



MHC/MHA/MHK/MHX500A FAST THYRISTOR/DIODE MODULE

Features

Isolated mounting base 2500V
Compact structure and light weight savings
Full crimping structure, super temperature characteristics and power cycle capability

$I_{T(AV)}$	500A
V_{DRM}/V_{RRM}	600~1600 V
I_{TSM}	7.8KA
I^2T	310 KA ² S

Application

AC/DC Motor Control
Various rectifying power suppliers
Industry Heating Regulation
Light Dimming
Contactless Switches
Motor Soft Start
Welding Device

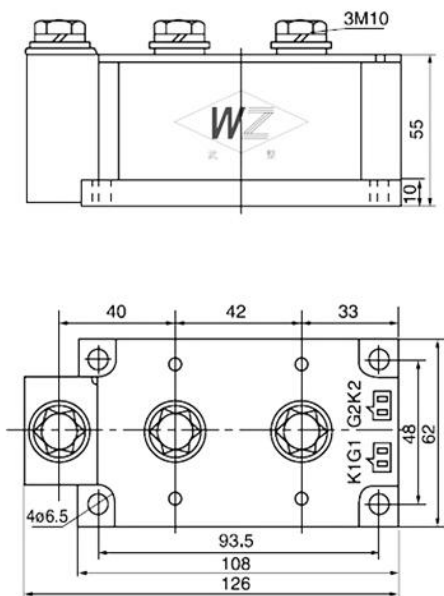
Symb.		parameter	Test Conditions	$T_{J(c)}$	Value	Unit
Current Ratings	$I_{T(AV)}$	average on-state current	180° half sine wave 50Hz Single side cooled $T_c=85^\circ C$	115	500	A
	$I_{T(RMS)}$	RMS on-state current		115	471	A
	I_{TSM}	Surge on-state current	10ms half sine wave $V_R=0.6V_{RRM}$	115	7.8	KA
	I^2t	I ² T for fusing coordination		115	310	KA ² S
Characteristics	V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM} \& V_{RRM} t_p=10ms$ $V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$	115	600-1600	V
	I_{DRM} I_{RRM}	Repetitive peak current	$V_{DM} = V_{DRM}$ $V_{RM} = V_{RRM}$	115	Max.80	mA
	V_{TO}	Threshold voltage		115	Max.0.90	V
	V_{TM}	Peak on-state voltage	$I_{TM}=900A$	25	Max.1.75	V
	r_T	On-state slop resistance		115	Max.0.74	mΩ
	I_H	Holding current	$V_A=12V, I_A=1A$	25	20-200	ma
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\% V_{DRM}$	115	Max.800	V/μs
	di/dt	Critical rate of rise of on-state current	$I_{TM}=900A, \text{Gate pulse } t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	115	Max.200	A/μs
	tq	Turn-off time	$I_{TM}=300A, t_p=1000\mu s, V_R=50V$ $dv/dt=30V/\mu s, di/dt=-20A/\mu s$		15-35	
Gate Parameters	I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	30-200	mA
	V_{GT}	Gate trigger voltage		25	1.0-3.0	V
	V_{GD}	Non-trigger gate voltage	$V_{DM}=67\% V_{DRM}$	115	Min.0.2	V

Thermal & Mechanical Data

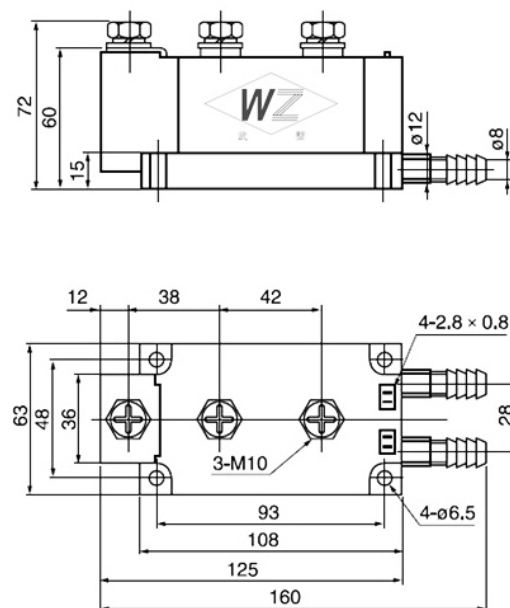
Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-c)}$	Thermal resistance Junction to case	single side cooled	Max.0.070	°C/W
$R_{th(c-h)}$	Thermal resistance case to heat sink	single side cooled	Min.0.024	°C/W
V_{iso}	isolated voltage		Min.2500	V
F_m	Thermal connection torque(M5)		Typ.12	N m
	Mounting force (M6)		Typ.6	N m
T_{stg}	Stored temperature		-40+125	°C
W_t	Weight		1350	g

Outline:

M5



M9



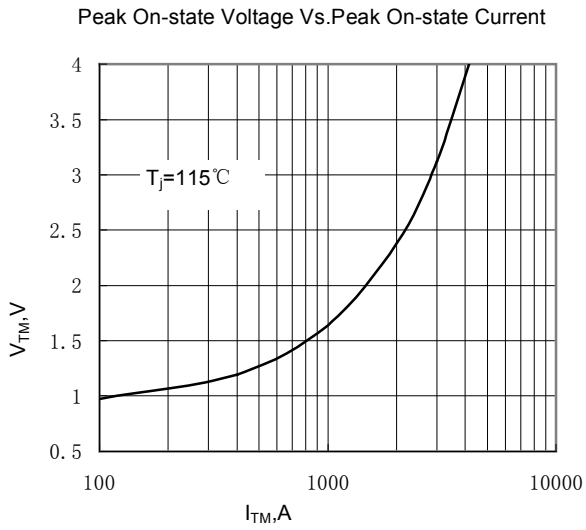


Fig.1

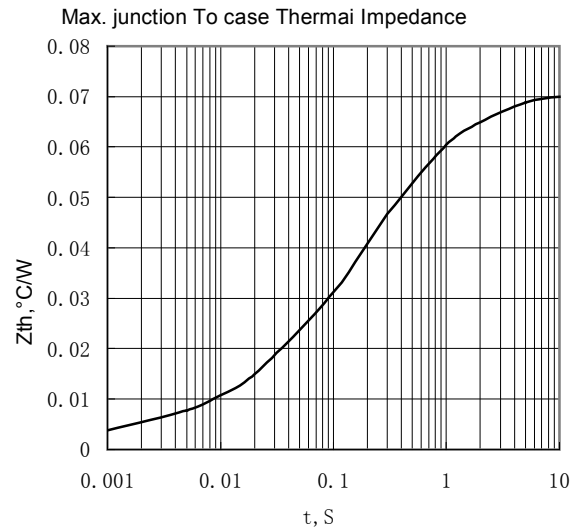


Fig.2

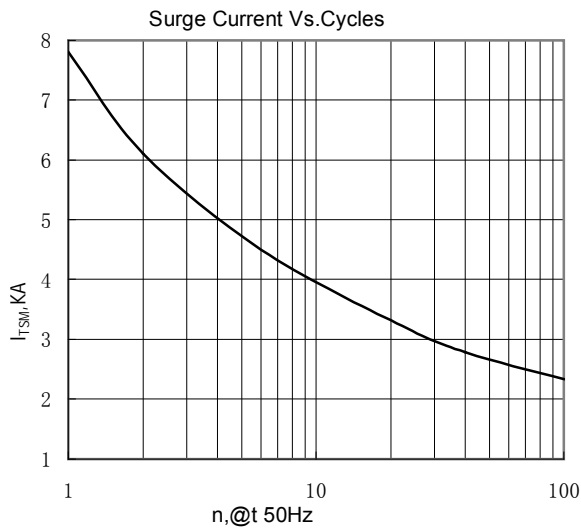


Fig.3

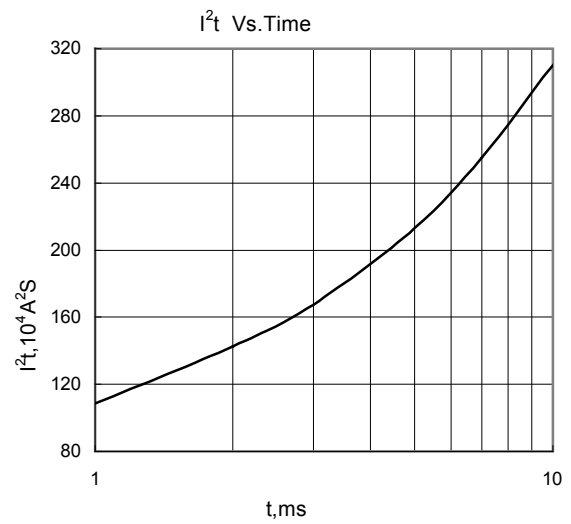


Fig.3 ft

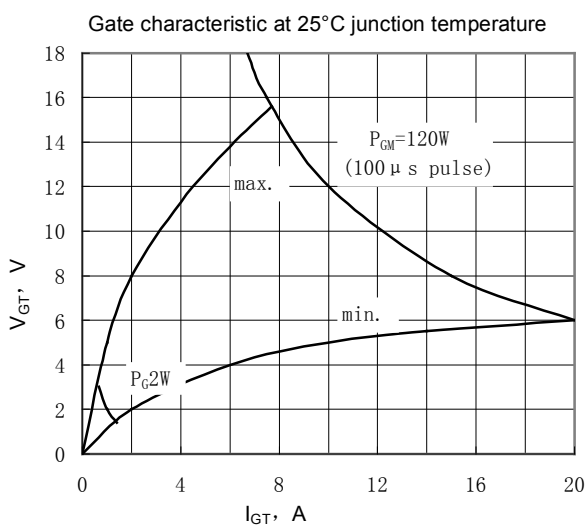


Fig.5

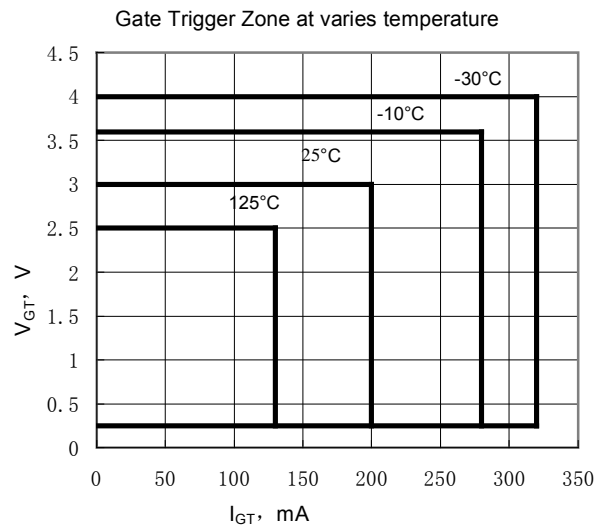


Fig.6

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