



Micro Commercial Components



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

MT90C08T1
MT90C12T1
MT90C16T1
MT90C18T1

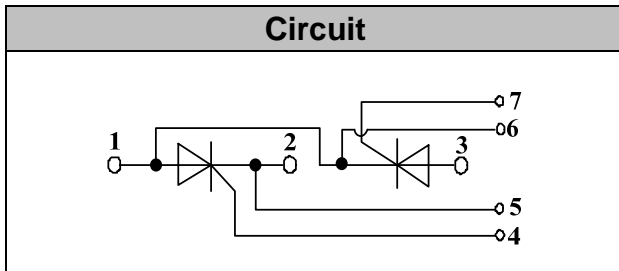
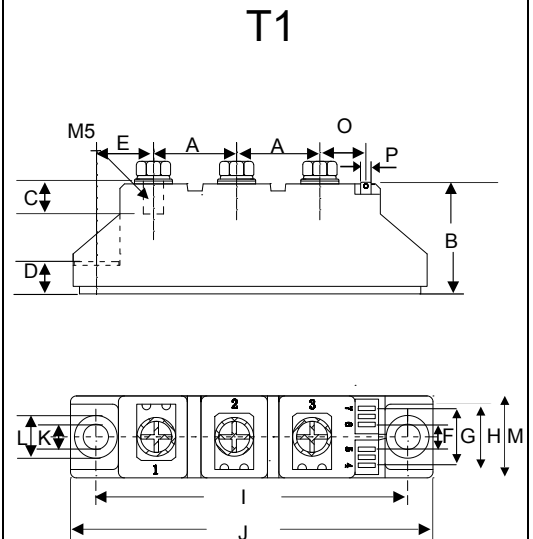
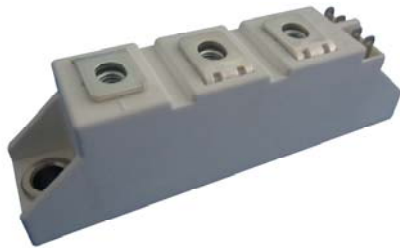
90 Amp
THYRISTOR MODULE
800~1800 Volts

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	0.776	0.799	19.50	20.50	
B	1.169	1.193	29.50	30.50	
C	0.343	0.366	8.50	9.50	
D	0.323	0.346	8.00	9.00	
E	0.602	0.622	15.10	16.00	
F	0.224	0.248	5.50	6.50	
G	0.539	0.563	13.50	14.50	
H	0.657	0.681	16.50	17.50	
I	3.138	3.161	79.50	80.50	
J	3.650	3.673	92.50	93.50	
K	0.256		6.50		∅
L	0.421	0.445	10.50	11.50	
M	0.815	0.839	20.50	21.50	
O	0.579	0.602	14.50	15.50	
P	0.11X0.032		2.8X0.8		

Module Type

TYPE	VRRM	VRSM
MT90C08T1	800V	900V
MT90C12T1	1200V	1300V
MT90C16T1	1600V	1700V
MT90C18T1	1800V	1900V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°;Tc=85°C	90	A
I_{TSM}	T _{VJ} =45°C t=10ms, sine	2000	A
	T _{VJ} =125°C t=10ms, sine	1750	
i^2t	T _{VJ} =45°C t=10ms, sine	20000	A2s
	T _{VJ} =125°C t=10ms, sine	15000	
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to 130	°C
Tstg		-40 to 125	°C
Mt	To terminals(M5)	3 ± 15%	Nm
Ms	To heatsink(M6)	5 ± 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	0.28/0.14	°C/W
Rth(c-s)	per thyristor / per module	0.2/0.1	°C/W

Electrical Characteristics

Symbol	Conditions	Values		Units
V _{TM}	T=25°C I _{TM} =300A		1.65	V
I _{RRM} /I _{DRM}	T _{VJ} =T _{VJM} ,V _R =V _{RRM} ,V _D =V _{DRM}		20	mA
V _{TO}	For power-loss calculations only (T _{VJ} =125°C)		0.9	V
r _T	T _{VJ} =T _{VJM}		2	mΩ
V _{GT}	T _{VJ} =25°C , V _D =6V		3.0	V
I _{GT}	T _{VJ} =25°C , V _D =6V		150	mA
V _{GD}	T _{VJ} =125°C , V _D =2/3V _{DRM}		0.25	V
I _{GD}	T _{VJ} =125°C , V _D =2/3V _{DRM}		6	mA
I _L	T _{VJ} =25°C , R _G = 33 Ω	300	600	mA
I _H	T _{VJ} =25°C , V _D =6V	150	250	mA
tgd	T _{VJ} =25°C, I _G =1A, di _G /dt=1A/us	1		us
tq	T _{VJ} =T _{VJM}	100		us

