



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Thyristor/Diode Modules

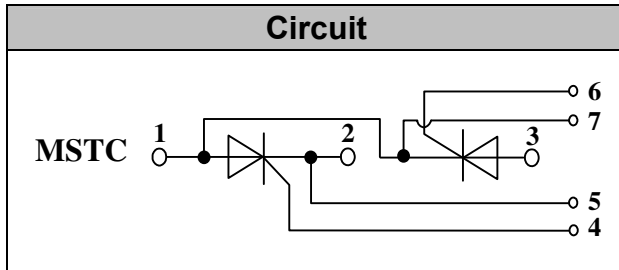
VRRM / VDRM 800 to 1600V
ITAV 160Amp

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 DCB ceramic isolated metal baseplate



Module Type

TYPE	VRRM	VRSM
MSTC160-08	800V	900V
MSTC160-12	1200V	1300V
MSTC160-16	1600V	1700V

Maximum Ratings

Symbol	Conditions	Values	Units
I_{TAV}	Sine 180°; $T_c=85^\circ\text{C}$	160	A
I_{TSM}	$T_{VJ}=45^\circ\text{C}$ t=10ms, sine $T_{VJ}=125^\circ\text{C}$ t=10ms, sine	5400 5000	A
i^2t	$T_{VJ}=45^\circ\text{C}$ t=10ms, sine $T_{VJ}=125^\circ\text{C}$ t=10ms, sine	145000 125000	A ² s
Visol	a.c.50HZ;r.m.s.;1min	3000	V
T_{vj}		-40 to 130	°C
T_{stg}		-40 to 125	°C
M_t	To terminals(M6)	$3 \pm 15\%$	Nm
M_s	To heatsink(M6)	$5 \pm 15\%$	Nm
di/dt	$T_{VJ}= T_{VJM}$, $2/3V_{DRM}$, $I_G =500\text{mA}$ $Tr < 0.5\mu\text{s}$, $t_p > 6\mu\text{s}$	200	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)	165	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Cont.;per thyristor / per module	0.17/0.085	°C/W
$R_{th(c-s)}$	per thyristor / per module	0.1/0.05	°C/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
V_{TM}	$T=25^{\circ}C$ $I_{TM}=500A$			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 ($T_{VJ}=125^{\circ}C$)			0.85	V
r_T	$T_{VJ}=T_{VJM}$			1.5	m Ω
V_{GT}	$T_{VJ}=25^{\circ}C$, $V_D=6V$			3	V
I_{GT}	$T_{VJ}=25^{\circ}C$, $V_D=6V$			150	mA
V_{GD}	$T_{VJ}=125^{\circ}C$, $V_D=2/3V_{DRM}$			0.25	V
I_{GD}	$T_{VJ}=125^{\circ}C$, $V_D=2/3V_{DRM}$			10	mA
I_L	$T_{VJ}=25^{\circ}C$, $R_G=33\Omega$		300	1000	mA
I_H	$T_{VJ}=25^{\circ}C$, $V_D=6V$		150	400	mA
tgd	$T_{VJ}=25^{\circ}C$, $I_G=1A$, $di_G/dt=1A/us$		1		us
tq	$T_{VJ}=T_{VJM}$		100		us

