

## MRS820.16-416F3

### Diodes module

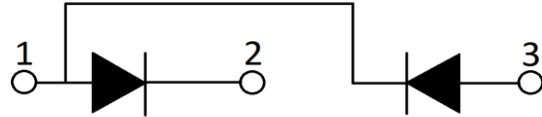
#### Features:

- Isolated mounting base 3000V~
- 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



Symbol	Characteristics	Test Conditions	Value			Unit
			Min	Typ	Max	
$V_{RSM/DSM}$	Non-repetitive reverse/forward blocking voltage	$T_j = 150^\circ\text{C}$			1700	V
$V_{RRM/DRM}$	Repetitive reverse/forward blocking voltage	$T_j = 150^\circ\text{C}$			1600	V
$I_{F(AV)}$	Forward average current	180° half sine wave 50Hz $T_c = 100^\circ\text{C}$			820	A
$I_{F(RMS)}$	Forward square root current	180° half sine wave 50Hz $T_c = 100^\circ\text{C}$			1287	A
$I_{RRM}$ $I_{DRM}$	Repetitive peak current	at $V_{DRM}/V_{RRM}$ $T_j = 150^\circ\text{C}$			40	mA
$I_{FSM}$	Forward surge current	10ms half sine wave $V_R = 60\% V_{RRM}$ $T_j = 150^\circ\text{C}$			19	kA
$I^2 t$	$I^2 t$ for fusing coordination				1805	$\text{kA}^2\text{s}$
$V_{FO}$	Threshold voltage	$T_j = 150^\circ\text{C}$			0.74	V
$r_F$	Forward slope resistance	$T_j = 150^\circ\text{C}$			0.25	$\text{m}\Omega$
$V_{FM}$	Peak forward voltage	$T_j = 25^\circ\text{C}$ ; $I_F = 2500\text{A}$			1.40	V
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.047	$^\circ\text{C}/\text{W}$
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.015	$^\circ\text{C}/\text{W}$
$V_{ISO}$	Isolation voltage	50Hz, RMS, $t = 1\text{min}$ , $I_{ISO} : 1\text{mA (MAX)}$	3000			V
$F_M$	Mounting torque - copper plate (M6)		4.5		6.0	N·m
	Mounting torque - terminal (M10)		10		12	N·m
$T_{stg}$	Storage Temperature		-40		150	$^\circ\text{C}$
$T_j$	Operating Temperature		-40		150	$^\circ\text{C}$
$W_t$	Weight			1410		g
Outline	416F3					

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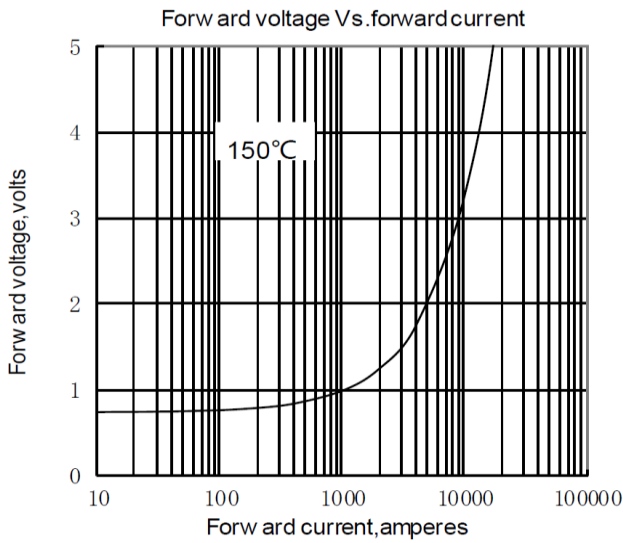


