



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	MTC500-12-416F3
1500 V	1400 V	MTC500-14-416F3
1700 V	1600 V	MTC500-16-416F3
1900 V	1800 V	MTC500-18-416F3

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			500	A
$I_{T(RMS)}$	RMS on-state current		125			785	A
I_{DRM} I_{RRM}	Repetitive peak current	at V_{DRM} at V_{RRM}	125			35	mA
I_{TSM}	Surge on-state current	10ms half sine wave	125			14.5	KA
I^2t	I^2T for fusing coordination	$V_R=60\%V_{RRM}$				1051	$A^2s \cdot 10^3$
V_{TO}	Threshold voltage		125			0.80	V
r_T	On-state slop resistance					0.34	mΩ
V_{TM}	Peak on-state voltage	$I_{TM}=1500A$	25			1.54	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		200	mA
V_{GT}	Gate trigger voltage			0.7		3.0	V
I_H	Holding current			10		150	mA
I_L	Latching current	$V_A=12V, \text{Gate source } 1.5A, t_r \leq 0.5\mu s, 50Hz$	25		300	1500	mA
V_{GD}	Non-trigger gate voltage	$V_{DM}=V_{DRM}$	125			0.25	V
I_{GD}	Non-trigger gate current					10	mA
$R_{th(j-c)}$	Thermal resistance Junction to case	Single side cooled				0.065	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heatsink	Single side cooled				0.024	$^{\circ}C/W$
V_{iso}	Isolation voltage	50Hz, R.M.S, $t=1min, I_{iso}: 1mA(MAX)$		2500			V
F_m	Thermal connection torque(M10)				12.0		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				1487		g
Outline	416F3						

