



Micro Commercial Components



Micro Commercial Components
130 W Cochran St, Unit B
Simi Valley, CA 93065
USA
Tel:818-701-4933

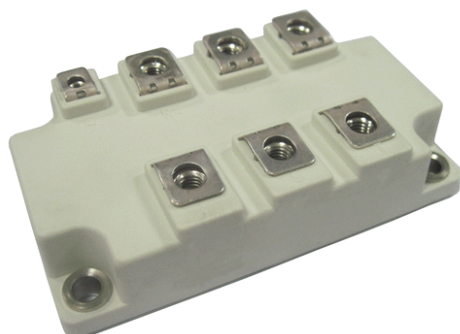
MT150DT08L2
MT150DT12L2
MT150DT16L2
MT150DT18L2

Features

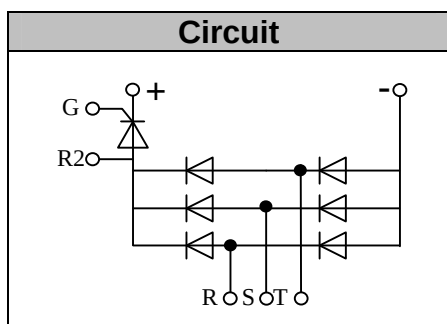
- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Blocking Voltage: 800 to 1800V
- Three Phase Bridge and a Thyristor
- Low Forward Voltage

Applications

- Inverter for AC or DC motor control
- Current stabilized power supply
- Switching power supply
- UL recognized applied for file no. E360040

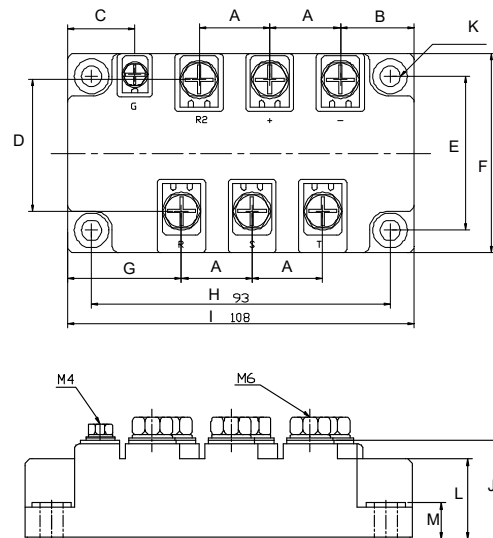


Circuit



150 Amp
Three Phase
Bridge + Thyristor
800~1800 Volts

L2



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.854	0.878	21.50	22.50	
B	0.894	0.917	22.50	23.50	
C	0.815	0.839	20.50	21.50	
D	1.600	1.630	40.50	41.50	
E	1.880	1.900	47.50	48.50	
F	2.430	2.450	61.50	62.50	
G	1.390	1.410	35.00	36.00	
H	3.650	3.670	92.50	93.50	
I	4.240	4.260	107.50	108.50	
J	1.050	1.080	26.50	27.50	
K	0.256		6.50		Ø
L	0.846	0.870	21.30	22.30	
M	0.323	0.346	8.00	9.00	

Module Type

TYPE	VRRM/ VDRM	VRSM
MT150DT08L2	800V	900V
MT150DT12L2	1200V	1300V
MT150DT16L2	1600V	1700V
MT150DT18L2	1800V	1900V

◆Diode

Maximum Ratings

Symbol	Item	Conditions	Values	Units
ID	Output Current(D.C.)	Tc=93℃ Three phase full wave	150	A
IFSM	Surge forward current	t=10mS Tvj =45℃	1500	A
i ² t	Circuit Fusing Consideration		11250	A ² s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1min	3000	V
Tvj	Operating Junction Temperature		-40 to +150	℃
Tstg	Storage Temperature		-40 to +125	℃
Mt	Mounting Torque	To terminals(M4)	2±15%	Nm
Mt		To terminals(M6)	5±15%	Nm
Ms		To heatsink(M6)	5±15%	Nm
Weight		Module (Approximately)	320	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Units
Rth(j-c)	Thermal Impedance, max.	Junction to Case(TOTAL)	0.14	℃/W
Rth(c-s)	Thermal Impedance, max.	Case to Heat sink	0.07	℃/W