Fig.1

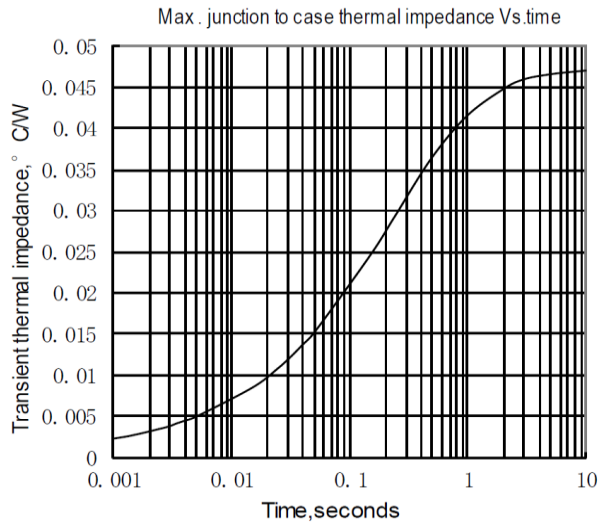


Fig.2

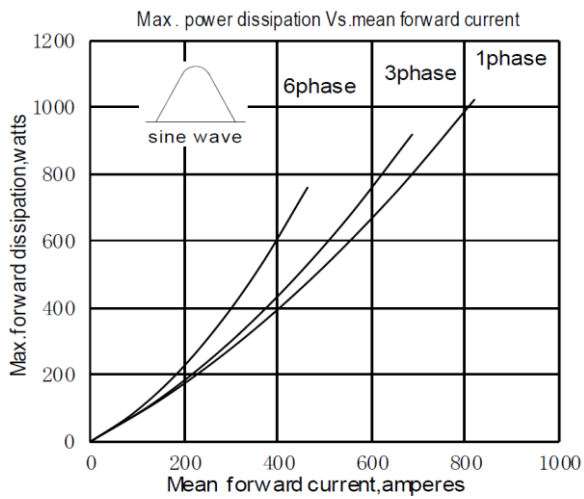


Fig.3

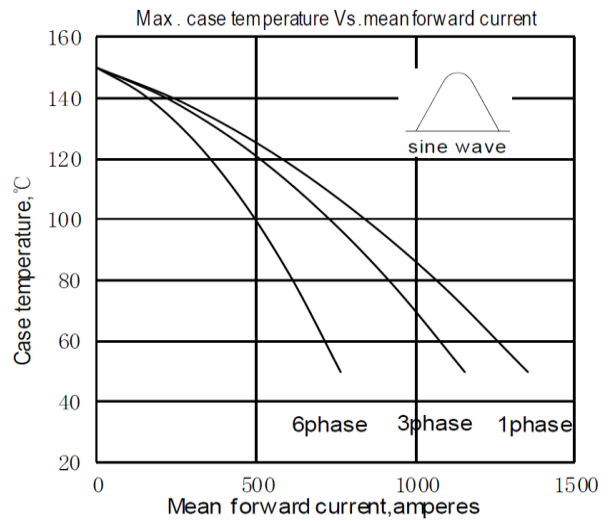


Fig.4

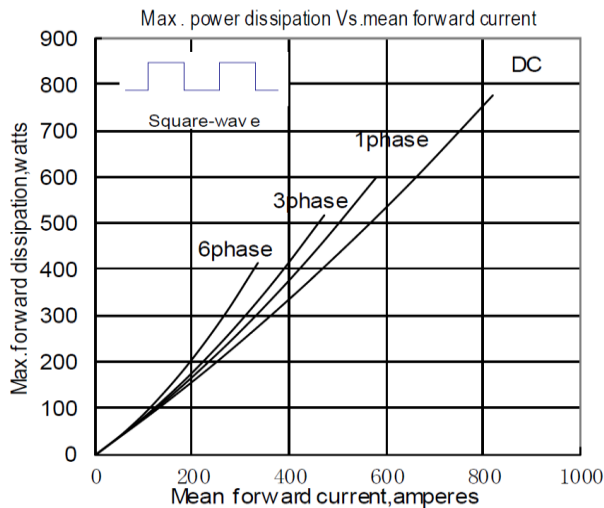


Fig.5

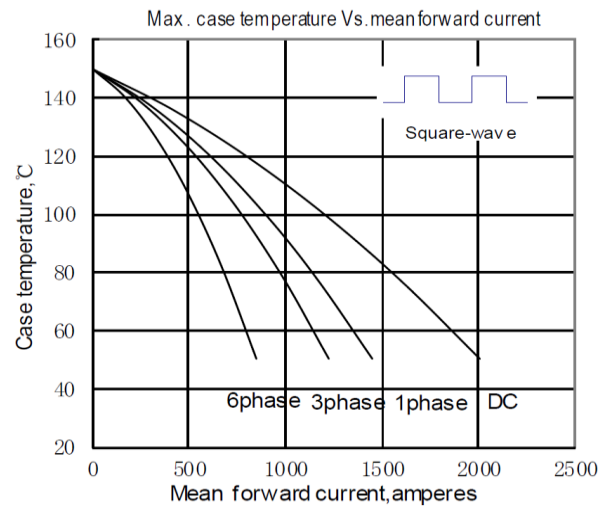


