



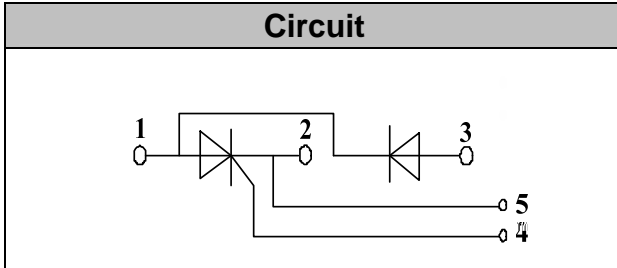
Thyristor/Diode Modules



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 ² t	Circuit Fusing Consideration		11000	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 +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 ² s
Visol	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/ μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_J=T_{VJM}$, $2/3V_{DRM}$ linear voltage rise	1000	V/ μs
a	Maximum allowable acceleration		50	m/s ²

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

