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

MT150DT08L2
MT150DT12L2
MT150DT16L2
MT150DT18L2

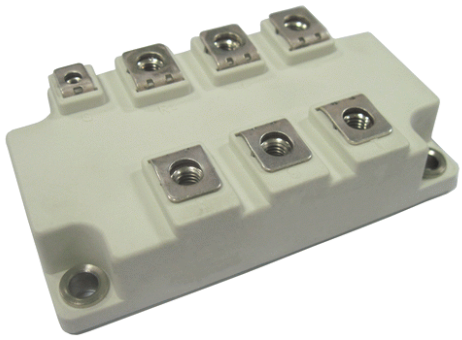
150 Amp
Three Phase
Bridge + Thyristor
800~1800 Volts

Features

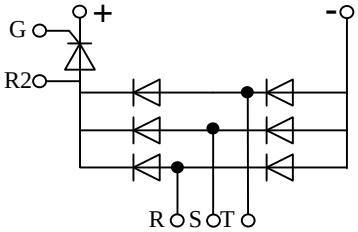
- Lead Free Finish/RoHS Compliant (NOTE 1)("P" Suffix designates RoHS Compliant. See ordering information)
- Blocking Voltage:800 to 1800V
- Three Phase Bridge and a Thyristor
- Low Forward Voltage

Applications

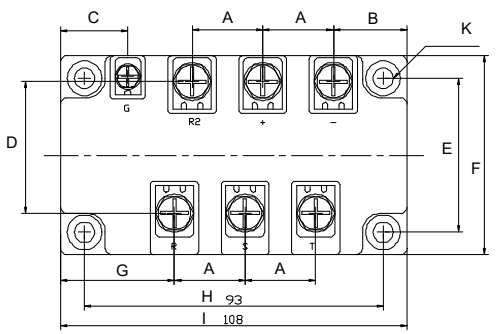
- Inverter for AC or DC motor control
- Current stabilized power supply
- Switching power supply
- UL recognized applied for file no.E360040

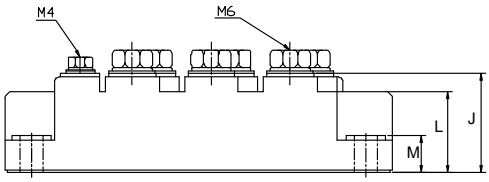


Circuit



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	V_{RRM}/ V_{DRM}	V_{RSM}
MT150DT08L2	800V	900V
MT150DT12L2	1200V	1300V
MT150DT16L2	1600V	1700V
MT150DT18L2	1800V	1900V

◆Diode
Maximum Ratings

Symbol	Item	Conditions	Values	Units
I_D	Output Current(D.C.)	Tc=93℃ Three phase full wave	150	A
I_{FSM}	Surge forward current	t=10mS Tvj =45℃	1500	A
i^2t	Circuit Fusing Consideration		11250	A^2s
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
$R_{th(j-c)}$	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
V_{FM}	Forward Voltage Drop, max.	T=25℃ I_F =150A	1.35	V
I_{RRM}	Repetitive Peak Reverse Current, max.	Tvj =25℃ V_{RD}=V_{RRM} Tvj =150℃ V_{RD}=V_{RRM}	≤2 ≤10	mA mA

◆Thyristor
Maximum Ratings

Symbol	Item	Conditions	Values	Units
I_{TAV}	Average On-State Current	Tc=93℃, Single Phase half wave 180° conduction	150	A
I_{TSM}	Surge On-State Current	TVJ=45℃ t=10ms (50Hz), sine VR=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
Tvj	Operating Junction Temperature		-40 to +125	℃
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
di/dt	Critical Rate of Rise of On-State Current	$T_{VJ}=T_{VJM}$, $V_D=1/2V_{DRM}$,I_G =100mA d_{iG}/d_t=0.1A/μs	150	A/μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_J=T_{VJM}$,$V_D=2/3V_{DRM}$,linear voltage rise	500	V/μs

Electrical and Thermal Characteristics

Symbol	Item	Conditions	Values			Units
V_{TM}	Peak On-State Voltage, max.	T=25℃ I_T=150A			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℃ , V_D =6V			3	V
I_{GT}	Gate Trigger Current, max.	T_{VJ} =25℃ , V_D =6V			150	mA
Rth(j-c)	Thermal Impedance, max.	Junction to Case			0.16	℃/W
Rth(c-s)	Thermal Impedance, max.	Case to Heatsink			0.07	℃/W