Electrical Characteristics

Symbol	Item	Conditions	Values	Units
VFM	Forward Voltage Drop, max.	T=25℃ IF =150A	1.35	V
IRRM	Repetitive Peak Reverse Current, max.	Tvj =25℃ VRD=VRRM Tvj =150℃ VRD=VRRM	≤2 ≤10	mA mA

◆Thyristor
Maximum Ratings

Symbol	Item	Conditions	Values	Units
I_{TAV}	Average On-State Current	$T_c=93^{\circ}\text{C}$, Single Phase half wave 180° conduction	150	A
I_{TSM}	Surge On-State Current	$T_{VJ}=45^{\circ}\text{C}$ $t=10\text{ms}$ (50Hz), sine $V_R=0$	1500	A
i^2t	Circuit Fusing Consideration		11250	A^2s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1 min	3000	V
T_{vj}	Operating Junction Temperature		-40 to +125	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-40 to +125	$^{\circ}\text{C}$
M_t	Mounting Torque	To terminals(M4)	2±15%	Nm
M_t		To terminals(M6)	5±15%	Nm
M_s		To heatsink(M6)	5±15%	Nm
di/dt	Critical Rate of Rise of On-State Current	$T_{VJ}=T_{VJM}$, $V_D=1/2V_{DRM}$, $I_G=100\text{mA}$ $d_{IG}/d_t=0.1\text{A}/\mu\text{s}$	150	$\text{A}/\mu\text{s}$
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_J=T_{VJM}$, $V_D=2/3V_{DRM}$, linear voltage rise	500	$\text{V}/\mu\text{s}$

Electrical and Thermal Characteristics

Symbol	Item	Conditions	Values			Units
V_{TM}	Peak On-State Voltage, max.	$T=25^{\circ}\text{C}$ $I_T=150\text{A}$			1.35	V
I_{RRM}/I_{DRM}	Repetitive Peak Reverse Current, max. / Repetitive Peak Off-State Current, max.	$T_{VJ}=T_{VJM}$, $V_R=V_{RRM}$, $V_D=V_{DRM}$			40	mA
V_{GT}	Gate Trigger Voltage, max.	$T_{VJ}=25^{\circ}\text{C}$, $V_D=6\text{V}$			3	V
I_{GT}	Gate Trigger Current, max.	$T_{VJ}=25^{\circ}\text{C}$, $V_D=6\text{V}$			150	mA
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to Case			0.16	$^{\circ}\text{C}/\text{W}$
$R_{th(c-s)}$	Thermal Impedance, max.	Case to Heatsink			0.07	$^{\circ}\text{C}/\text{W}$

