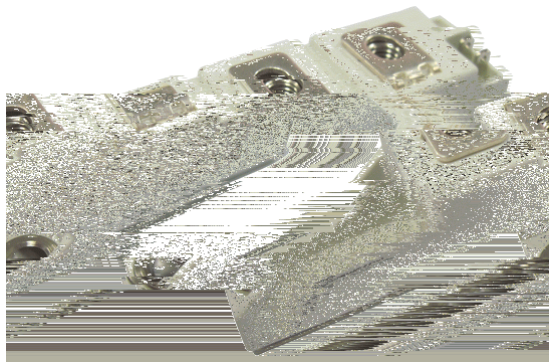




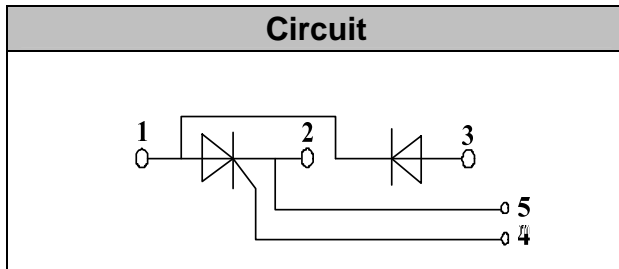
## Thyristor/Diode Modules



**VRRM / VDRM** 800 to 1800V  
**IFAV / ITAV** 60Amp

### Applications

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



### Features

International standard package  
High Surge Capability  
Glass passivated chip  
Simple Mounting  
Heat transfer through aluminum oxide DBC  
ceramic isolated metal baseplate  
UL recognized applied for file no. E360040

### Module Type

TYPE	VRRM/VDRM	VRSM
MT60CB08T1	800V	900V
MT60CB12T1	1200V	1300V
MT60CB16T1	1600V	1700V
MT60CB18T1	1800V	1900V

### Diode

#### Maximum Ratings

Symbol	Item	Conditions	Values	Units
ID	Output Current(D.C.)	Tc=85	60	A
IFSM	Surge forward current	t=10mS Tvj =45	1500	A
i <sup>2</sup> t	Circuit Fusing Consideration		11000	A <sup>2</sup> s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1min	3000	V
Tvj	Operating Junction Temperature		-40 to +125	
Tstg	Storage Temperature		-40 to +125	
Mt	Mounting Torque	To terminals(M5)	3±15%	Nm
Ms		To heatsink(M6)	5±15%	Nm
Weight	Module Approximately		100	g

#### Thermal Characteristics

Symbol	Item	Conditions	Values	Units
Rth(j-c)	Thermal Impedance, max.	Junction to Case	0.29	/W
Rth(c-s)	Thermal Impedance, max.	Case to Heatsink	0.10	/W

#### Electrical Characteristics

Symbol	Item	Conditions	Values			Units
			Min.	Typ.	Max.	
VFM	Forward Voltage Drop, max.	T=25 IF =200A			1.65	V
IRRM	Repetitive Peak Reverse Current, max.	Tvj =25 VRD=VRRM		0.5		mA
		Tvj =125 VRD=VRRM		6		mA



## Thyristor Maximum Ratings

Symbol	Item	Conditions	Values	Units
$I_{TAV}$	Average On-State Current	Sine 180°; $T_c=85$	60	A
$I_{TSM}$	Surge On-State Current	$T_{VJ}=45$ $t=10ms$ , sine $T_{VJ}=125$ $t=10ms$ , sine	1500 1250	A
$i^2t$	Circuit Fusing Consideration	$T_{VJ}=45$ $t=10ms$ , sine $T_{VJ}=125$ $t=10ms$ , sine	11000 8000	A <sup>2</sup> s
$V_{isol}$	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1min	3000	V
$T_{vj}$	Operating Junction Temperature		-40 to +125	
$T_{stg}$	Storage Temperature		-40 to +125	
$M_t$	Mounting Torque	To terminals(M5)	3± 15%	Nm
$M_s$		To heatsink(M6)	5± 15%	Nm
$di/dt$	Critical Rate of Rise of On-State Current	$T_{VJ}=T_{VJM}$ , $2/3V_{DRM}$ , $I_G=500mA$ $T_r<0.5\mu s$ , $t_p>6\mu s$	150	A/ $\mu s$
$dv/dt$	Critical Rate of Rise of Off-State Voltage, min.	$T_J=T_{VJM}$ , $2/3V_{DRM}$ linear voltage rise	1000	V/ $\mu s$
$a$	Maximum allowable acceleration		50	m/s <sup>2</sup>

## Thermal Characteristics

Symbol	Item	Conditions	Values	Units
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to Case	0.57	/W
$R_{th(c-s)}$	Thermal Impedance, max.	Case to Heatsink	0.20	/W

## Electrical Characteristics

Symbol	Item	Conditions	Values			Units
			Min.	Typ.	Max.	
$V_{TM}$	Peak On-State Voltage, max.	$T=25$ $I_T=200A$			1.65	V

$I_{RRM}/I_{DRM}$



## Performance Curves