Performance Curves

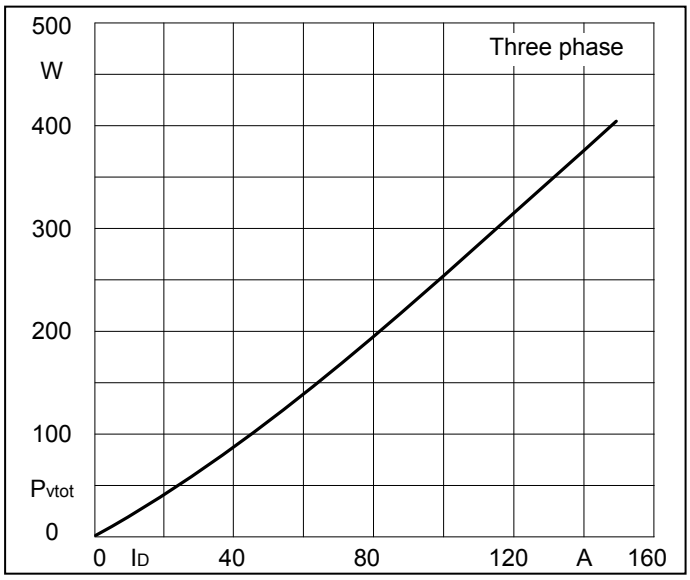


Fig1. Power dissipation

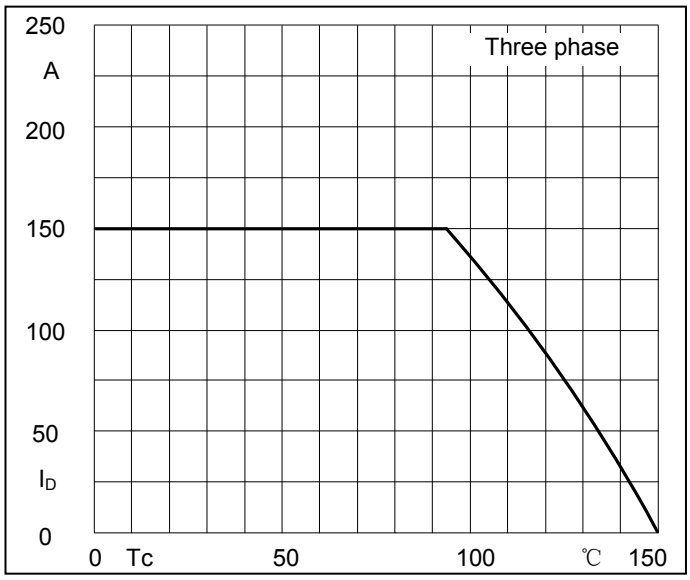


Fig2. Forward Current Derating Curve

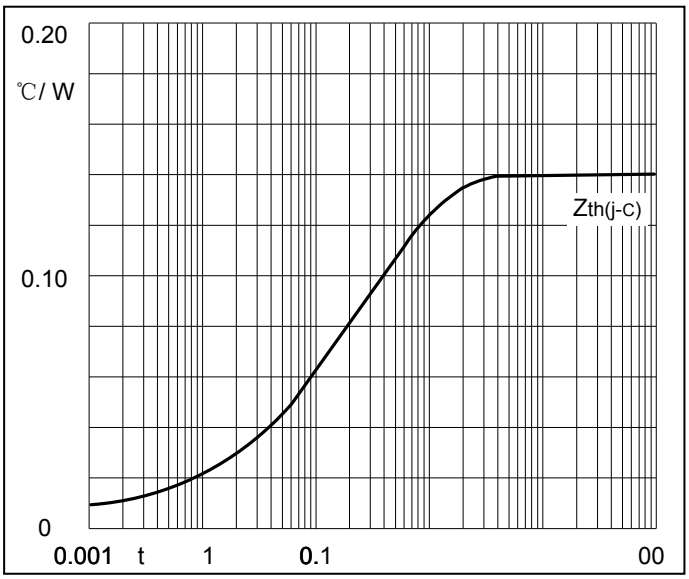


Fig3. Transient thermal impedance

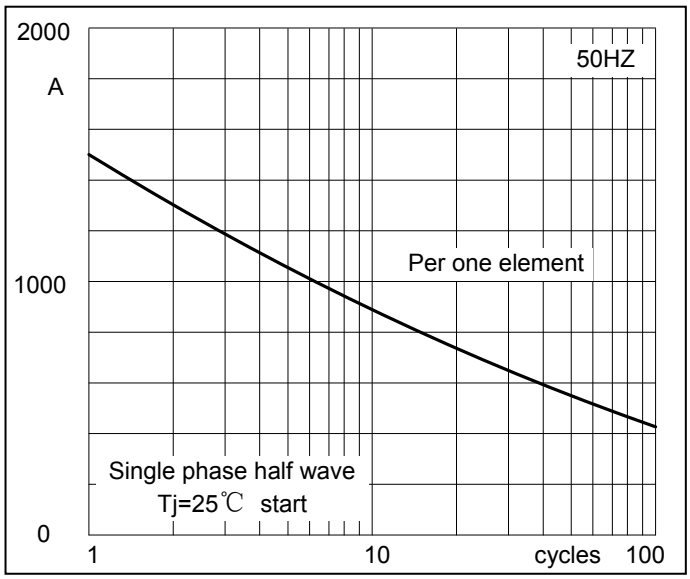


