

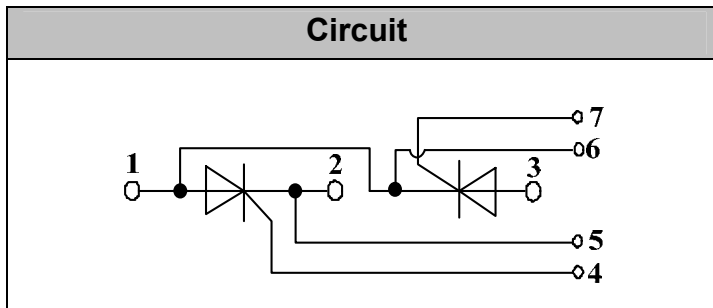
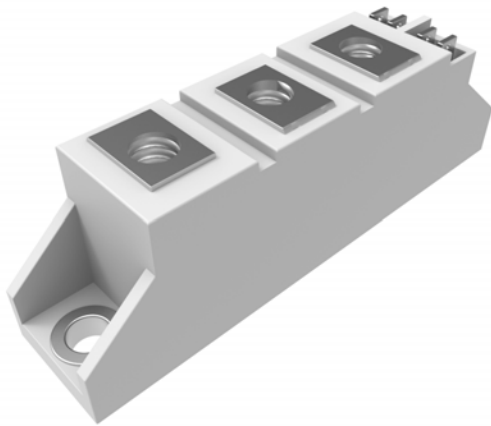
Features

- 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

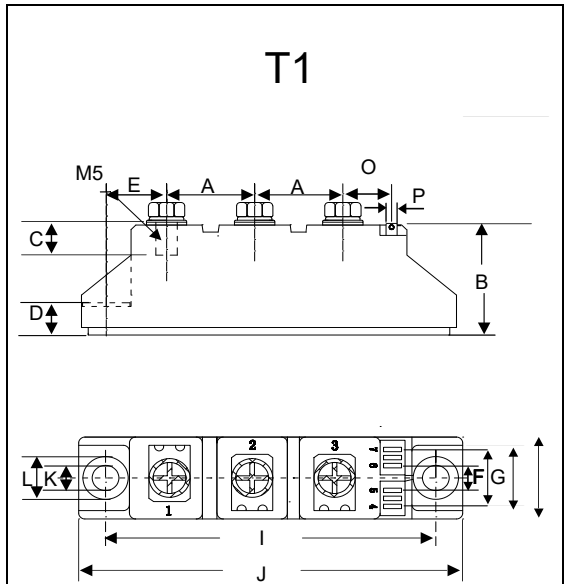
Applications

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

MCC Part Number	V_{RRM}	V_{RSM}
MT40C16T1	1600V	1700V



**40 Amp
THYRISTOR
MODULE
1600 Volts**



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		

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°; $T_c=85^\circ\text{C}$	40	A
I_{TSM}	$T_{VJ}=45^\circ\text{C}$ t=10ms, sine	1000	A
	$T_{VJ}=125^\circ\text{C}$ t=10ms, sine	850	
i^2t	$T_{VJ}=45^\circ\text{C}$ t=10ms, sine	5000	A2s
	$T_{VJ}=125^\circ\text{C}$ t=10ms, sine	3600	
Visol	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to 125	$^\circ\text{C}$
T_{stg}		-40 to 125	$^\circ\text{C}$
Mt	To terminals(M5)	$3 \pm 15\%$	Nm
Ms	To heatsink(M6)	$5 \pm 15\%$	Nm
di/dt	$T_{VJ}=T_{VJM}$, $2/3V_{DRM}$, $I_G=500\text{mA}$ $T_r < 0.5\mu\text{s}$, $t_p > 6\mu\text{s}$	150	A/ μs
dv/dt	$T_J=T_{VJM}$, $2/3V_{DRM}$ linear voltage rise	1000	V/ μs
a	Maximum allowable acceleration	50	m/s^2
Weight	Module(Approximately)	100	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Cont.;per thyristor / per module	0.65/0.33	$^\circ\text{C/W}$
$R_{th(c-s)}$	per thyristor / per module	0.2/0.1	$^\circ\text{C/W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
V_{TM}	$T=25^\circ\text{C}$ $I_{TM}=200\text{A}$			1.95	V
I_{RRM}/I_{DRM}	$T_{VJ}=T_{VJM}$, $V_R=V_{RRM}$, $V_D=V_{DRM}$			15	mA
V_{TO}	For power-loss calculations only ($T_{VJ}=125^\circ\text{C}$)			1.0	V
r_T	$T_{VJ}=T_{VJM}$			4.5	m Ω
V_{GT}	$T_{VJ}=25^\circ\text{C}$, $V_D=6\text{V}$			2.5	V
I_{GT}	$T_{VJ}=25^\circ\text{C}$, $V_D=6\text{V}$			150	mA
V_{GD}	$T_{VJ}=125^\circ\text{C}$, $V_D=2/3V_{DRM}$			0.25	V
I_{GD}	$T_{VJ}=125^\circ\text{C}$, $V_D=2/3V_{DRM}$			6	mA
I_L	$T_{VJ}=25^\circ\text{C}$, $R_G=33\ \Omega$	300	600		mA
I_H	$T_{VJ}=25^\circ\text{C}$, $V_D=6\text{V}$	150	250		mA
tgd	$T_{VJ}=25^\circ\text{C}$, $I_G=1\text{A}$, $di_G/dt=1\text{A}/\mu\text{s}$	1			μs
tq	$T_{VJ}=T_{VJM}$	80			μs

