

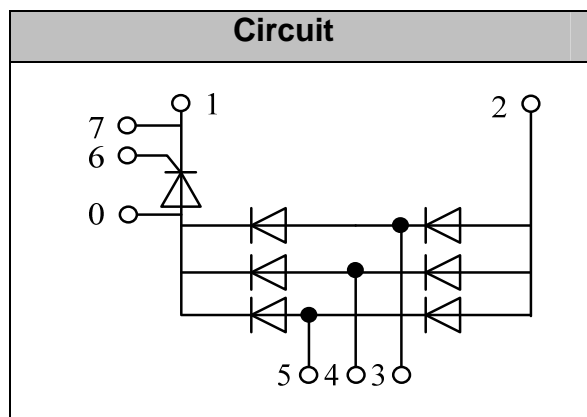
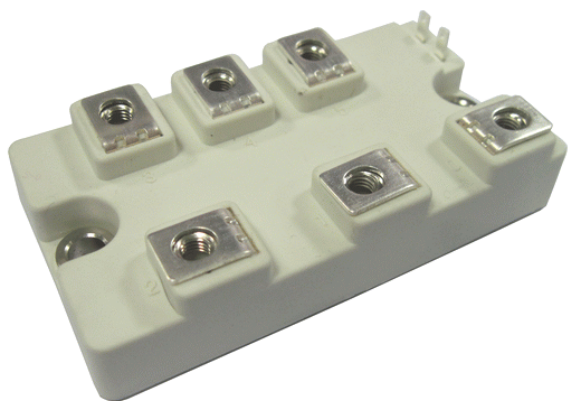
Features

- 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
- Isolated Module Package

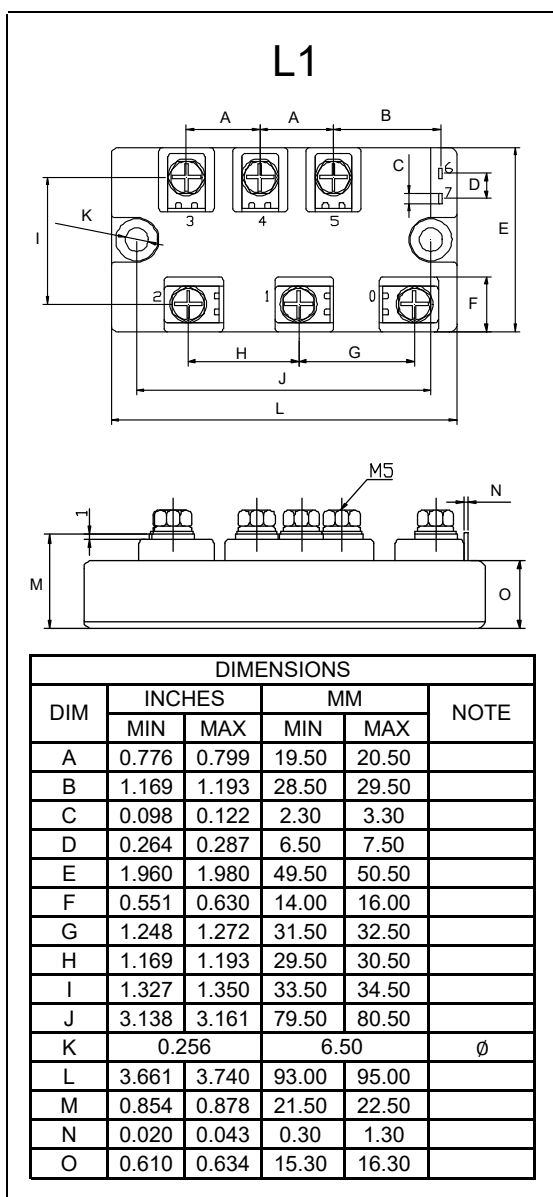
Applications

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

MCC Part Number	V_{RRM}/V_{DRM}	V_{RSM}
MT100DT08L1	800V	900V
MT100DT12L1	1200V	1300V
MT100DT16L1	1600V	1700V
MT100DT18L1	1800V	1900V



