Features

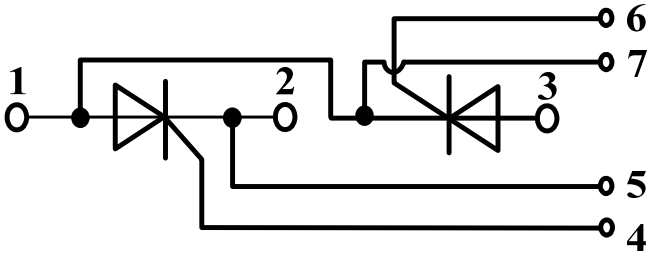
- Lead Free Finish/RoHS Compliant (NOTE 1)("P" Suffix designates RoHS Compliant. See ordering information)
- International standard package
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- Simple Mounting

160 Amp THYRISTOR MODULE 800~1800 Volts

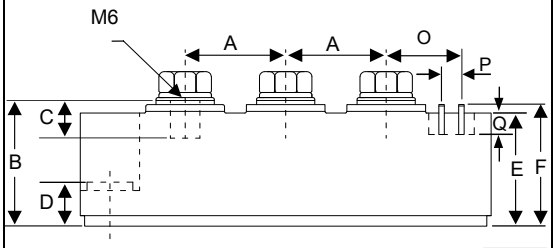
Applications

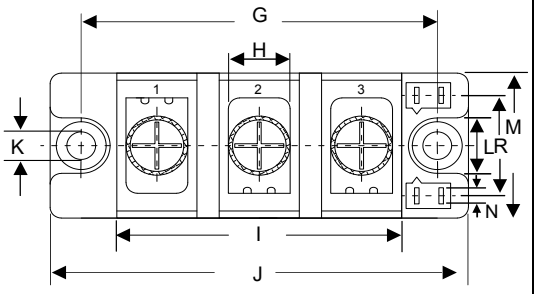
- Power Converters
- Lighting Control
- DC Motor Control and Drives
- Heat and temperature control

MCC Part Number	V_{RRM}	V_{RSM}
MT160C08T2	800V	900V
MT160C12T2	1200V	1300V
MT160C16T2	1600V	1700V
MT160C18T2	1800V	1900V



T2





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		ø
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	

Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°;Tc=85℃	160	A
I_{TSM}	T_{VJ}=45℃ t=10ms, sine T_{VJ}=125℃ t=10ms, sine	5400 5000	A
i^2t	T_{VJ}=45℃ t=10ms, sine T_{VJ}=125℃ t=10ms, sine	145000 125000	A2s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
Tvj		-40 to 130	℃
Tstg		-40 to 125	℃
Mt	To terminals(M6)	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	200	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)	165	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Cont.;per thyristor / per module	0.17/0.085	℃/W
Rth(c-s)	per thyristor / per module	0.1/0.05	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
V_{TM}	T=25℃ I_{TM} =500A			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℃)			0.85	V
r_T	T_{VJ} =T_{VJM}			1.5	mΩ
V_{GT}	T_{VJ} =25℃ , V_D =6V			3	V
I_{GT}	T_{VJ} =25℃ , V_D =6V			150	mA
V_{GD}	T_{VJ} =125℃ , V_D =2/3V_{DRM}			0.25	V
I_{GD}	T_{VJ} =125℃ , V_D =2/3V_{DRM}			10	mA
I_L	T_{VJ} =25℃ , R_G = 33 Ω		300	1000	mA
I_H	T_{VJ} =25℃ , V_D =6V		150	400	mA
tgd	T_{VJ} =25℃, I_G=1A, di_G/dt=1A/us		1		us
tq	$_{VJ}$ =T_{VJM}		100		us

Performance Curves

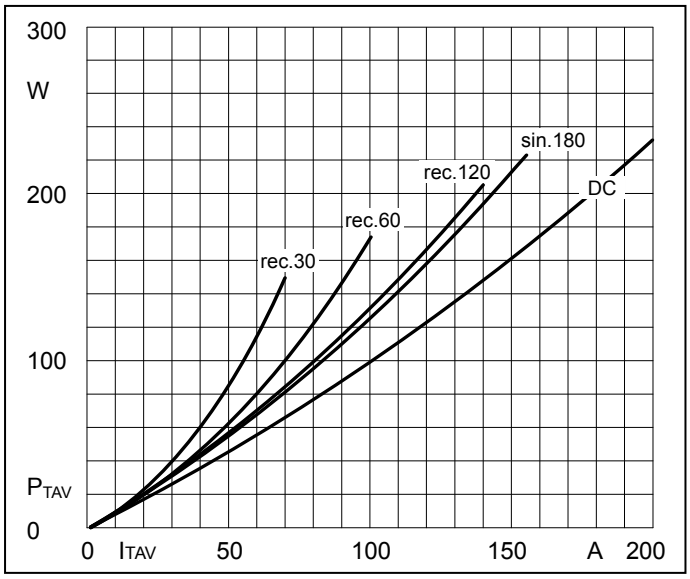


Fig1. Power dissipation

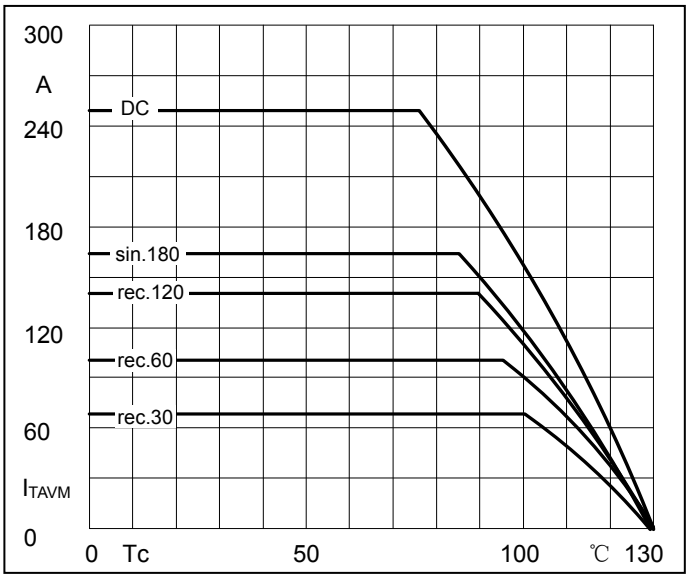


Fig2.Forward Current Derating Curve

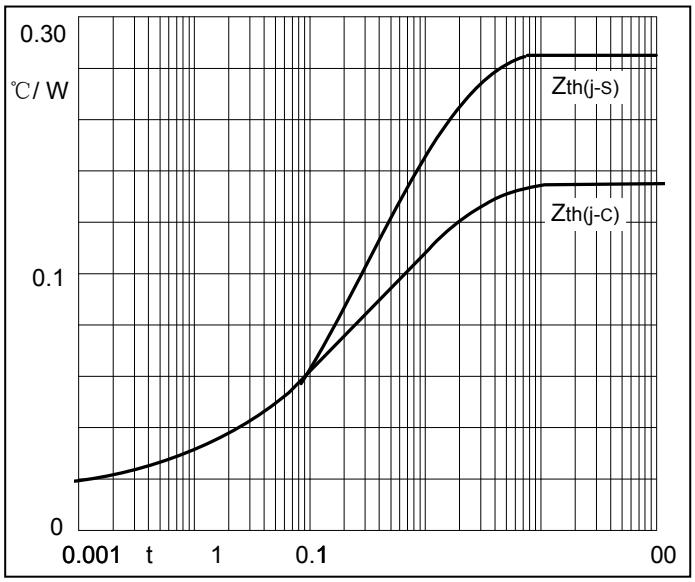


Fig3. Transient thermal impedance

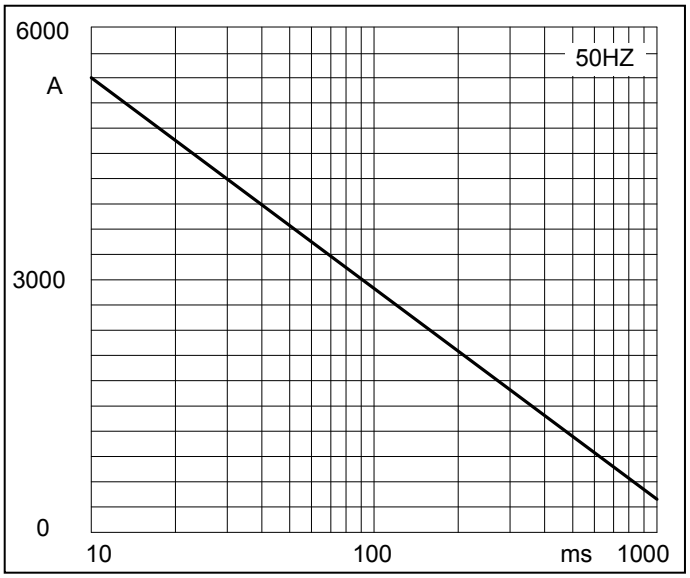


Fig4. Max Non-Repetitive Forward Surge Current

Performance Curves

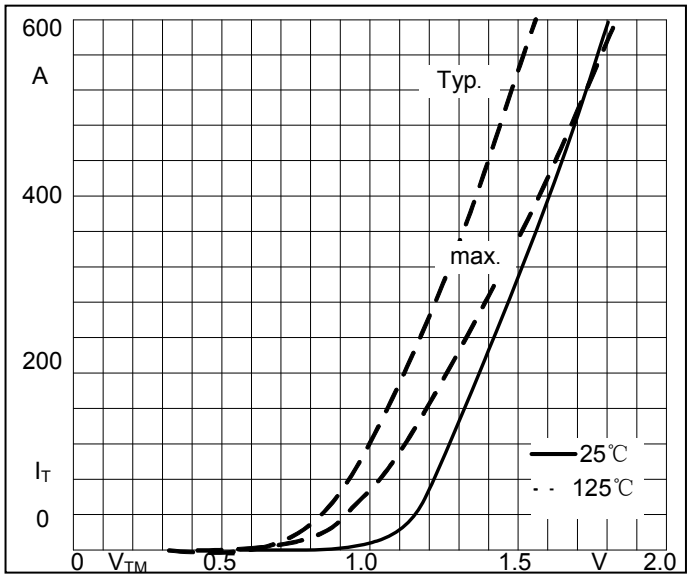


Fig5. Forward Characteristics

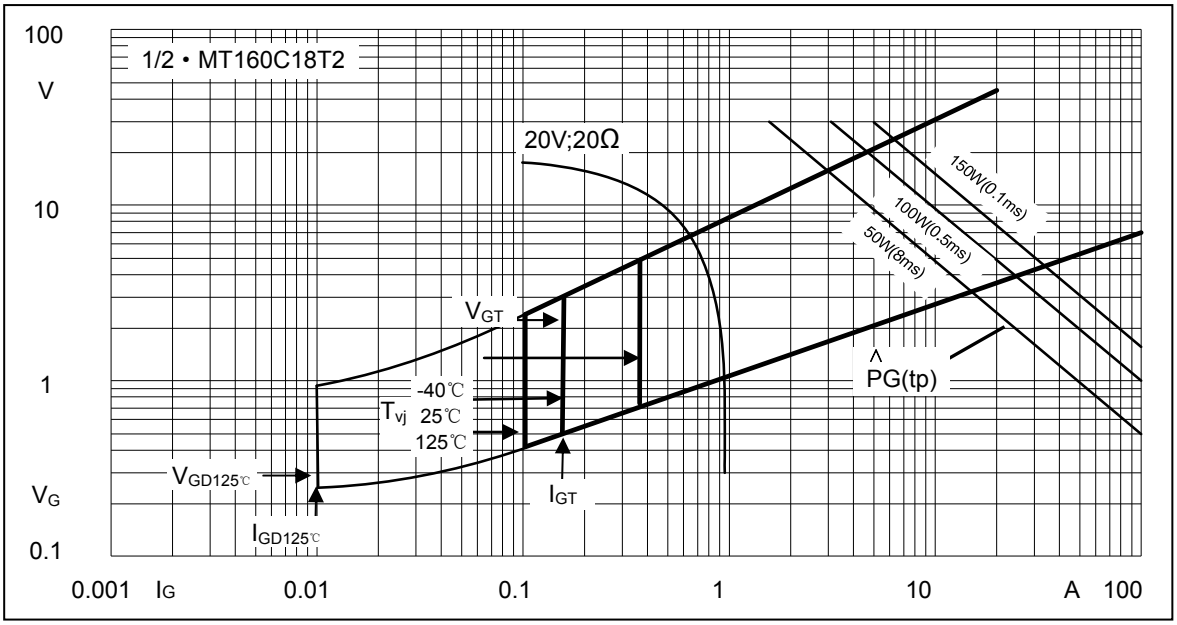


Fig6. Gate trigger Characteristics

Ordering Information

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

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