Fig4. Max Non-Repetitive Forward Surge Current

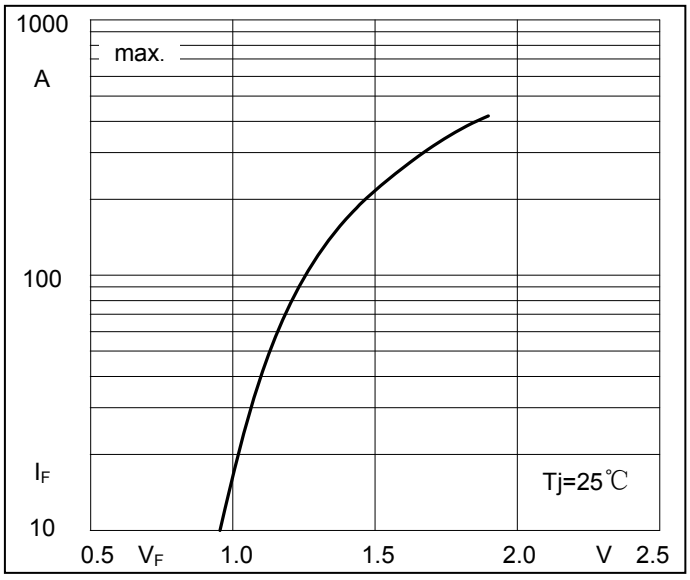


Fig5. Forward Characteristics

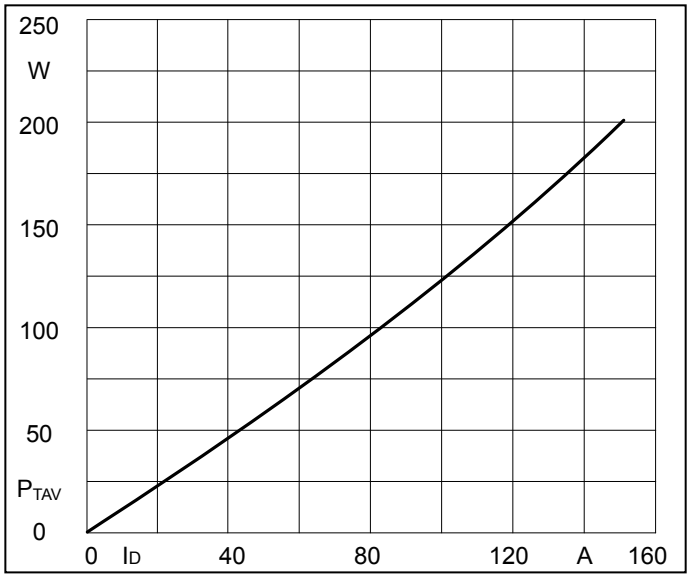


Fig6. SCR Power dissipation

Performance Curves

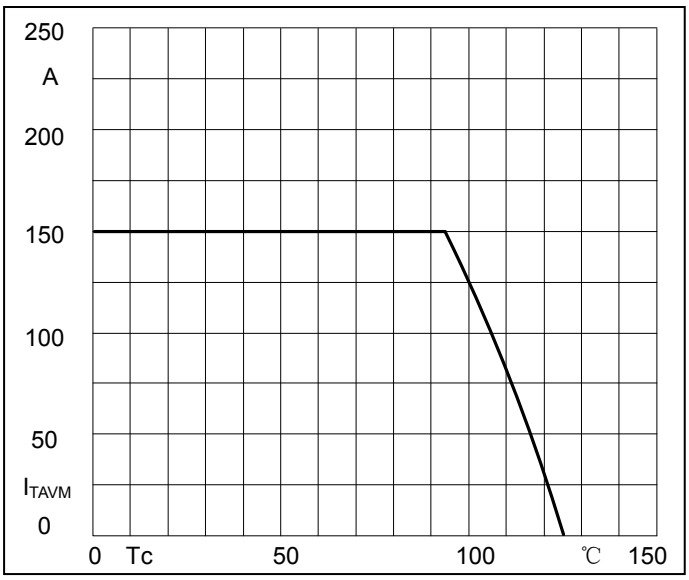


Fig7. SCR Forward Current Derating Curve