Fig.6

## MRS820.16-416F3

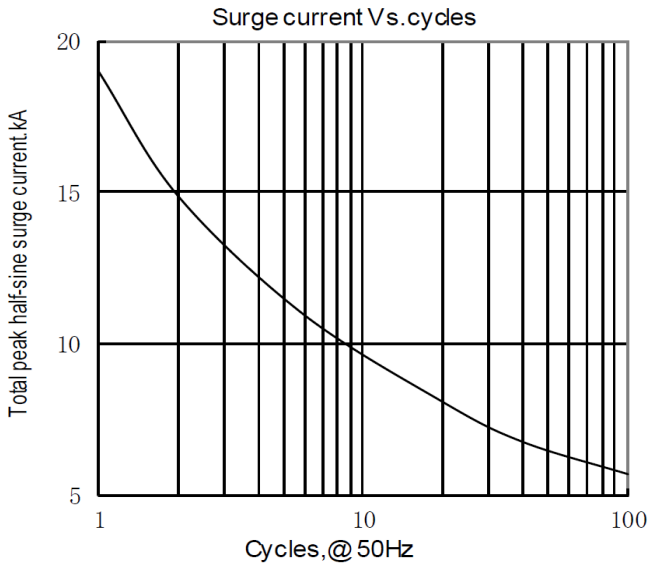


Fig. 7

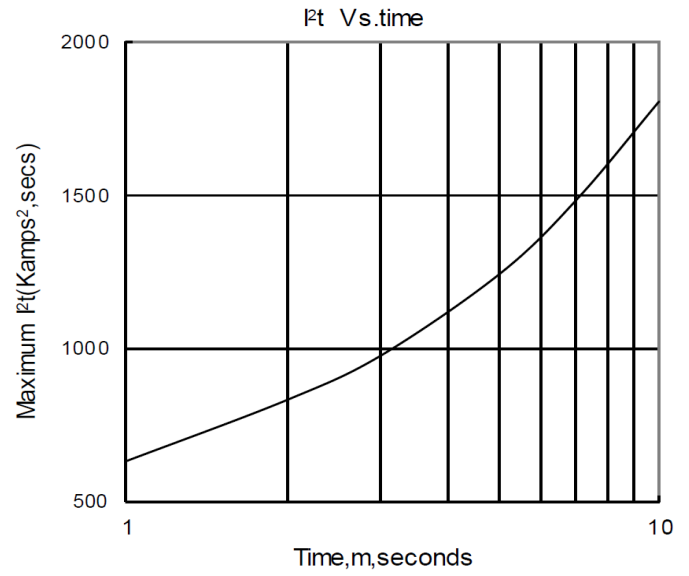
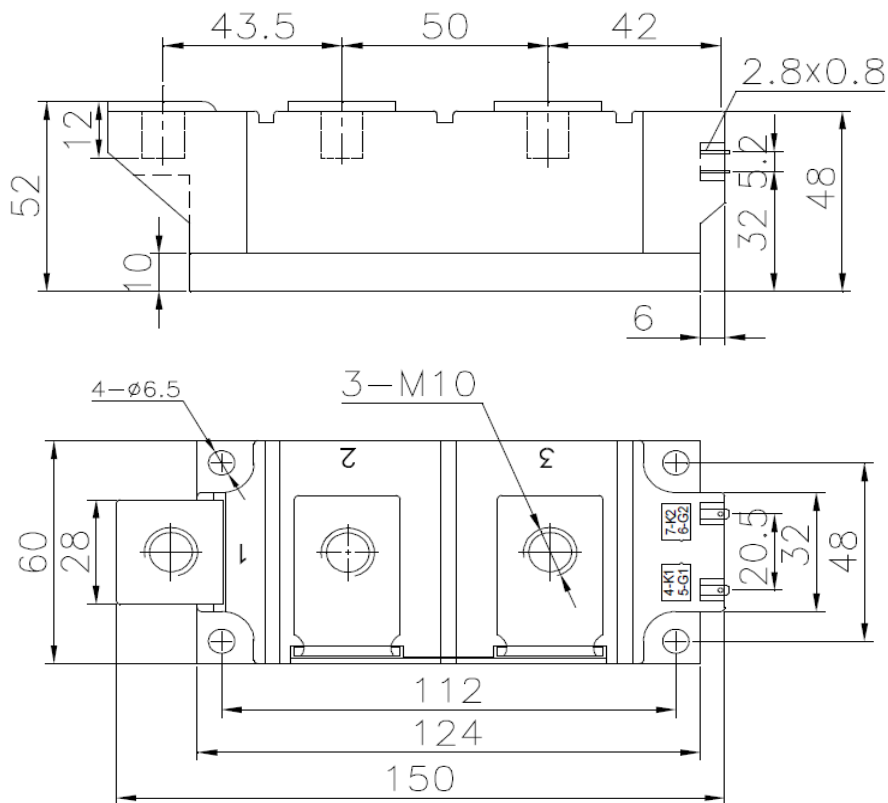


Fig. 8



(dimensions in mm)

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