Performance Curves

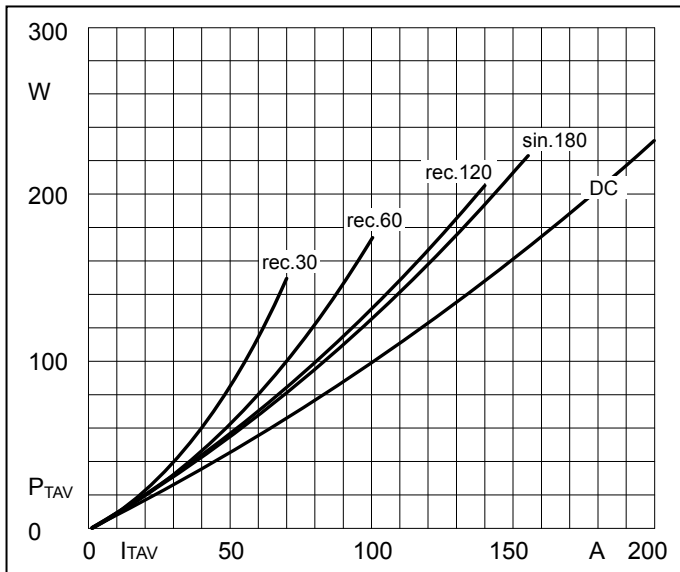


Fig1. Power dissipation

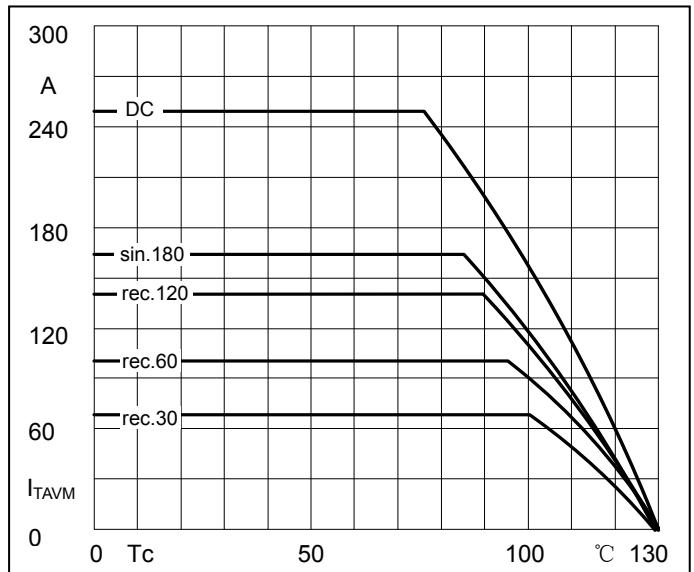


Fig2. Forward Current Derating Curve

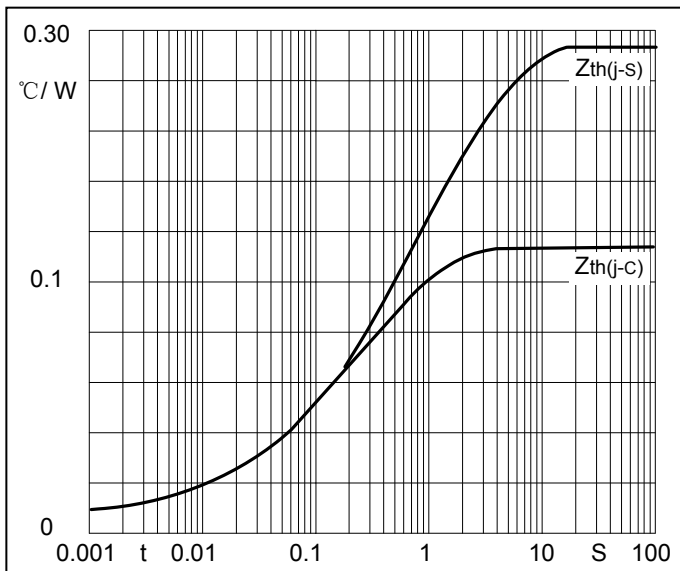


Fig3. Transient thermal impedance