**100 Amp
Three Phase
Bridge + Thyristor
800~1800 Volts**



◆ Diode

Maximum Ratings

Symbol	Item	Conditions	Values	Units
ID	Output Current(D.C.)	Tc=100°C Three phase full wave	100	A
IFSM	Surge forward current	t=10mS Tvj =45°C	1200	A
i ² t	Circuit Fusing Consideration		7200	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	°C
Tstg	Storage Temperature		-40 to +125	°C
Mt	Mounting Torque	To terminals(M5)	3±15%	Nm
Ms		To heatsink(M5)	3±15%	Nm
Weight		Module (Approximately)	210	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Units
Rth(j-c)	Thermal Impedance, max.	Junction to Case(TOTAL)	0.18	°C/W
Rth(c-s)	Thermal Impedance, max.	Case to Heatsink	0.10	°C/W

Electrical Characteristics

Symbol	Item	Conditions	Values	Units
VFM	Forward Voltage Drop, max.	T=25°C IF =100A	1.35	V
IRRM	Repetitive Peak Reverse Current, max.	Tvj =25°C VRD=VRRM Tvj =150°C VRD=VRRM	≤0.5 ≤6	mA mA

◆ Thyristor

Micro Commercial Components

Maximum Ratings

Symbol	Item	Conditions	Values	Units
ITAV	Average On-State Current	Tc=92°C, Single Phase half wave 180° conduction	100	A
ITSM	Surge On-State Current	Tvj=45°C t=10ms (50Hz), sine VR=0	1200	A
i ² t	Circuit Fusing Consideration		7200	A ² s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50Hz;r.m.s.;1 min	3000	V
Tvj	Operating Junction Temperature		-40 to +125	°C
Tstg	Storage Temperature		-40 to +125	°C
Mt	Mounting Torque	To terminals(M5)	3±15%	Nm
Ms		To heatsink(M5)	3±15%	Nm
di/dt	Critical Rate of Rise of On-State Current	Tvj=TvjM, VD=1/2VDRM, IG =100mA diG/dt=0.1A/μs	150	A/μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	Tj=TvjM, VD=2/3VDRM, linear voltage rise	500	V/μs

Electrical and Thermal Characteristics

Symbol	Item	Conditions	Values			Units
V_{TM}	Peak On-State Voltage, max.	$T=25^{\circ}C$ $I_T=100A$			1.25	V
I_{RRM}/I_{DRM}	Repetitive Peak Reverse Current, max. / Repetitive Peak Off-State Current, max.	$T_{VJ}=T_{VJM}$, $V_R=V_{RRM}$, $V_D=V_{DRM}$			20	mA
V_{GT}	Gate Trigger Voltage, max.	$T_{VJ}=25^{\circ}C$, $V_D=6V$			3	V
I_{GT}	Gate Trigger Current, max.	$T_{VJ}=25^{\circ}C$, $V_D=6V$			150	mA
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to Case			0.26	$^{\circ}C/W$
$R_{th(c-s)}$	Thermal Impedance, max.	Case to Heatsink			0.10	$^{\circ}C/W$

