

# Thyristor - Diode Modules

## MFC182 MFA182 MFK182 MFX182

### 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

$I_{T(AV)}$	<b>182A</b>
$V_{DRM}/V_{RRM}$	<b>600~1800V</b>
$I_{TSM}$	<b><math>7.0A \times 10^3</math></b>
$I^2t$	<b><math>245A^2 S \times 10^3</math></b>



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			182	A
$I_{T(RMS)}$	RMS on-state current		125			286	A
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM} \& V_{RRM}$ $t_d=10ms$ $V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$ respectively	125	600		1800	V
$I_{DRM}$ $I_{RRM}$	Repetitive peak current	at $V_{DRM}$ at $V_{RRM}$	125			25	mA
$I_{TSM}$	Surge on-state current	10ms half sine wave	125			7.0	KA
$I^2t$	$I^2T$ for fusing coordination	$V_R=60\%V_{RRM}$				245	$A^2s \times 10^3$
$V_{TO}$	Threshold voltage		125			0.80	V
$r_T$	On-state slop resistance					1.26	m $\Omega$
$V_{TM}$	Peak on-state voltage	$I_{TM}=550A$	25			1.62	V
$dv/dt$	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	125			800	V/ $\mu s$
$di/dt$	Critical rate of rise of on-state current	Gate source 1.5A $t_r \leq 0.5\mu s$ Repetitive	125			100	A/ $\mu s$
$I_{GT}$	Gate trigger current			30		150	mA
$V_{GT}$	Gate trigger voltage	$V_A=12V, I_A=1A$	25	1.0		2.5	V
$I_H$	Holding current			20		150	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				0.160	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heatsink	Single side cooled				0.08	$^{\circ}C/W$
$V_{iso}$	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
$T_{stg}$	Stored temperature			-40		125	$^{\circ}C$
$W_t$	Weight				320		g

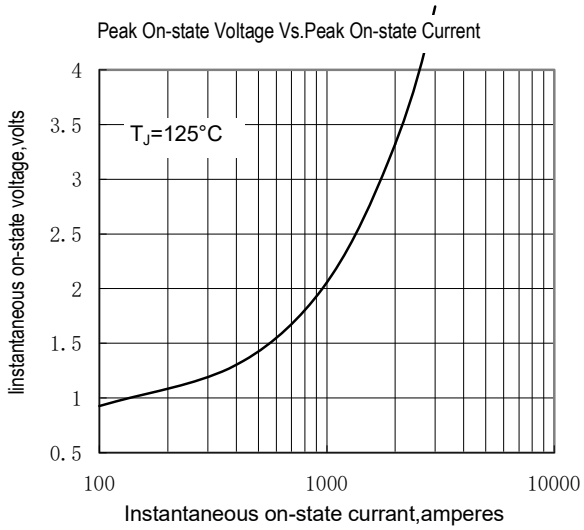


Fig.1

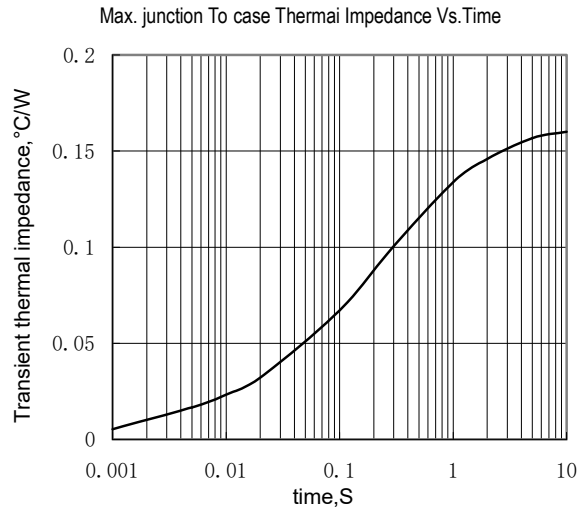


Fig.2

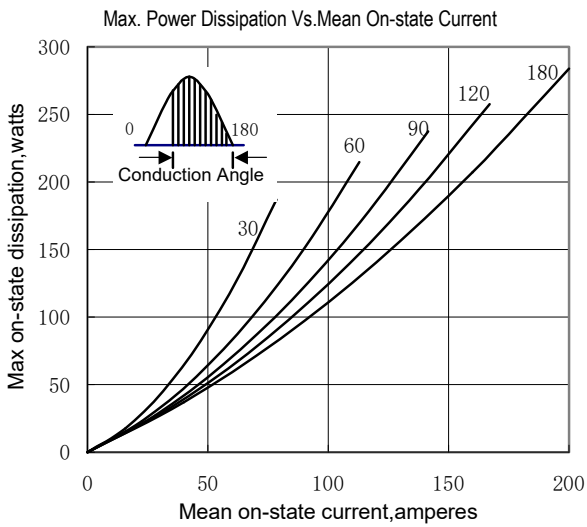


Fig.3

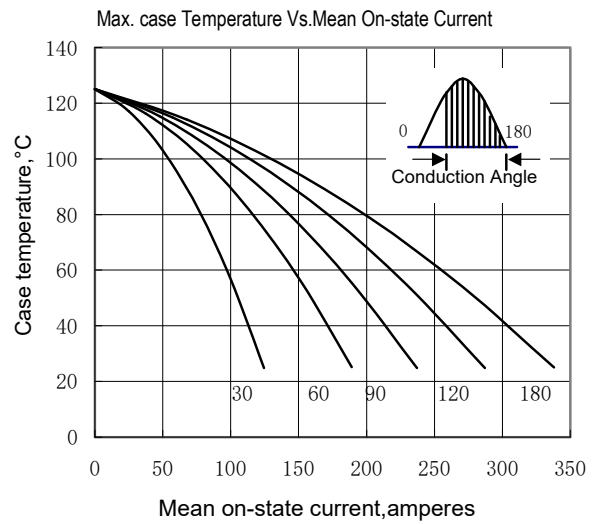


Fig.4

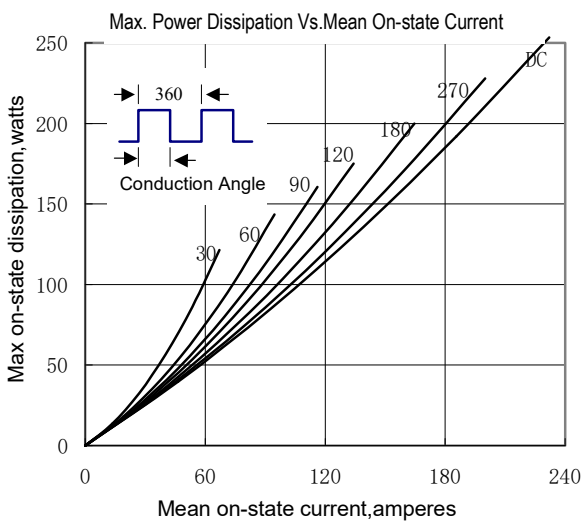


Fig.5