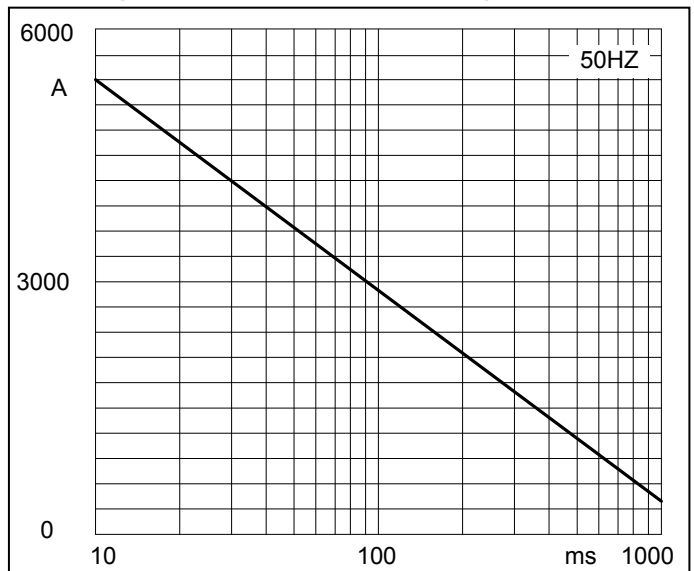


Fig4. Max Non-Repetitive Forward Surge Current

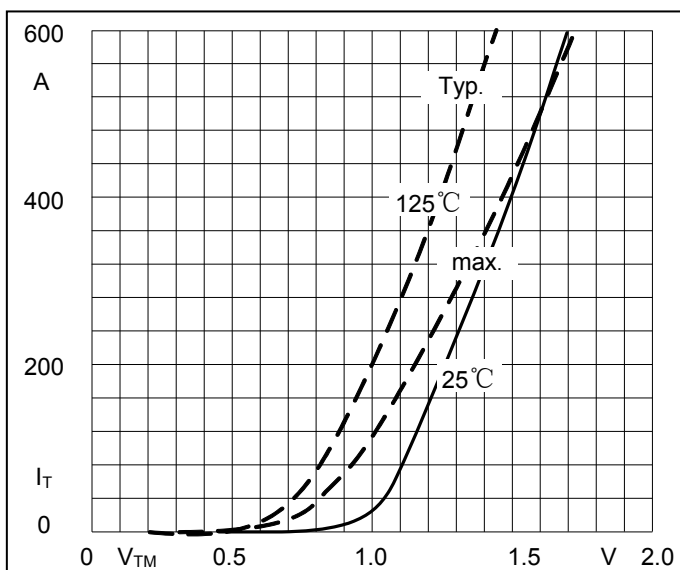


Fig5. Forward Characteristics

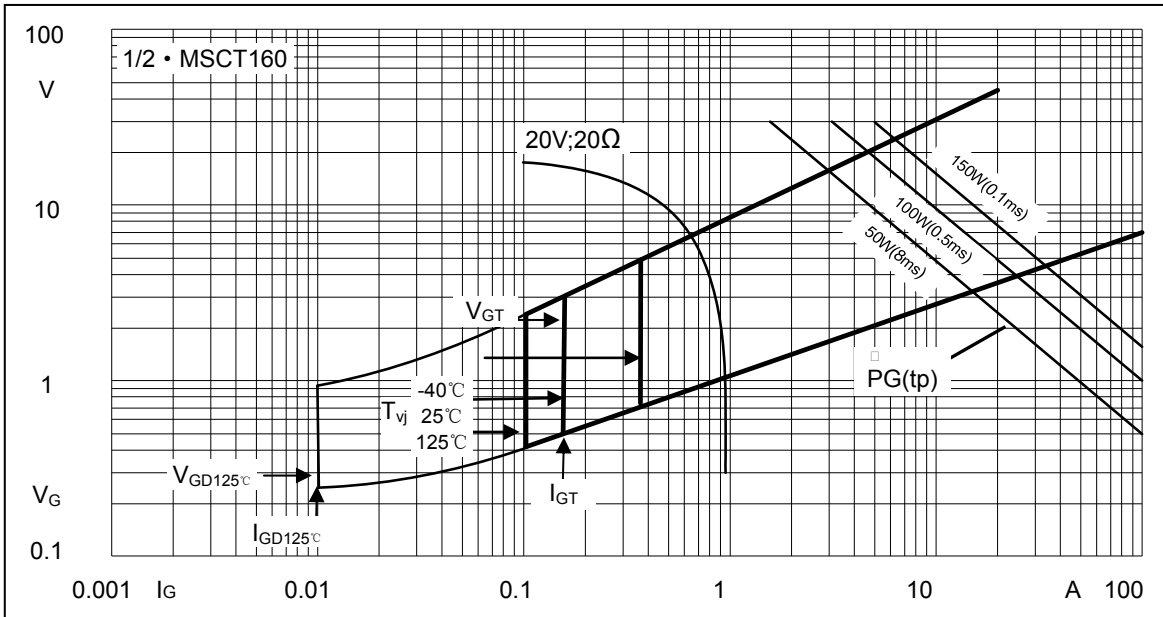


Fig6. Gate trigger Characteristics

Package Outline Information