Performance Curves

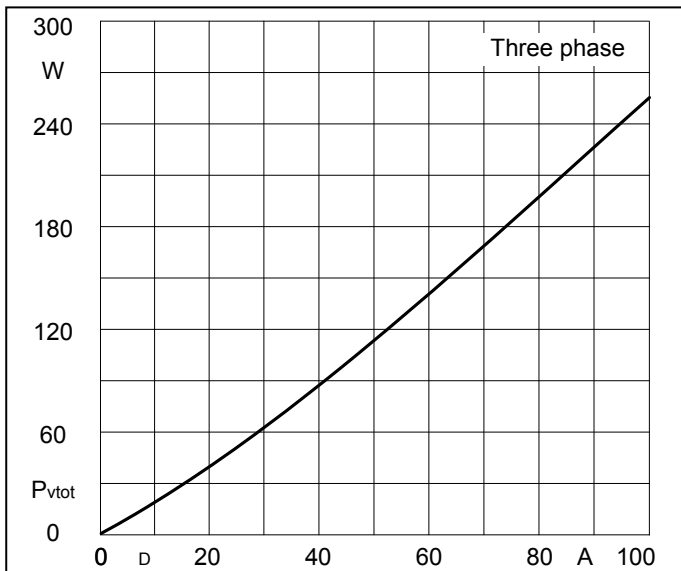


Fig1. Power dissipation

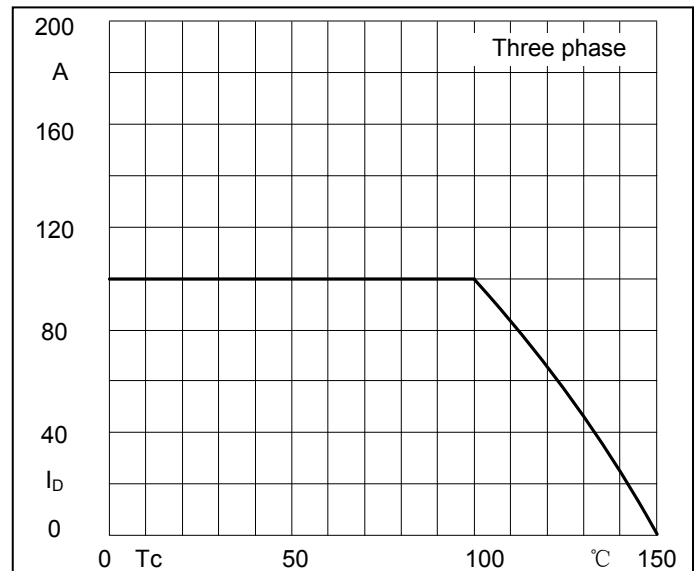


Fig2. Forward Current Derating Curve

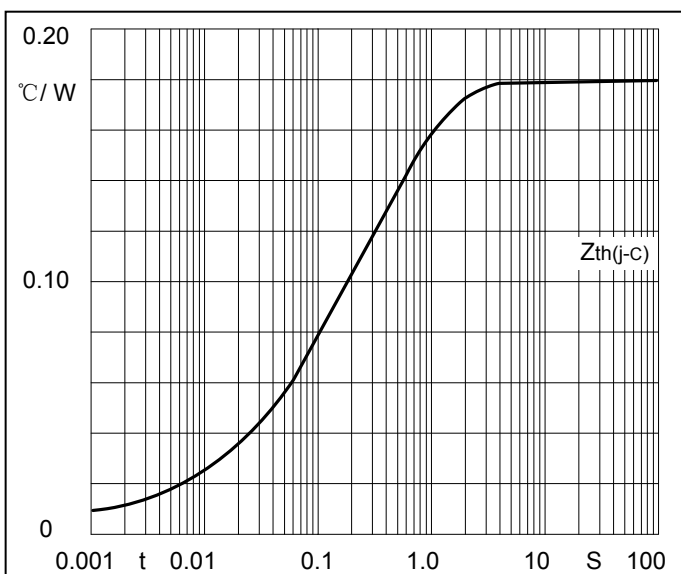


Fig3. Transient thermal impedance

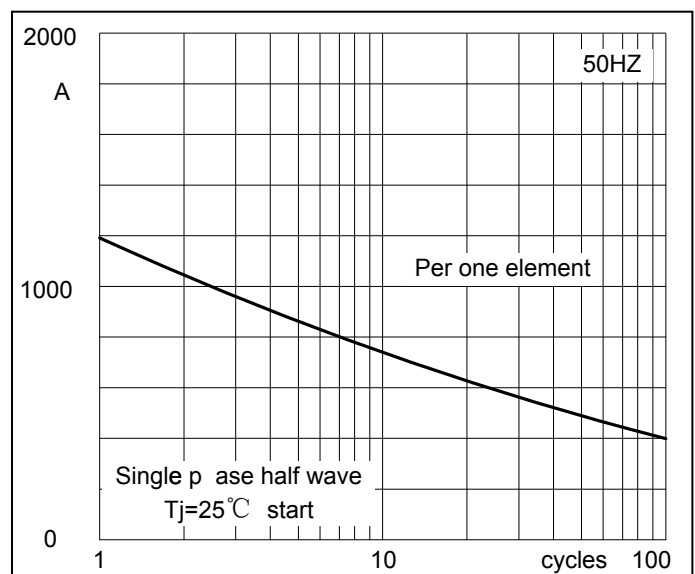


Fig4. Max Non-Repetitive Forward Surge Current

Performance Curves

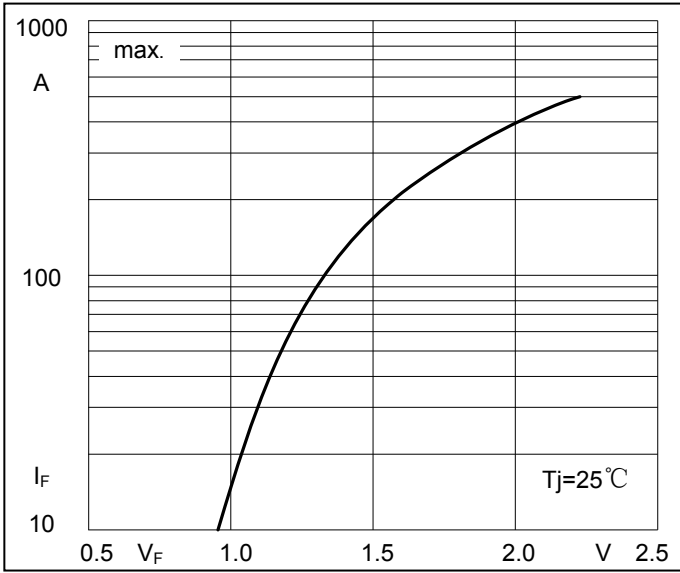


Fig5. Forward Characteristics

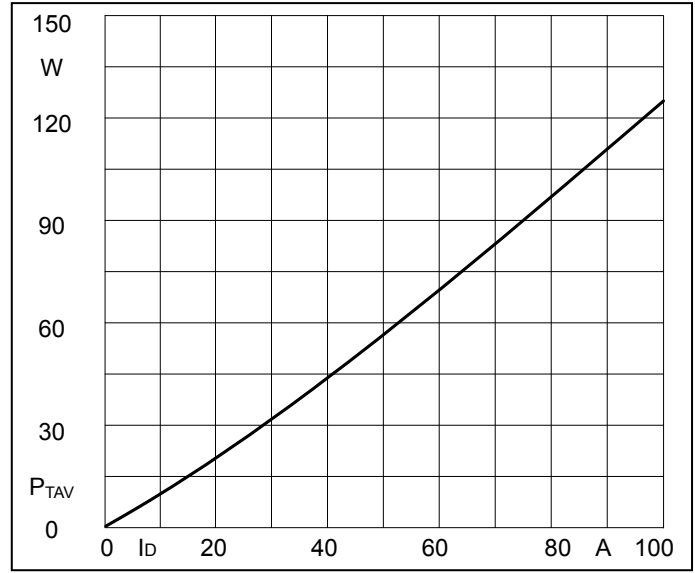


Fig6. SCR Power dissipation

Ordering Information

Device	Packing
Part Number-BP	Bulk: 6PCS/BOX ;60PCS/CTN

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