Performance Curves

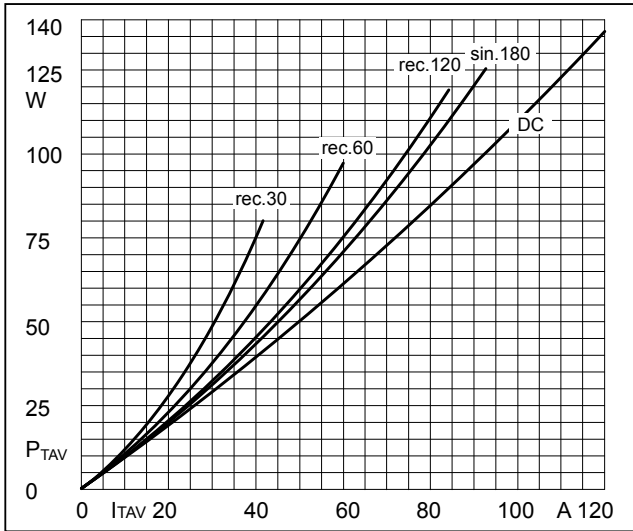


Fig1. Power dissipation

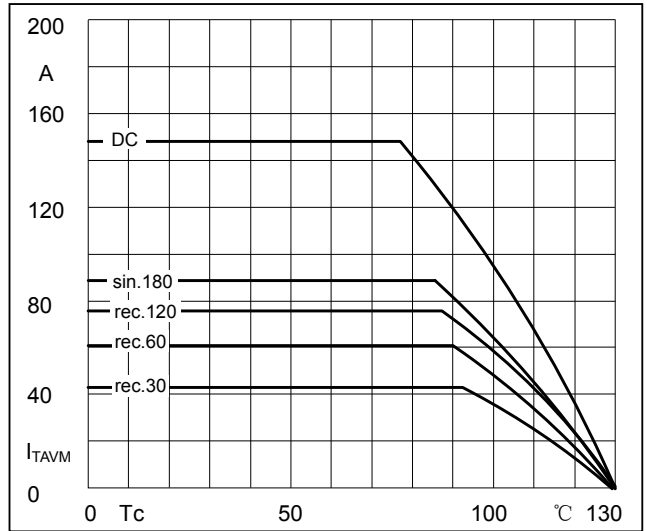


Fig2. Forward Current Derating Curve

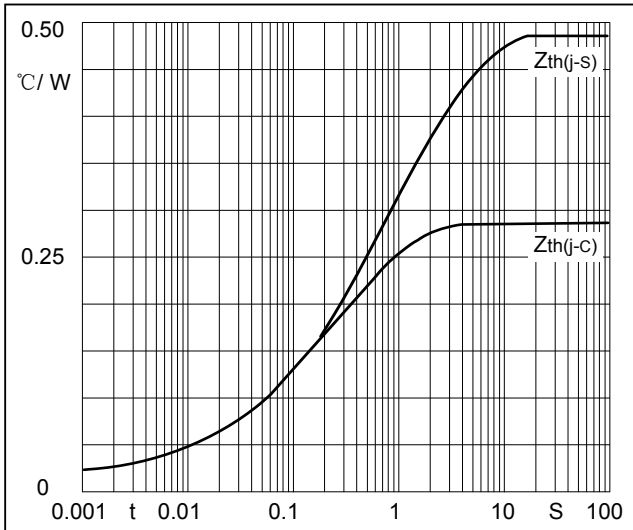


Fig3. Transient thermal impedance

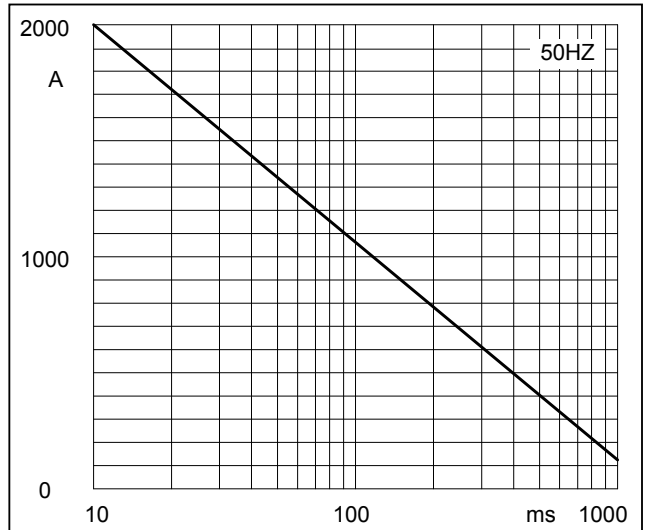


Fig4. Max Non-Repetitive Forward Surge Current

