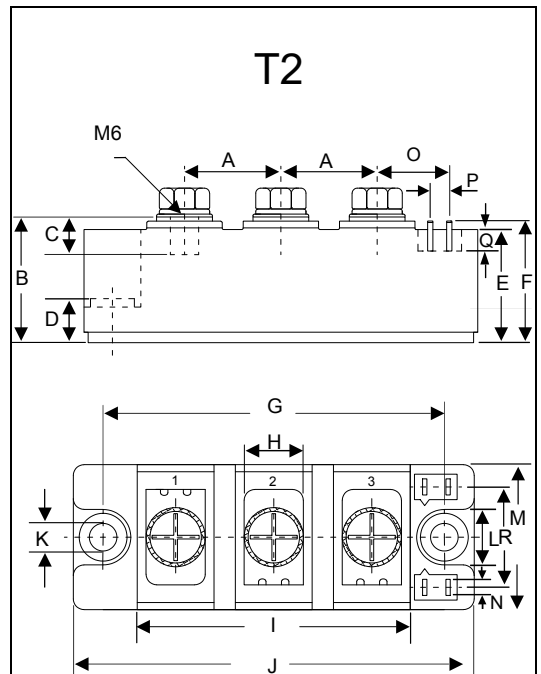
160 Amp
THYRISTOR MODULE
800~1800 Volts

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

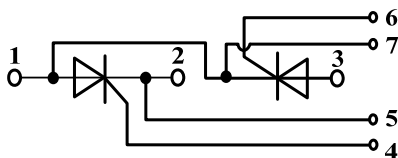
Applications

- 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 ² 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/ μs
dv/dt	$T_J=T_{VJM}$, $2/3V_{DRM}$, linear voltage rise	1000	V/ μs
a	Maximum allowable acceleration	50	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