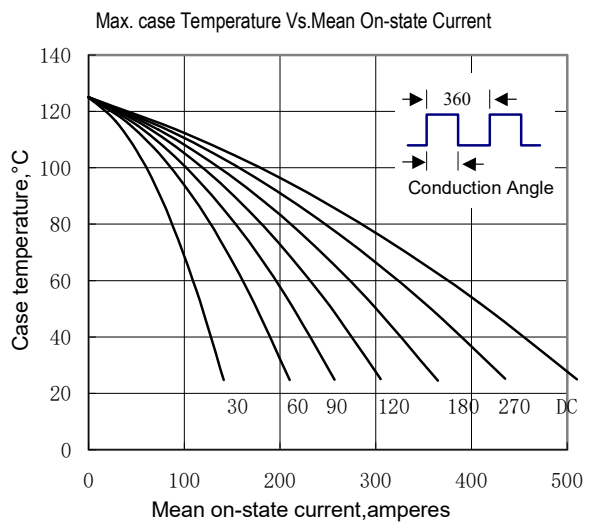


Fig.6

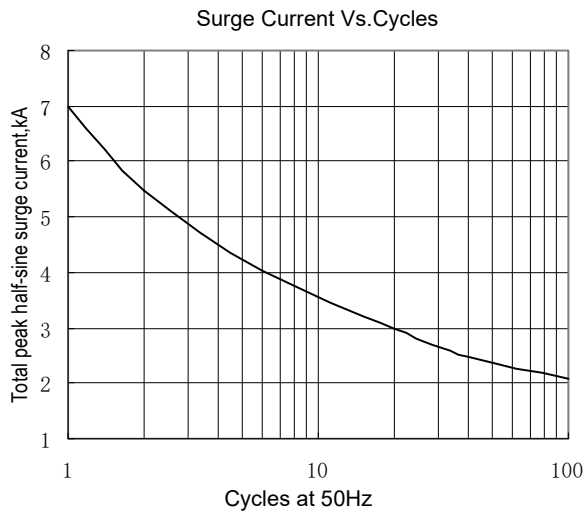


Fig.7

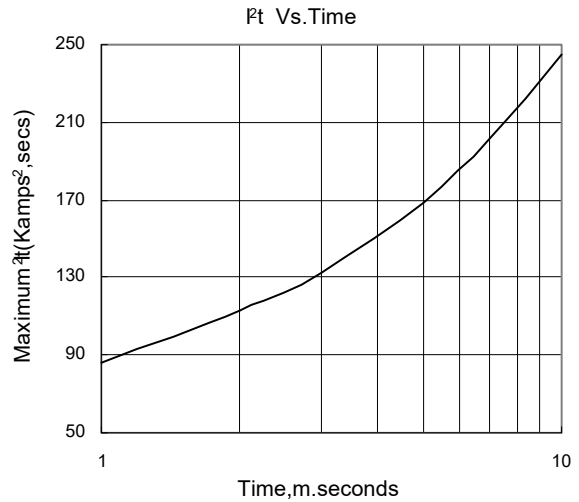


Fig.8

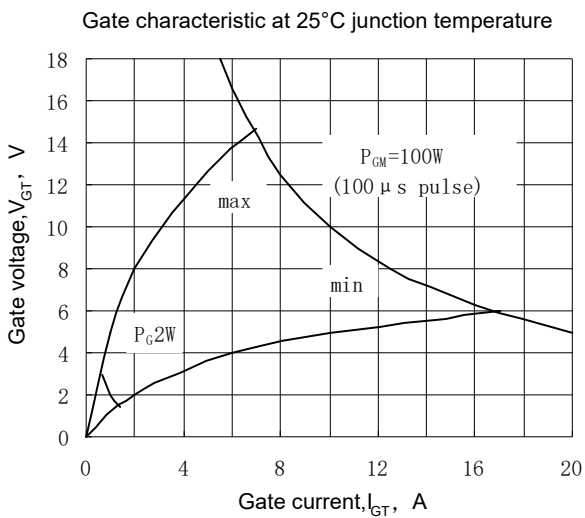


Fig.9

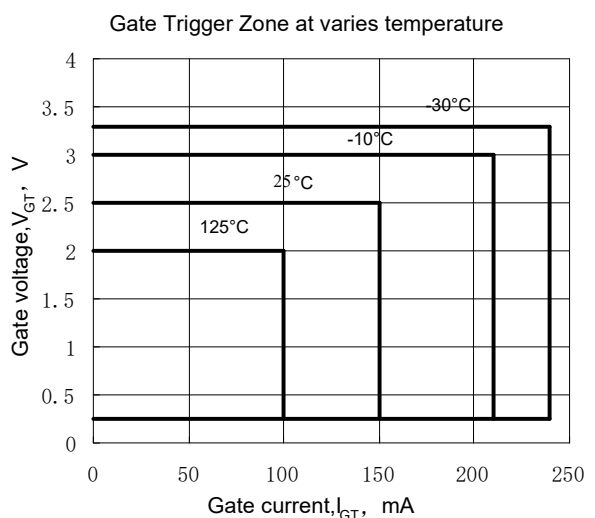


Fig.10

Outline:

