



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	MTC40-12-223F3
1500 V	1400 V	MTC40-14-223F3
1700 V	1600 V	MTC40-16-223F3
1900 V	1800 V	MTC40-18-223F3

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	$T_J(^{\circ}\text{C})$	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled, $T_c=85^{\circ}\text{C}$	125			40	A
$I_{T(RMS)}$	RMS on-state current		125			63	A
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			8	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			1.15	KA
I^2t	I^2t for fusing coordination	$V_R=60\%V_{RRM}$				6.60	$\text{A}^2\text{s}\cdot 10^3$
V_{TO}	Threshold voltage		125			0.85	V
r_T	On-state slop resistance					5.57	m Ω
V_{TM}	Peak on-state voltage	$I_{TM}=120\text{A}$	25			1.60	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 $t_r \leq 0.5\mu\text{s}$ Repetitive	125			50	A/ μs
I_{GT}	Gate trigger current	$V_A=12\text{V}$, $I_A=1\text{A}$	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	$V_A=12\text{V}$, Gate source 1.5A $t_r \leq 0.5\mu\text{s}$, 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					5	mA
$R_{th(j-c)}$	Thermal resistance Junction to case	Single side cooled				0.650	$^{\circ}\text{C}/\text{W}$
$R_{th(c-h)}$	Thermal resistance case to heatsink	Single side cooled				0.2	$^{\circ}\text{C}/\text{W}$
V_{iso}	Isolation voltage	50Hz, R.M.S, $t=1\text{min}$, $I_{iso}=1\text{mA}(\text{MAX})$		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	$^{\circ}\text{C}$
T_{stg}	Stored temperature			-40		125	$^{\circ}\text{C}$
W_t	Weight				172		g
Outline	223F3						

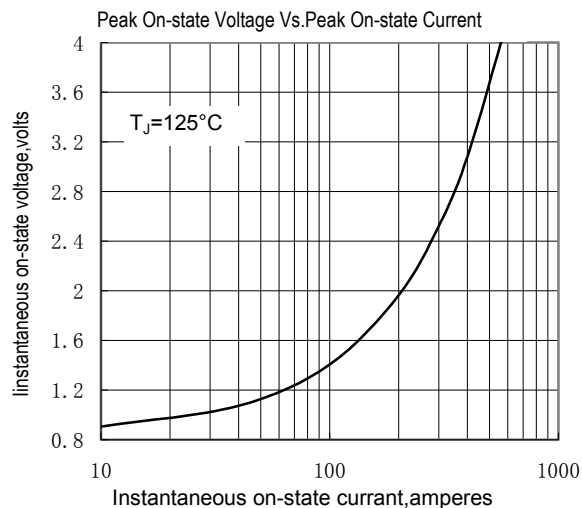


Fig.1

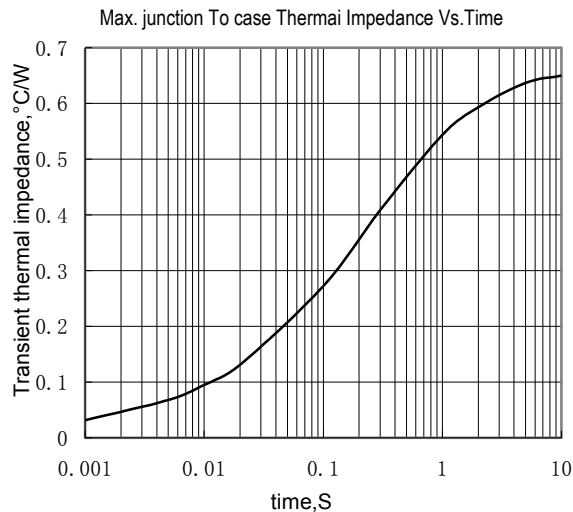


Fig.2

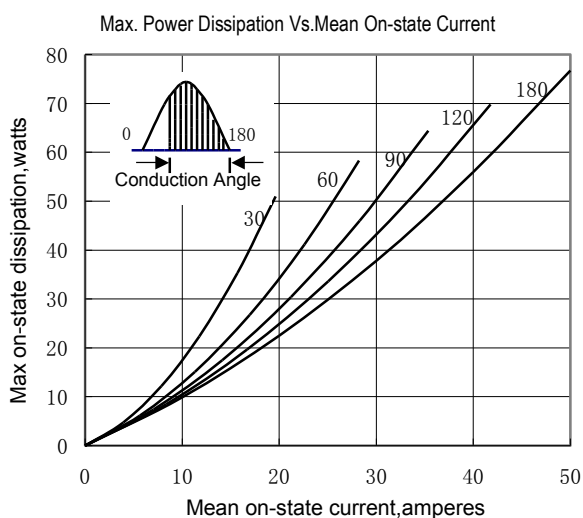


Fig.3

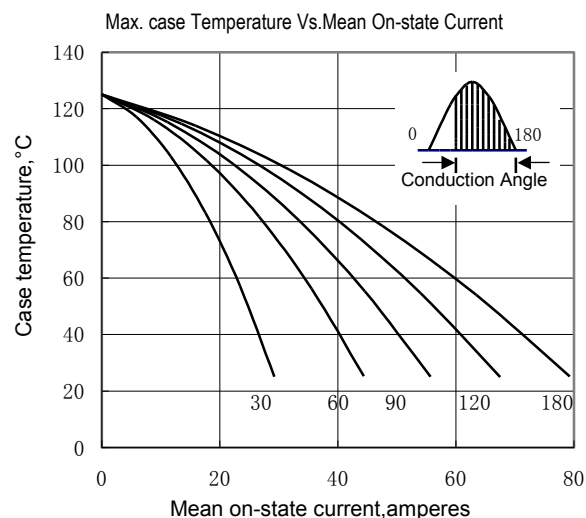


Fig.4

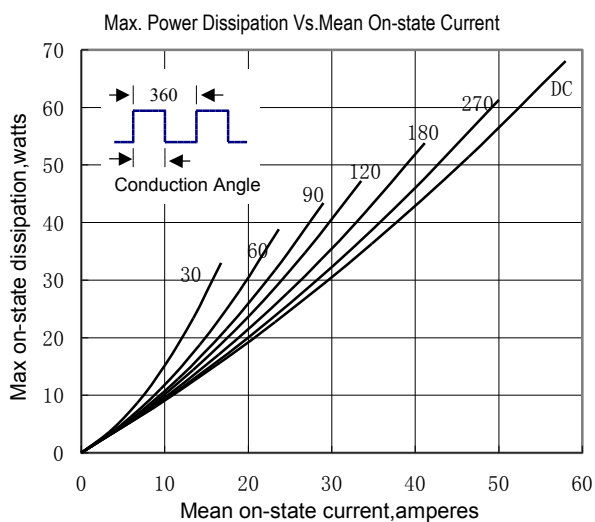


Fig.5

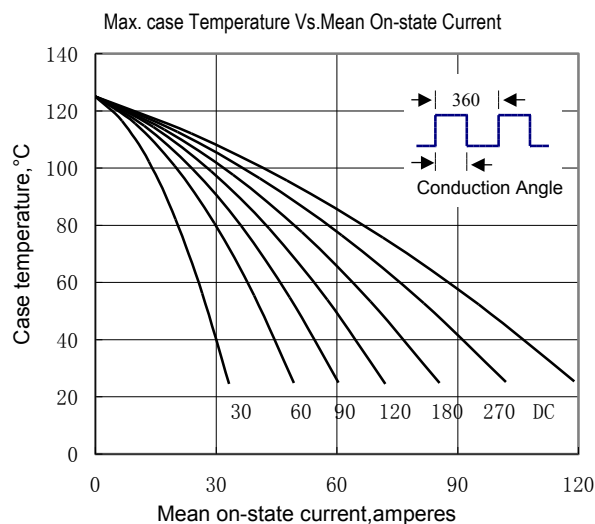


Fig.6

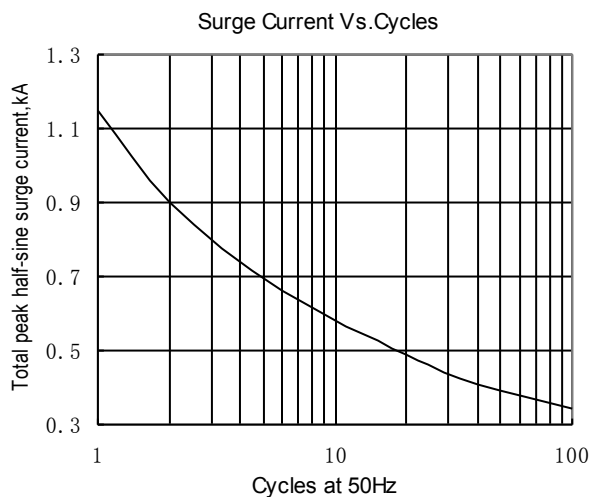


Fig.7

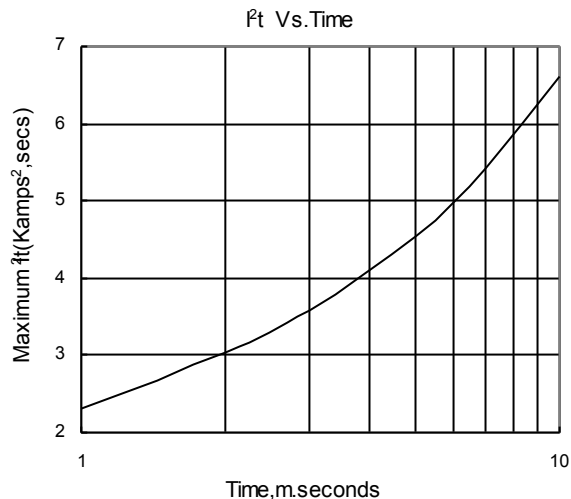


Fig.8

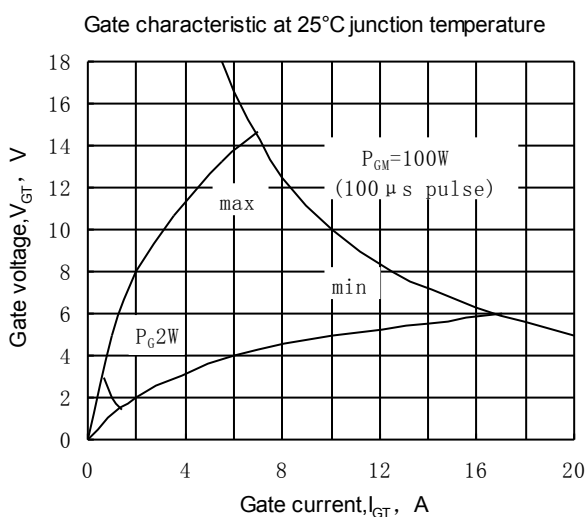


Fig.9

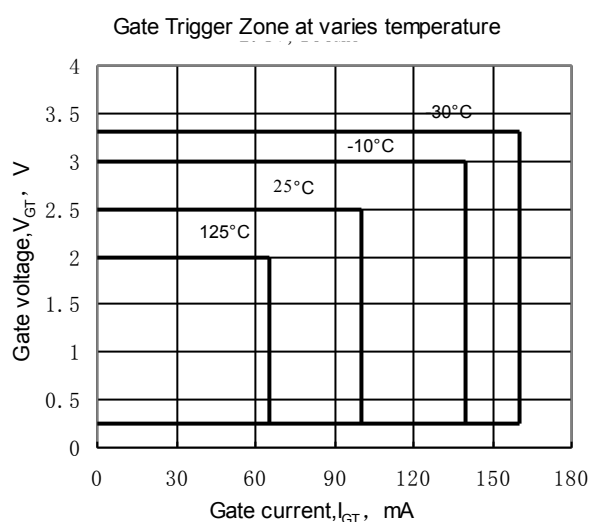
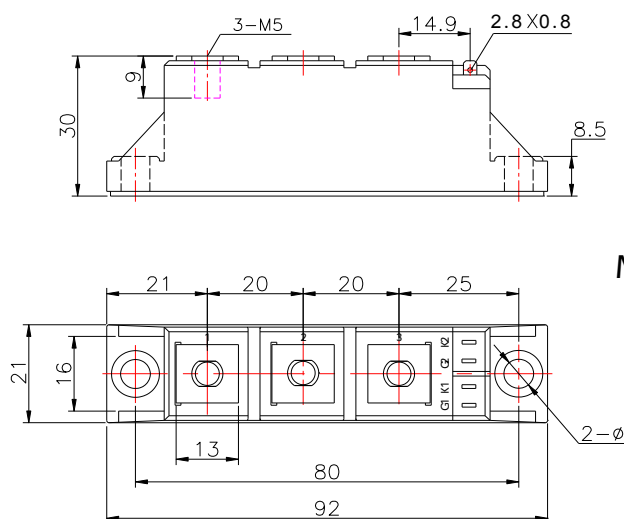


Fig.10

Outline:



MTC