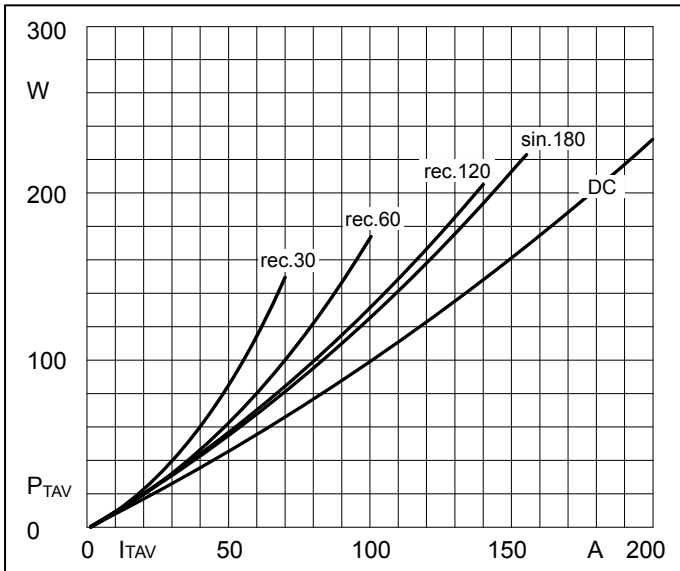


Fig1. Power dissipation

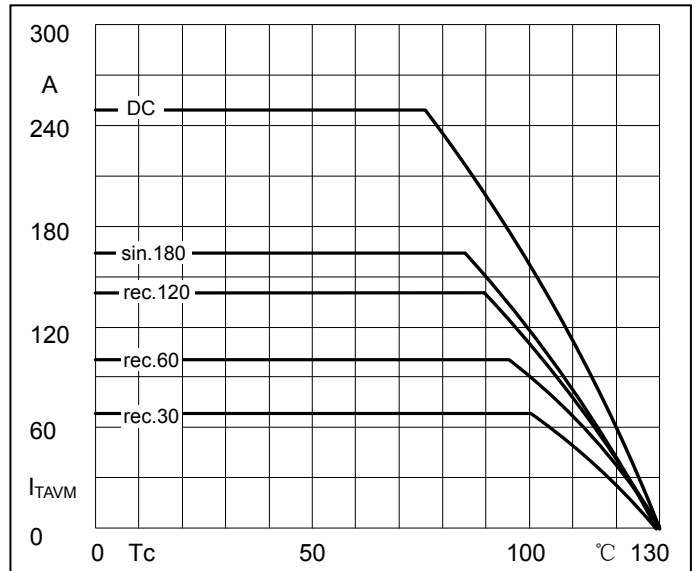


Fig2. Forward Current Derating Curve

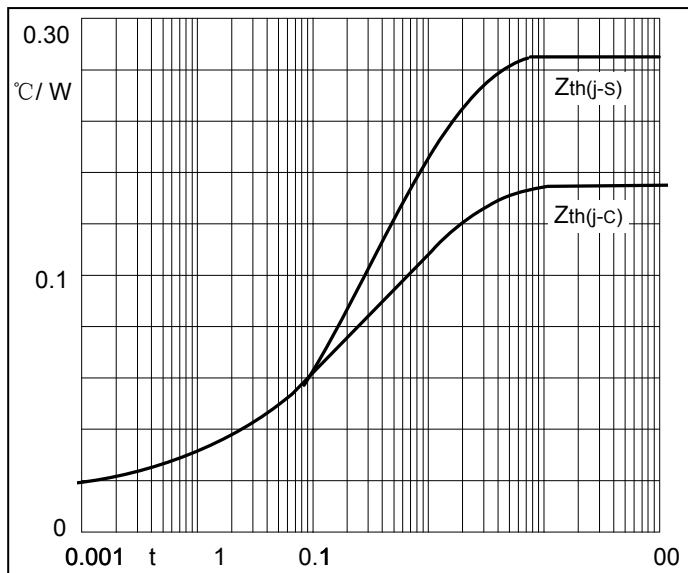


Fig3. Transient thermal impedance

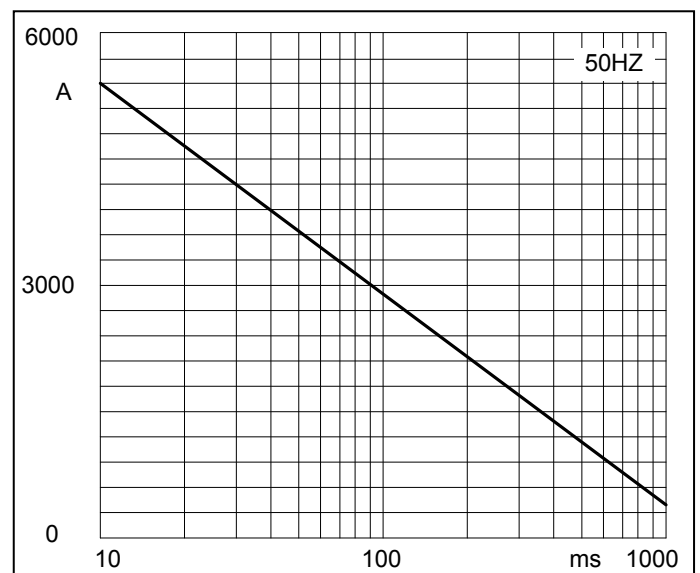


Fig4. Max Non-Repetitive Forward Surge Current

Performance Curves

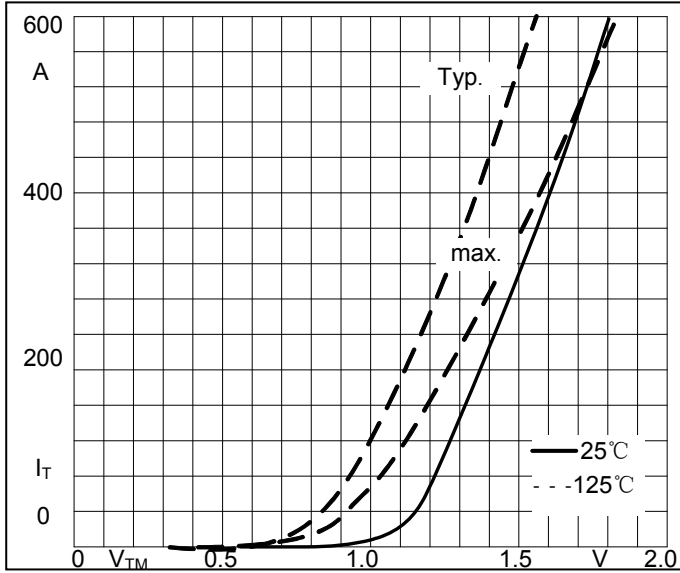


Fig5. Forward Characteristics

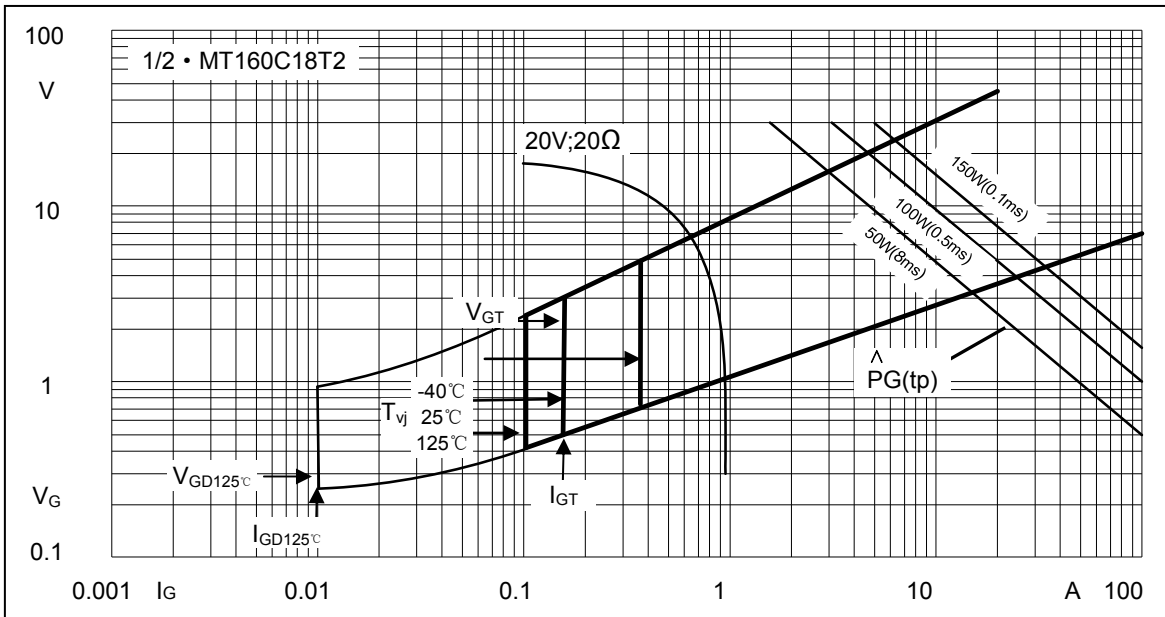


Fig6. Gate trigger Characteristics



Micro Commercial Components

Ordering Information :

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

*****IMPORTANT NOTICE*****

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

*****LIFE SUPPORT*****

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

www.mccsemi.com