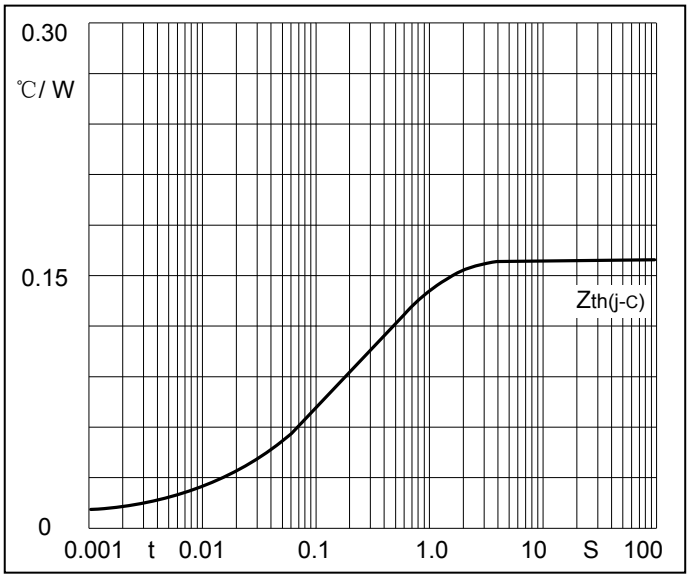


Fig8. SCR Transient thermal impedance

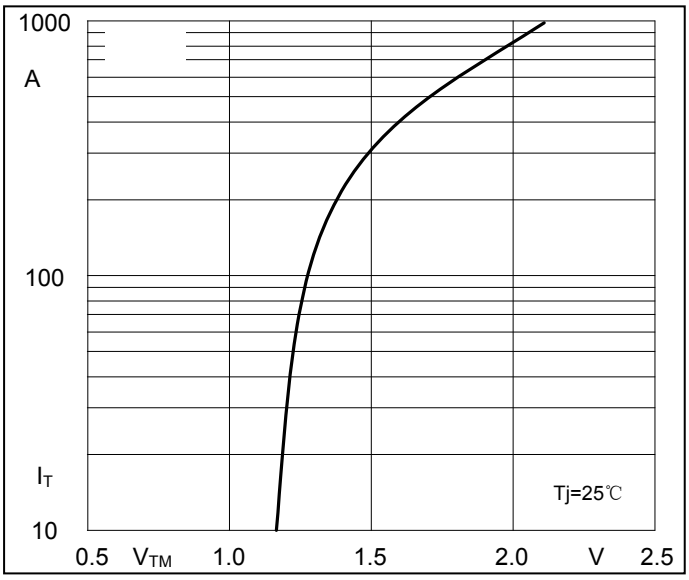


Fig9. SCR Forward Characteristics

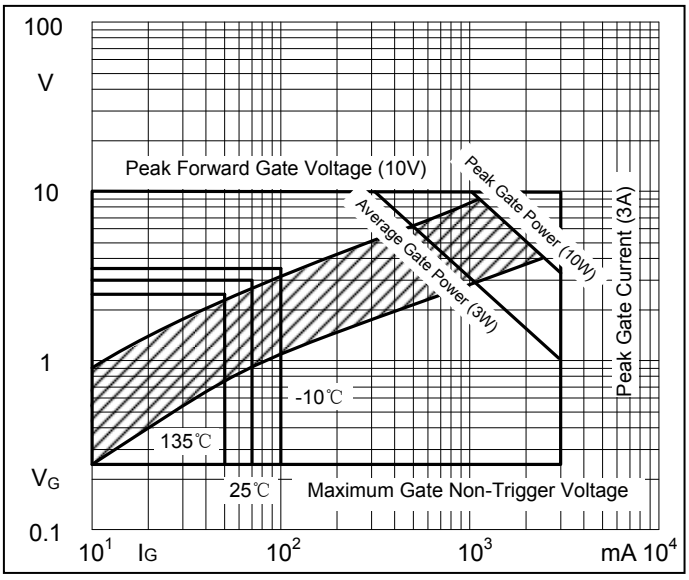


Fig10. Gate trigger Characteristics

Ordering Information :

Device	Packing
Part Number-BP	Bulk: 4PCS/BOX ;40PCS/CTN