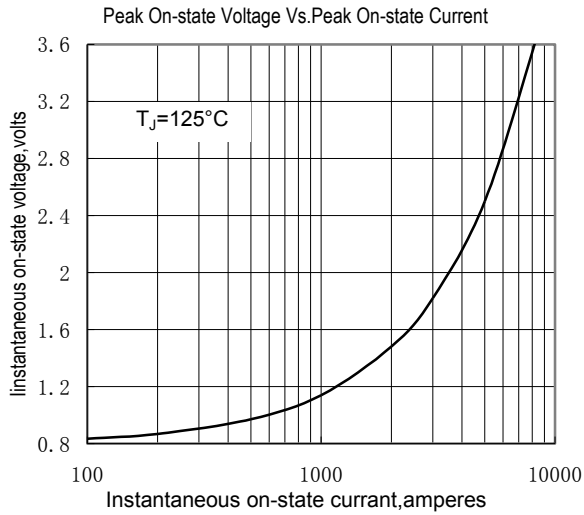


Fig.1

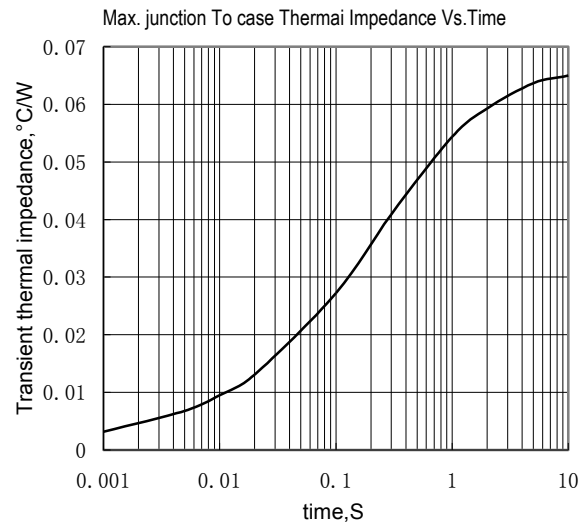


Fig.2

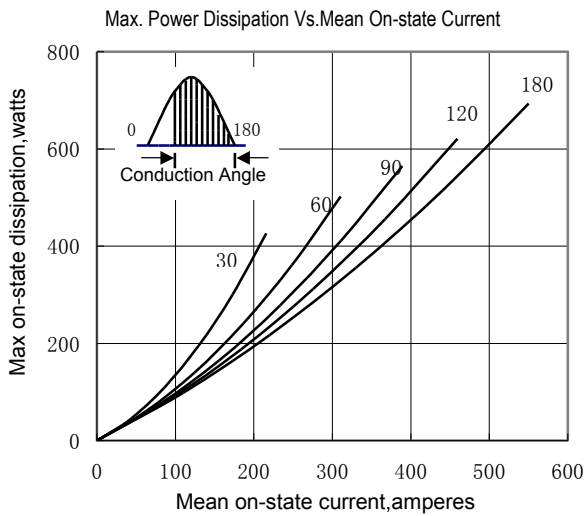


Fig.3

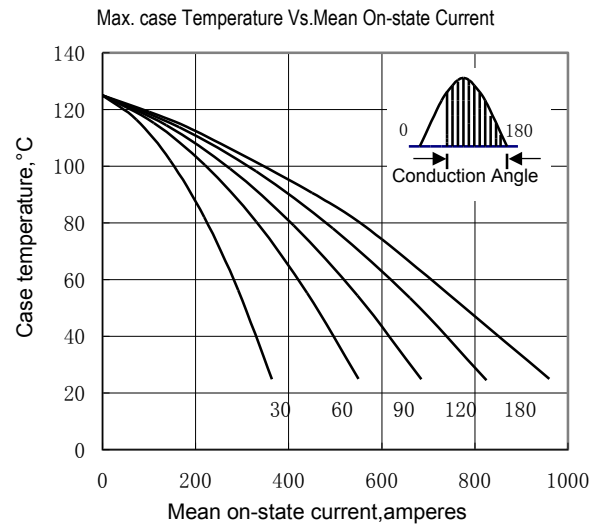


Fig.4

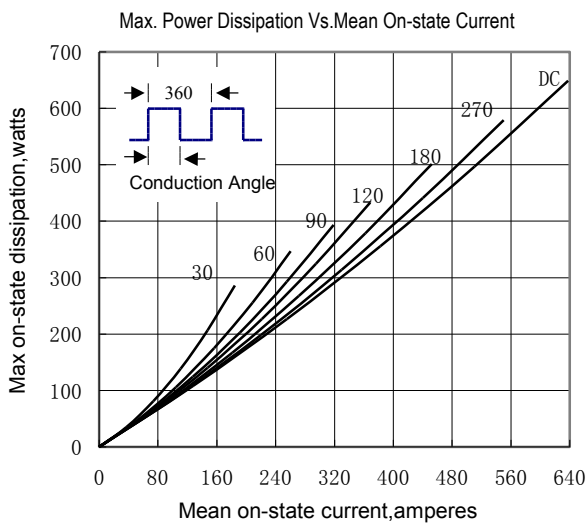


Fig.5

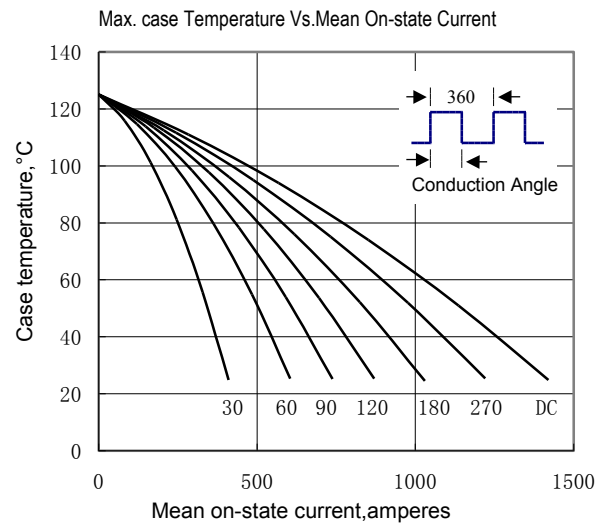


Fig.6

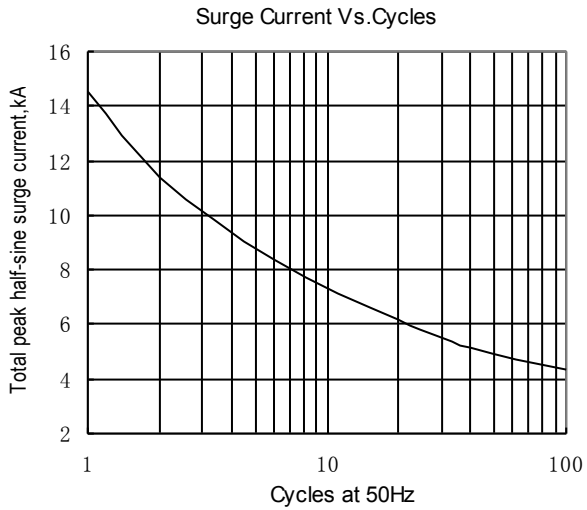


Fig.7

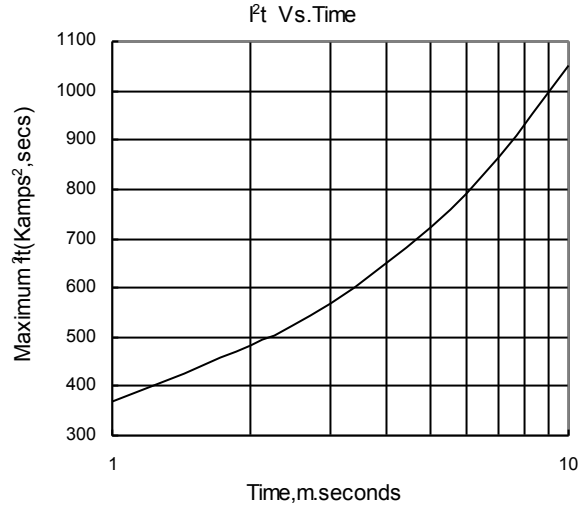


Fig.8

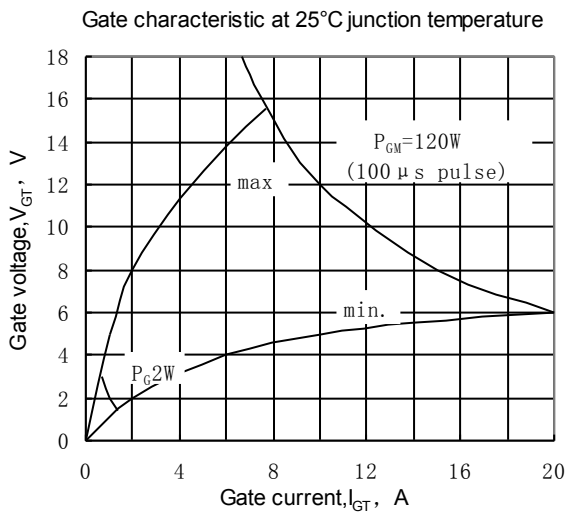


Fig.9

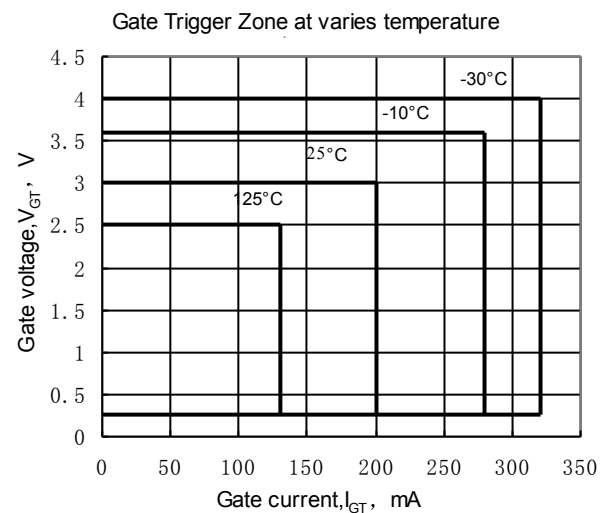


Fig.10

Outline:

