



Features:

- Isolated mounting base 2500V~
- Pressure contact technology with increased power cycling capability
- Space and weight savings

Typical Applications

- AC/DC Motor drives
- Various rectifiers
- DC supply for PWM inverter

$V_{DSM} V_{RSM}$	V_{DRM}, V_{RRM}	Type & Outline
1300 V	1200 V	MTC90-12-223F3B
1500 V	1400 V	MTC90-14-223F3B
1700 V	1600 V	MTC90-16-223F3B
1900 V	1800 V	MTC90-18-223F3B

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	$T_J(^{\circ}C)$	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled, $T_c=85^{\circ}C$	125			90	A
$I_{T(RMS)}$	RMS on-state current		125			141	A
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			10	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			2.25	KA
I^2t	I^2t for fusing coordination	$V_R=60\%V_{RRM}$				25.0	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage		125			0.8	V
r_T	On-state slop resistance					3.01	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=270A$	25			1.85	V
t_{gr}	Gate control delay time	$V_D=0.67V_{DRM}$	25		2		μs
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	125			800	V/μs
di/dt	Critical rate of rise of on-state current	Gate source 1.5A $t_r \leq 0.5\mu s$ Repetitive	125			100	A/μs
I_{GT}	Gate trigger current	$V_A=12V, I_A=1A$	25	30		100	mA
V_{GT}	Gate trigger voltage			0.7		2.5	V
I_H	Holding current			10		120	mA
I_L	Latching current	$V_A=12V, \text{Gate source } 1.5A, t_r \leq 0.5\mu s, 50Hz$	25		300	600	mA
V_{GD}	Non-trigger gate voltage	$V_{DM}=V_{DRM}$	125			0.25	V
I_{GD}	Non-trigger gate current					6	mA
$R_{th(j-c)}$	Thermal resistance Junction to case	Single side cooled				0.280	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heatsink	Single side cooled				0.15	$^{\circ}C/W$
V_{iso}	Isolation voltage	50Hz, R.M.S, $t=1min, I_{iso}: 1mA(MAX)$		2500			V
F_m	Thermal connection torque(M5)				4.0		N·m
	Mounting torque(M6)				6.0		N·m
T_{vj}	junction temperature			-40		125	$^{\circ}C$
T_{stg}	Stored temperature			-40		125	$^{\circ}C$
W_t	Weight				172		g
Outline	223F3B						

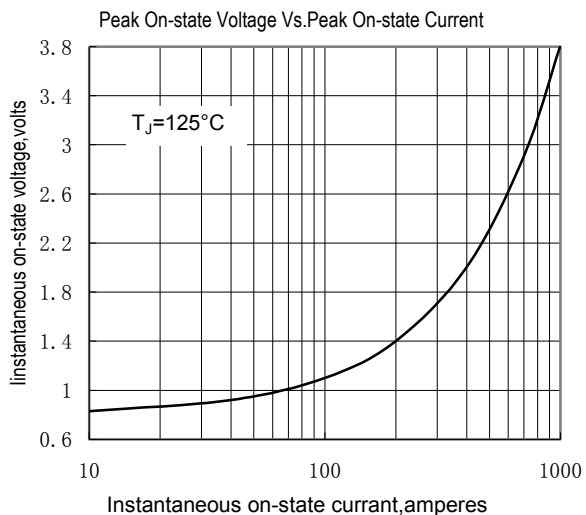


Fig.1

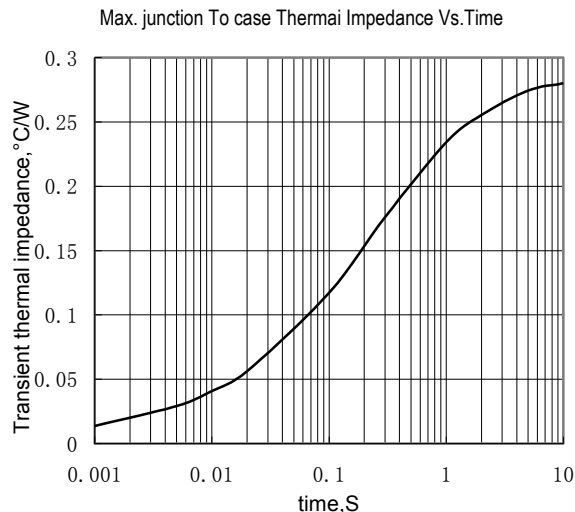


Fig.2

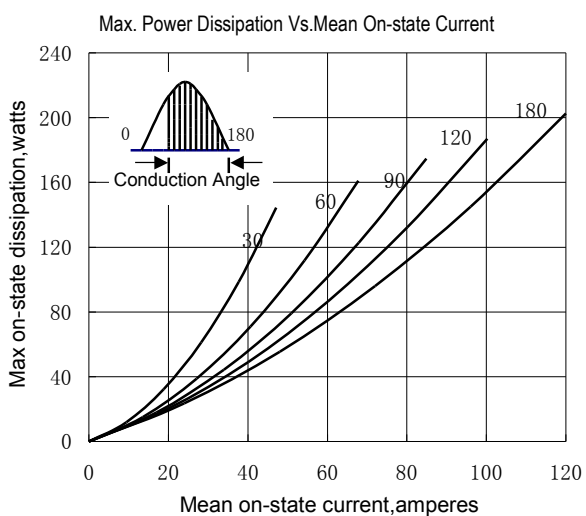


Fig.3

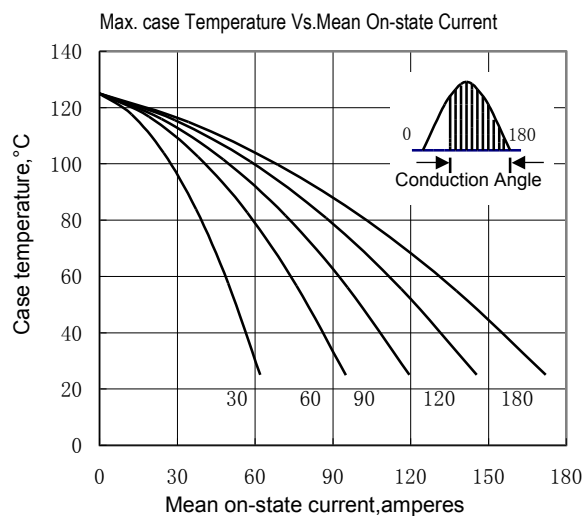


Fig.4

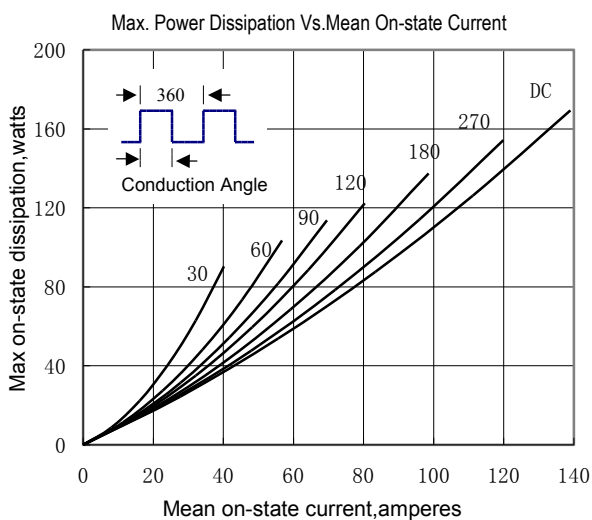


Fig.5

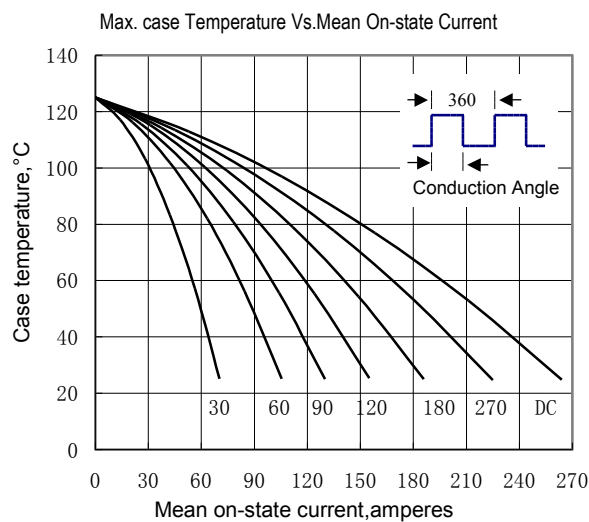


Fig.6

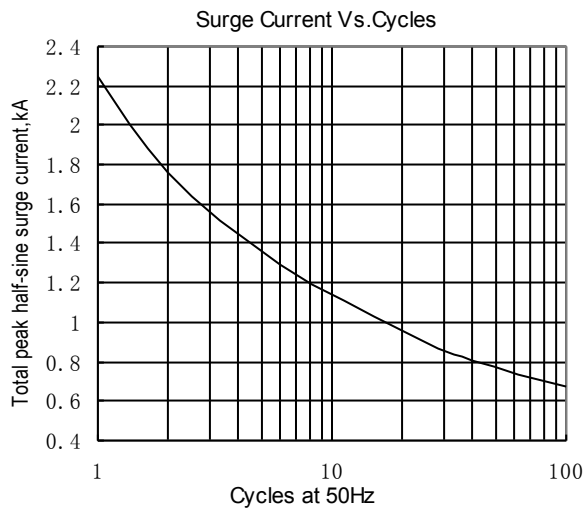


Fig.7

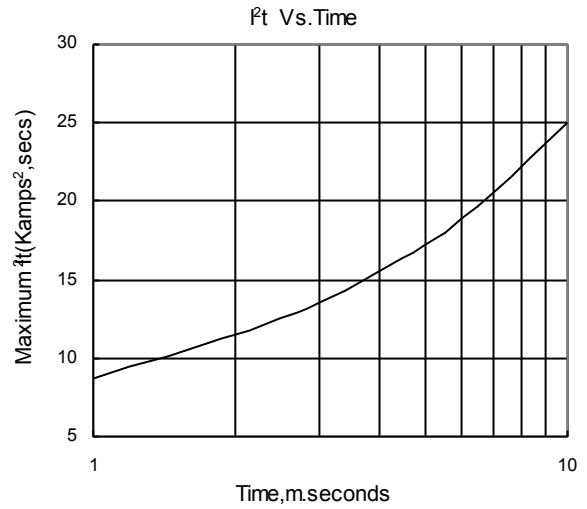


Fig.8

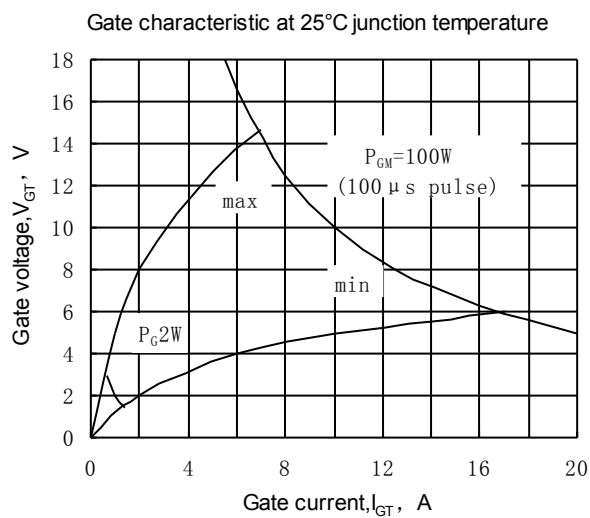


Fig.9

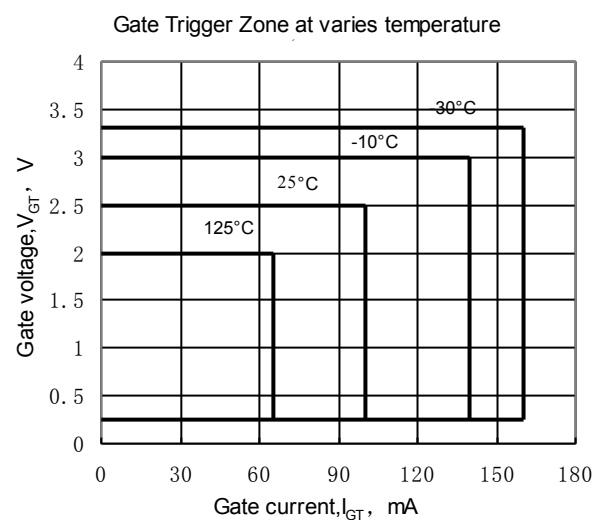
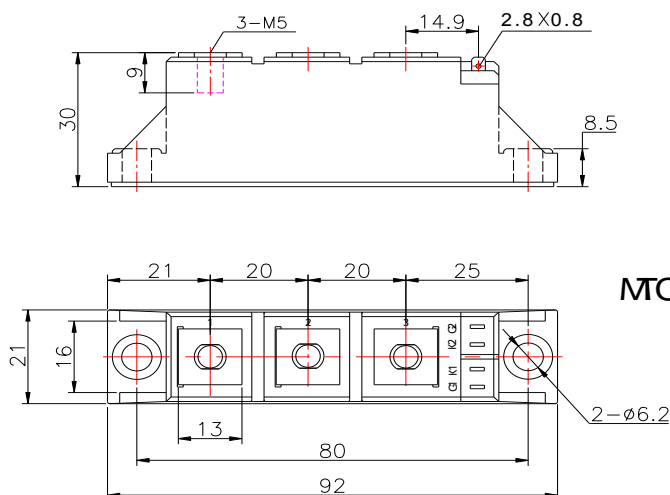


Fig.10

Outline:



MTC(B)