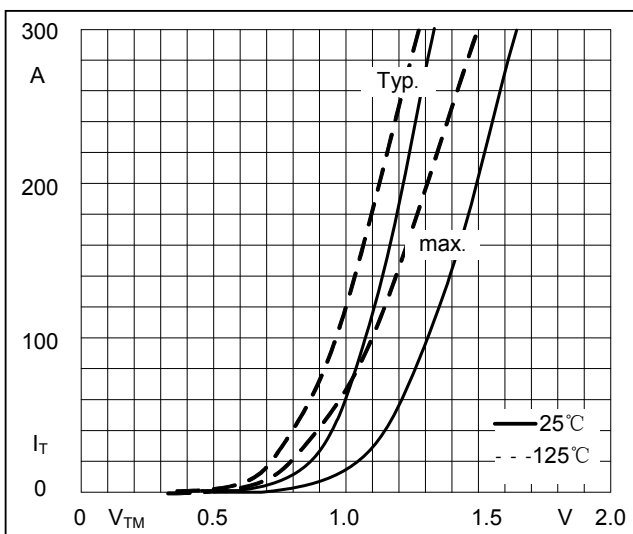


Fig5. Forward Characteristics

Performance Curves

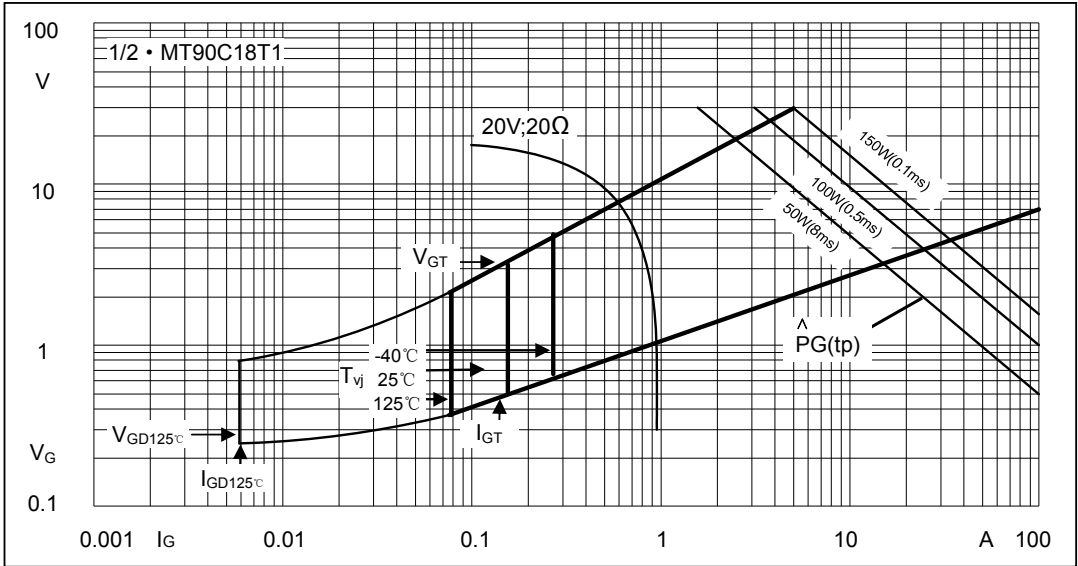


Fig6. Gate trigger Characteristics



Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-BP	Bulk: 10PCS/BOX ;100PCS/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