

MKC/MKA/MKK/MKX160A

FAST THYRISTOR MODULE



Features

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

$I_{T(AV)}$	160A
V_{DRM}/V_{RRM}	600~1600 V
I_{TSM}	4KA
I^2T	81.6 KA ² S

Application

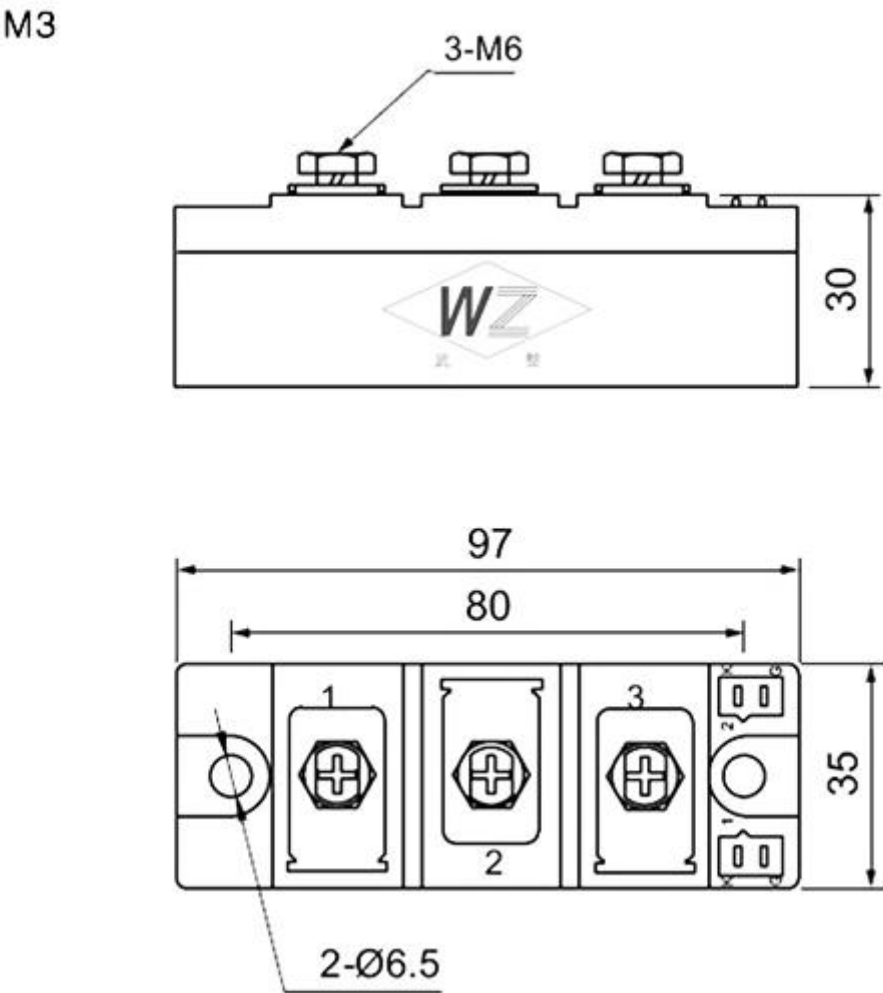
AC/DC Motor Control
Various rectifying power suppliers
Industry Heating Regulation
Light Dimming
Contactless Switches
Motor Soft Start
Welding Device

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 $T_c=85\text{ }^{\circ}\text{C}$	115	160	A
	$I_{T(RMS)}$	RMS on-state current		115	236	A
	I_{TSM}	Surge on-state current	10ms half sine wave $V_R=0.6V_{RRM}$	115	4.0	KA
	I^2t	I ² T for fusing coordination		115	81.6	KA ² S
Characteristics	V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM}\&V_{RRM}$ tp=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.30	mA
	V_{TO}	Threshold voltage		115	Max.0.85	V
	V_{TM}	Peak on-state voltage	$I_{TM}=450A$	25	Max.1.78	V
	r_T	On-state slop resistance		115	Max.1.66	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	$I_{TM}=450A$, Gate pulse $t_r \leq 0.5\mu s$ $I_{GM}=1.5A$	115	Max.200	A/μs
	tq	Turn off time	$I_{TM}=150A, t_p=1000\mu s, V_R=50V$ dv/dt=30V/μs ,di/dt=-20A/μs	115	15-35	μs
Gate Parameters	I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	30-180	mA
	V_{GT}	Gate trigger voltage		25	1.0-2.5	V
	V_{GD}	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$	115	Min.0.2	V

Thermal & Mechanical Date

Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-c)}$	Thermal resistance Junction to case	single side cooled	Max.0.140	°C/W
$R_{th(c-h)}$	Thermal resistance case to heat sink	single side cooled	Min.0.04	°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		Min.-40 Max.+125	°C
W_t	Weight		Typ.860	g

Outline:



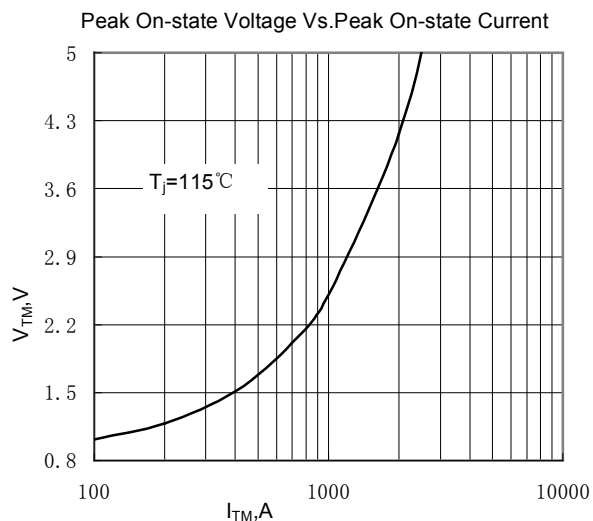


Fig.1

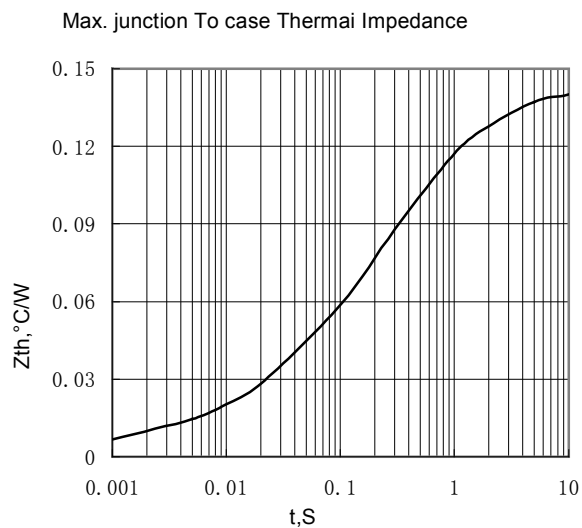


Fig.2

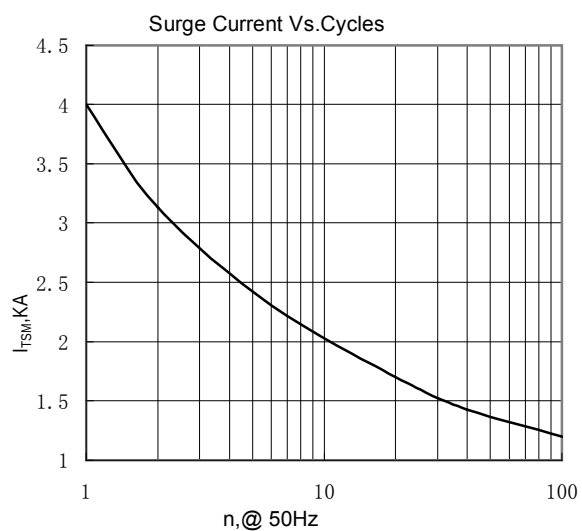


Fig.3

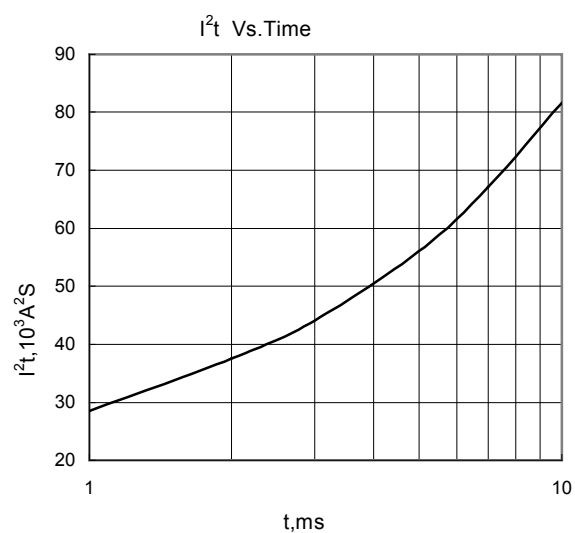


Fig.3 ft

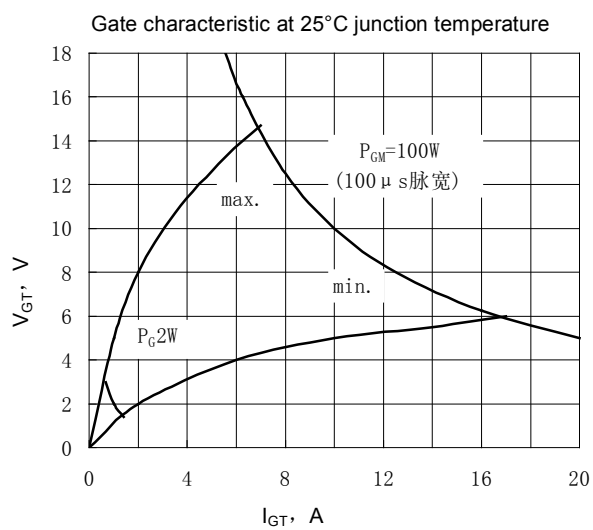


Fig.5

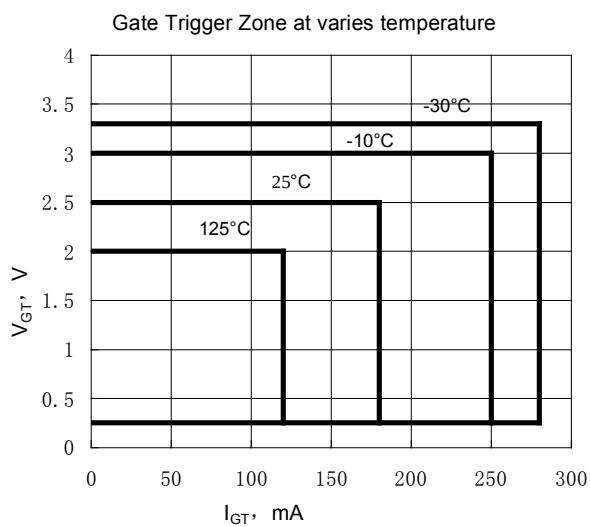


Fig.6

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