Performance Curves

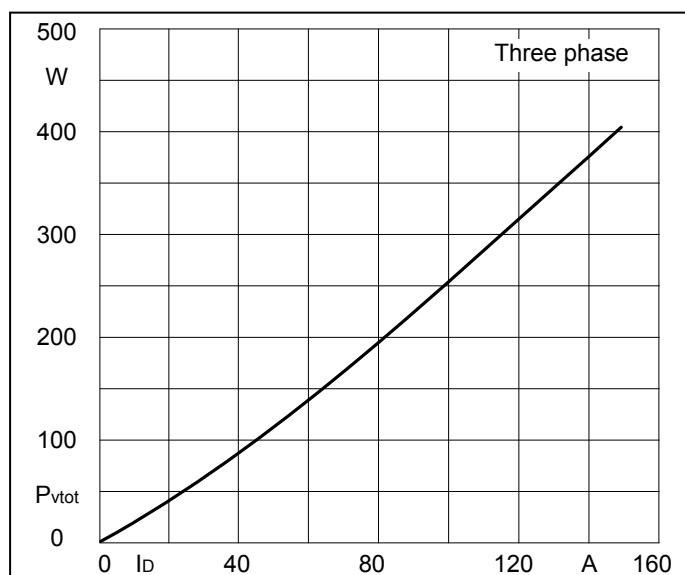


Fig1. Power dissipation

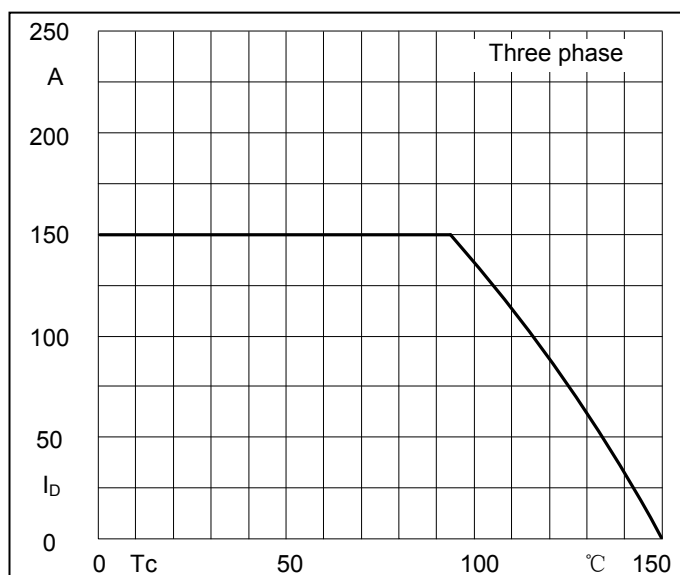


Fig2. Forward Current Derating Curve

Performance Curves

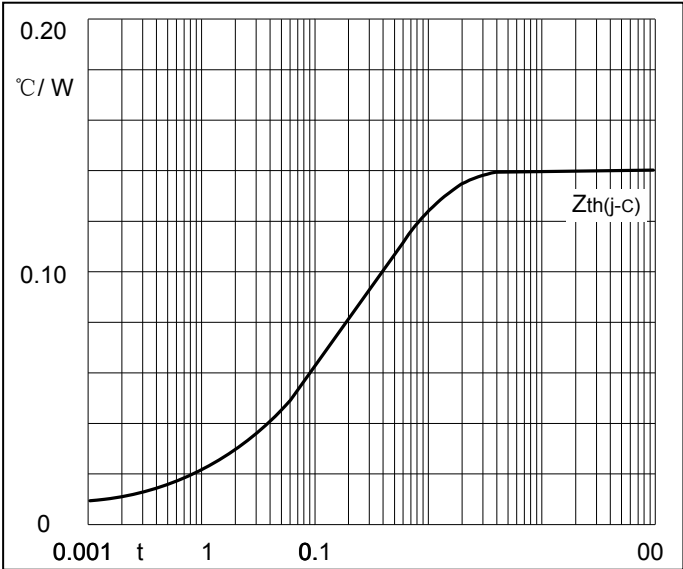


Fig3. Transient thermal impedance

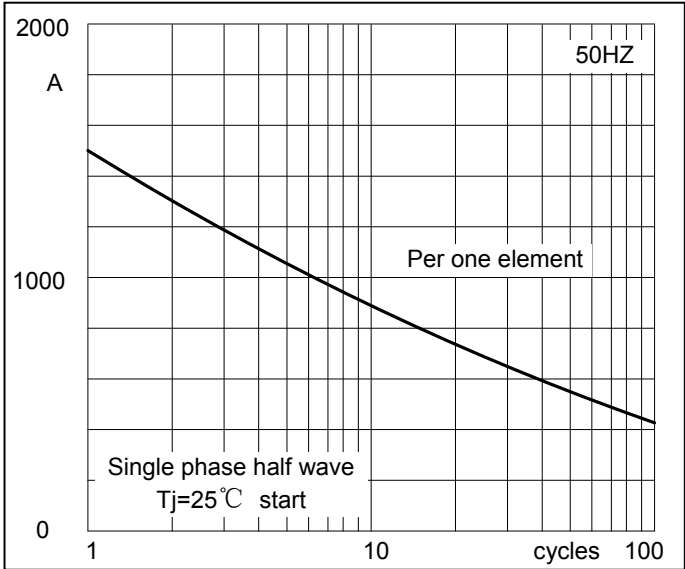


Fig4. Max Non-Repetitive Forward Surge Current

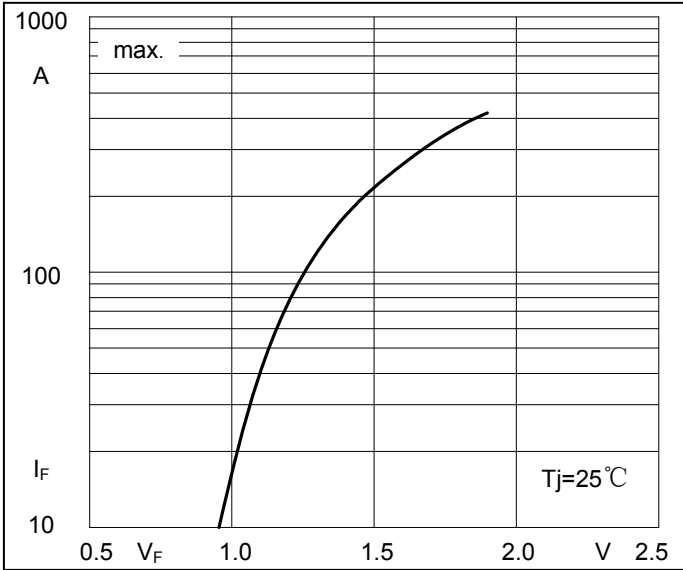


Fig5. Forward Characteristics

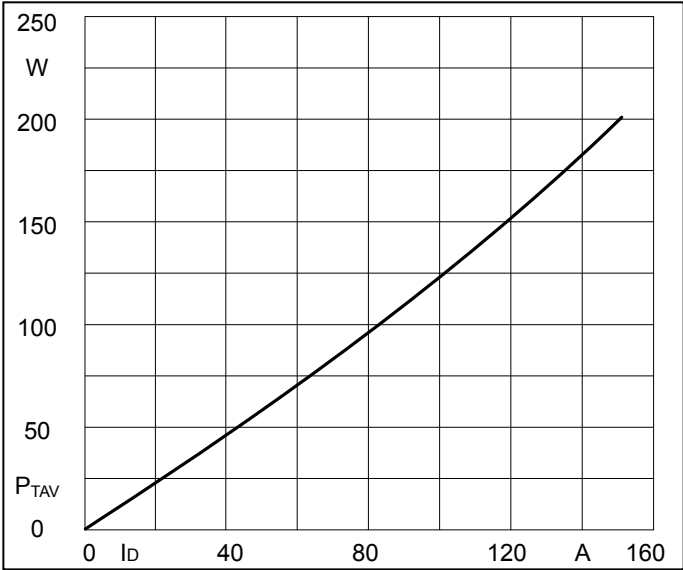


Fig6. SCR Power dissipation

Performance Curves

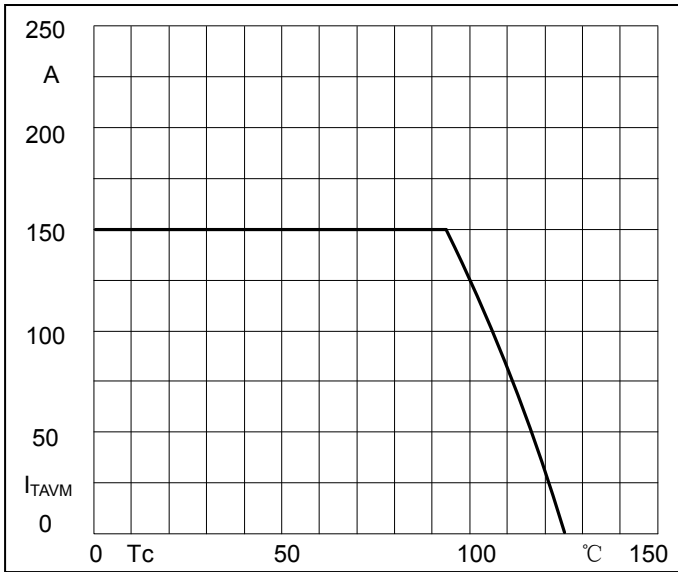


Fig7. SCR Forward Current Derating Curve

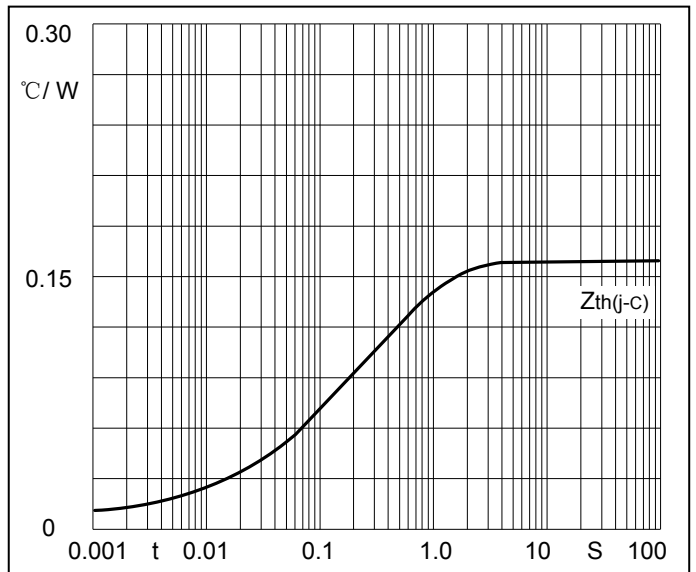


Fig8. SCR Transient thermal impedance

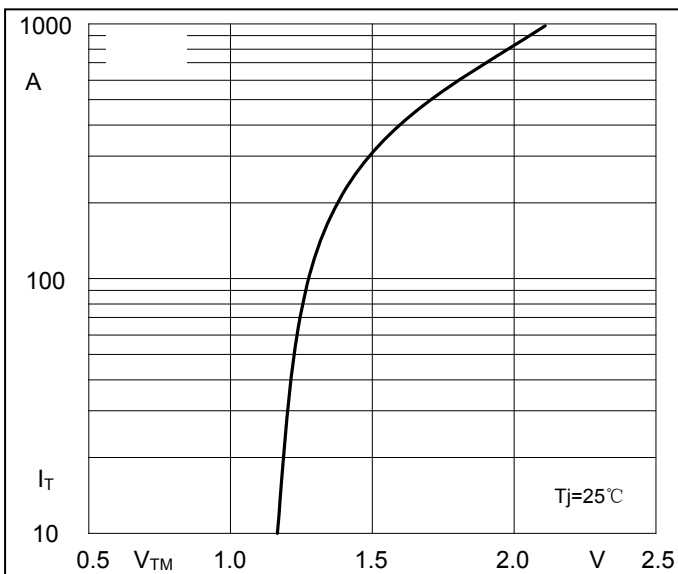


Fig9. SCR Forward Characteristics

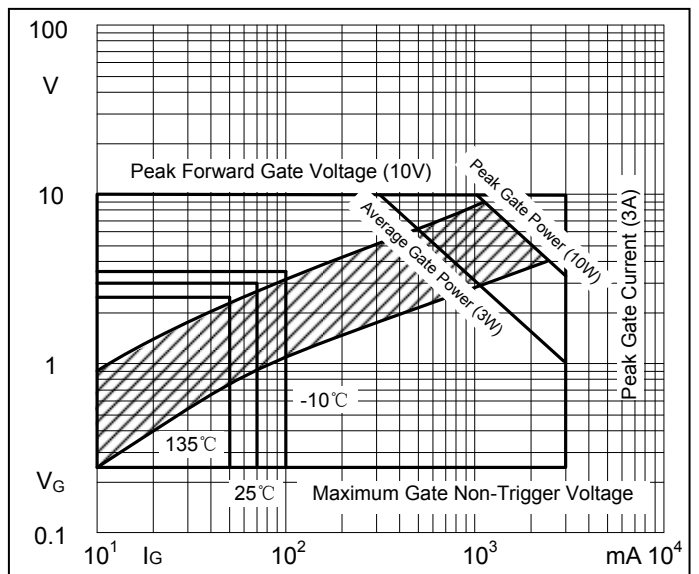


Fig10. Gate trigger Characteristics

Ordering Information :

Device	Packing
Part Number-BP	Bulk: 4PCS/BOX ;40PCS/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. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Micro Commercial Components \(MCC\):](#)

[MT150DT16L2-BP](#)