Performance Curves

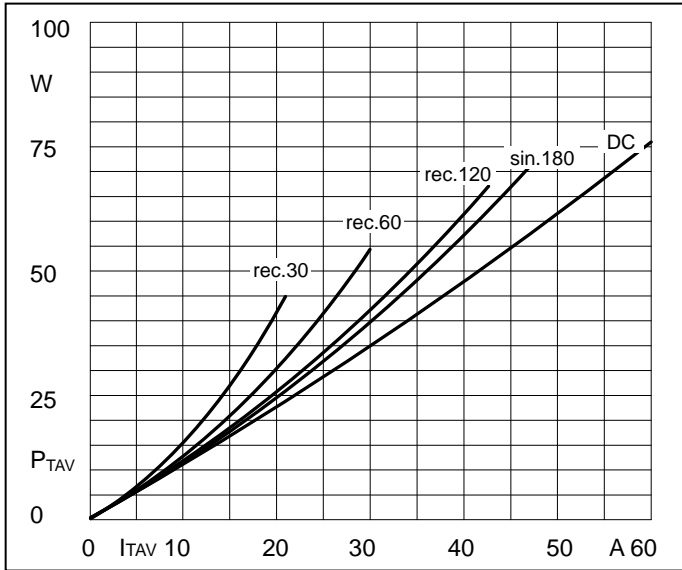


Fig1. Power dissipation

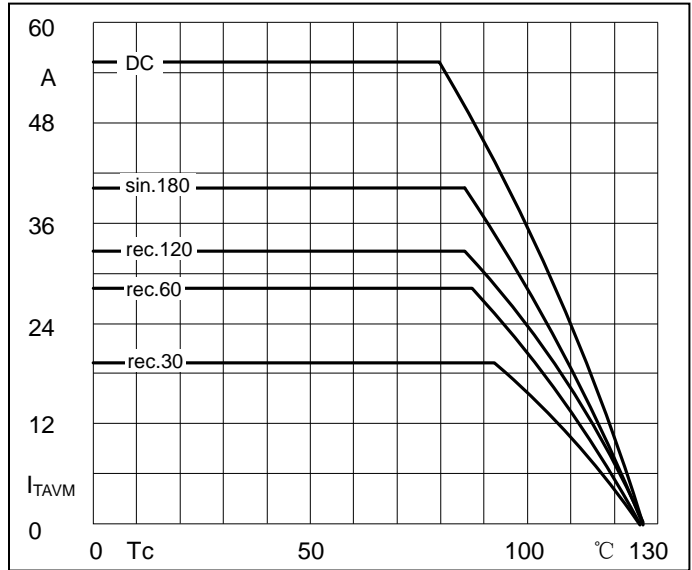


Fig2. Forward Current Derating Curve

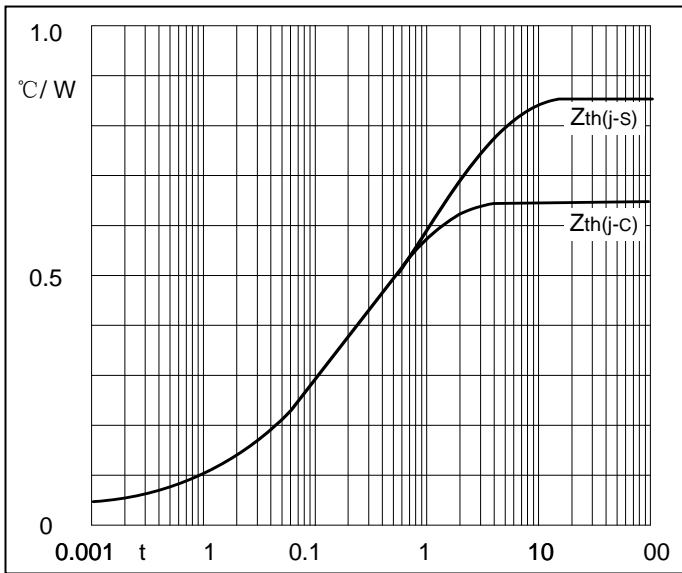


Fig3. Transient thermal impedance

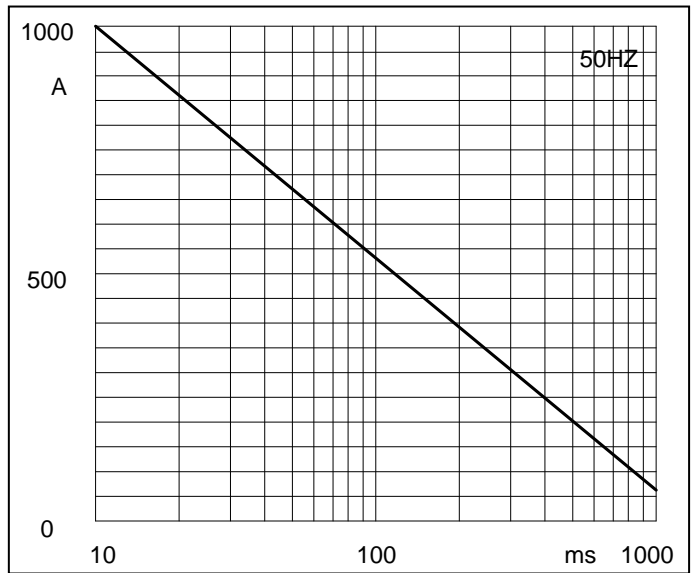


Fig4. Max Non-Repetitive Forward Surge Current

Performance Curves

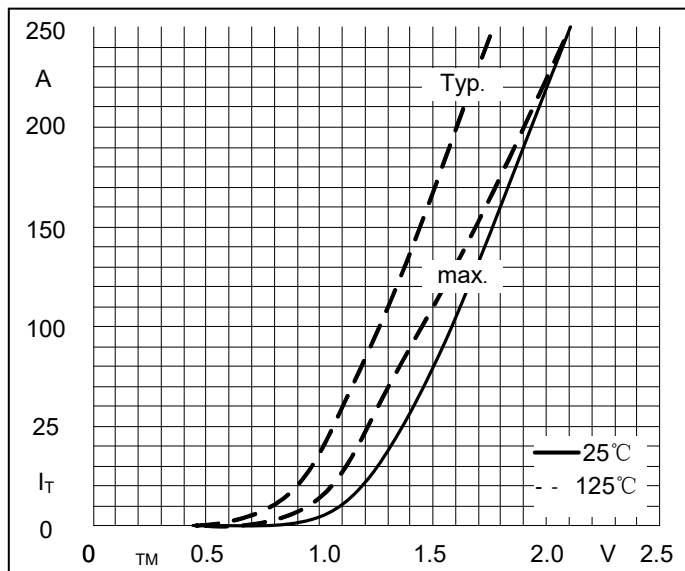


Fig5. Forward Characteristics

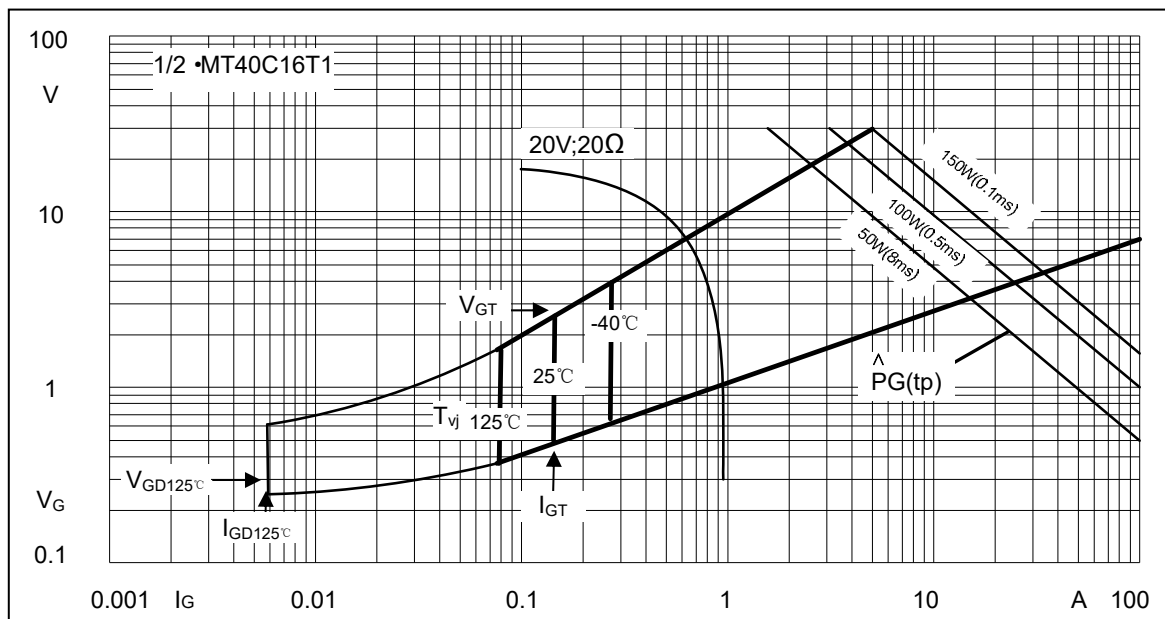


Fig6. Gate trigger Characteristics

Ordering Information

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

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