MFC90 MFA90 MFK90 MFX90
Thyristor/Diode Modules

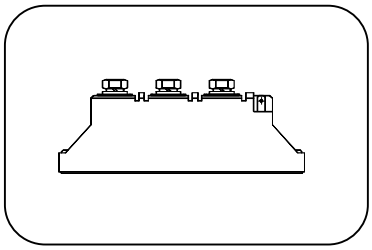
Features:

- 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

$I_{T(AV)}$	90A
V_{DRM}/V_{RRM}	600~1800V
I_{TSM}	$2.0A\times10^3$
I^2t	$20.4A^2S*10^3$



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled, T_c=85°C	125			90	A
$I_{T(RMS)}$	RMS on-state current		125			141	A
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}+200V respectively	125	600		1600	V
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 V_R=60%V_{RRM}	125			2.00	KA
I^2t	I^2T for fusing coordination					20.4	A^2s*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			1.70	V
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	**I_{TM} =180A,**Gate source 1.5A t_r ≤0.5μs 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			1.0		2.5	V
I_H	Holding current			20		100	mA
V_{GD}	Non-trigger gate voltage	V_{DM}=67%V_{DRM}	125	0.2			V
$R_{th(j-c)}$	Thermal resistance Junction to case	Single side cooled				0.280	°C /W
Rth(c-h)	Thermal resistance case to heat sink	Single side cooled				0.15	°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_{stg}	Stored temperature			-40		125	°C
W_t	Weight				160		g
Outline	217F3/223F3						

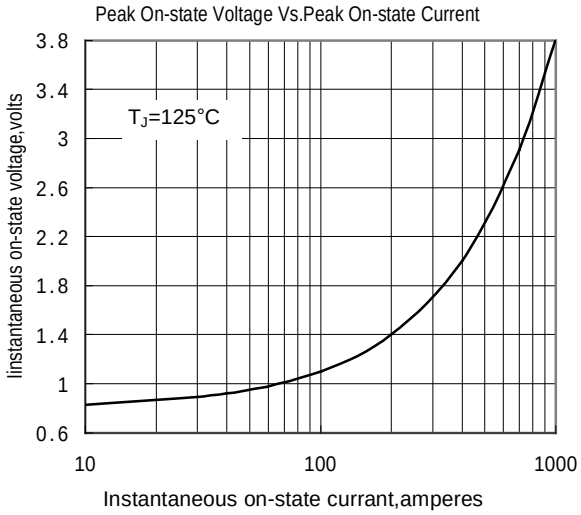


Fig.1

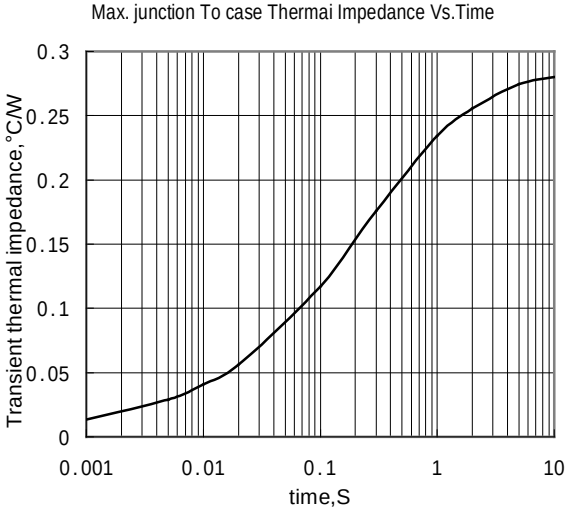


Fig.2

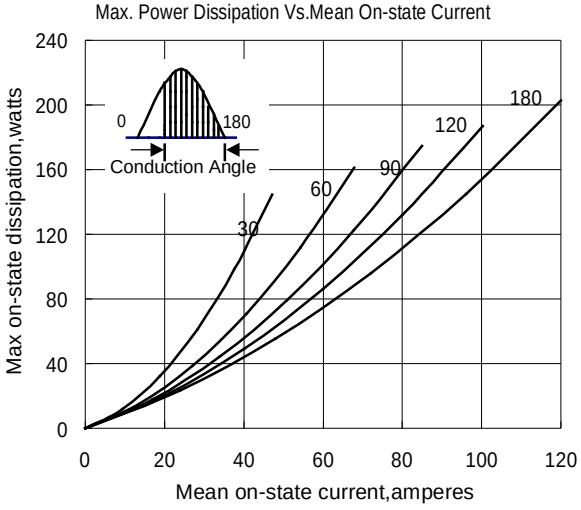


Fig.3

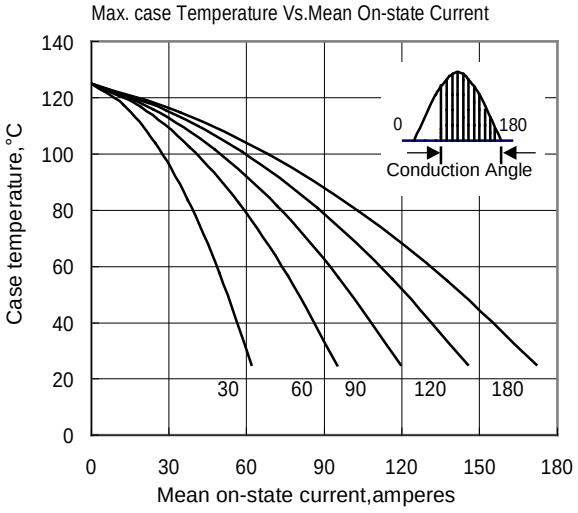


Fig.4

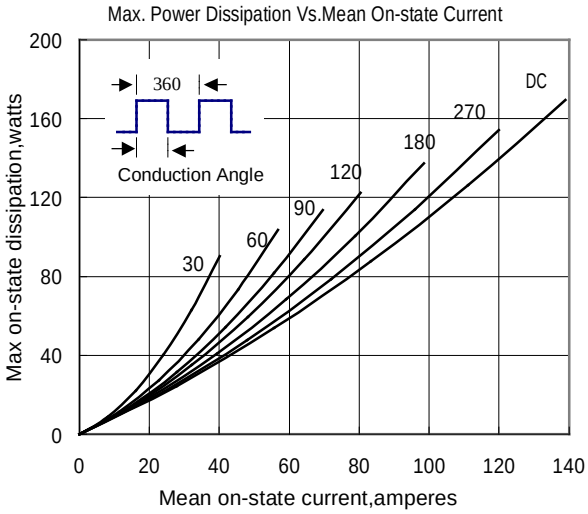


Fig.5

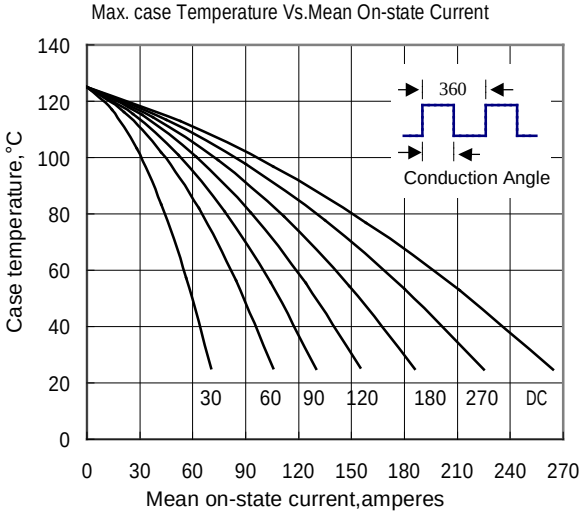


Fig.6

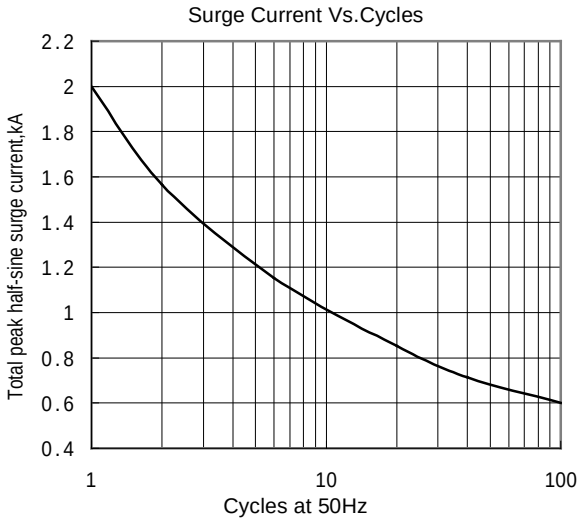


Fig.7

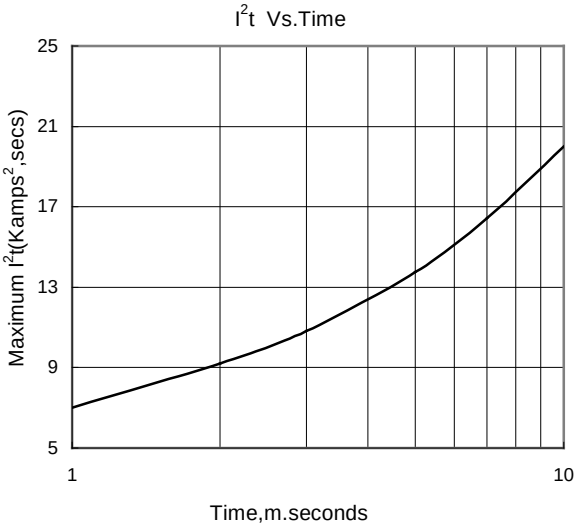


Fig.8

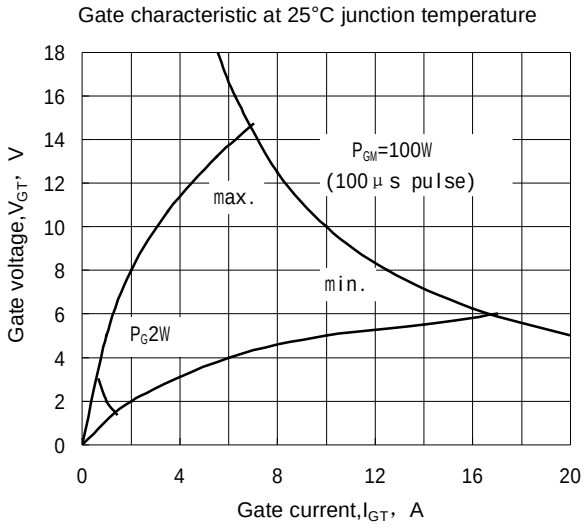


Fig.9

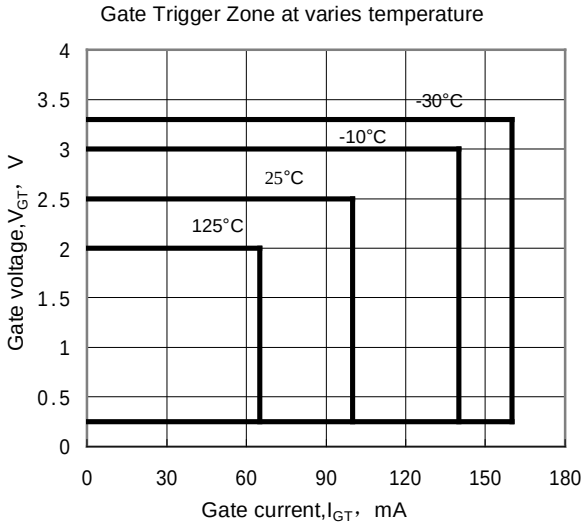
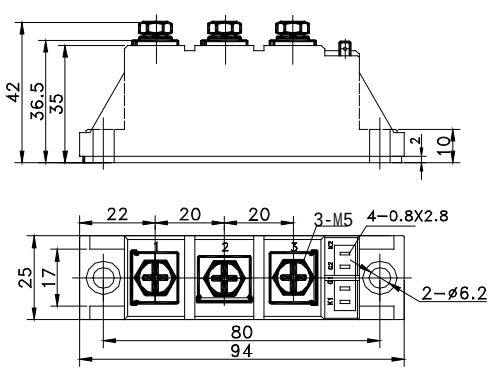
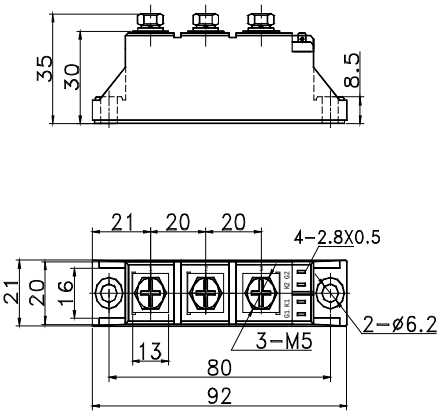


Fig.10

Outline:



217F3



223F3