

## MRS380.16-413F3D

### Diodes module

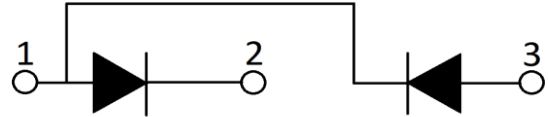
#### Features:

- Isolated mounting base 3000V~
- Pressure contact technology with increased power cycling capability
- Space and weight savings
- UL recognized, file no. E312789



#### 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 $T_c = 100^\circ\text{C}$			380	A
$I_{F(RMS)}$	Forward square root current	180° half sine wave 50Hz $T_c = 100^\circ\text{C}$			596	A
$I_{RRM}$ $I_{DRM}$	Repetitive peak current	at $V_{DRM}/V_{RRM}$ $T_j = 150^\circ\text{C}$			20	mA
$I_{FSM}$	Forward surge current	10ms half sine wave $V_R = 60\% V_{RRM}$ $T_j = 150^\circ\text{C}$			9.5	kA
$I^2 t$	$I^2 t$ for fusing coordination				451	$\text{kA}^2\text{s}$
$V_{FO}$	Threshold voltage	$T_j = 150^\circ\text{C}$			0.72	V
$r_F$	Forward slope resistance	$T_j = 150^\circ\text{C}$			0.40	$\text{m}\Omega$
$V_{FM}$	Peak forward voltage	$T_j = 25^\circ\text{C}$ ; $I_F = 1100\text{A}$			1.40	V
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.120	$^\circ\text{C}/\text{W}$
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.040	$^\circ\text{C}/\text{W}$
$V_{ISO}$	Isolation voltage	50Hz, RMS, $t = 1\text{min}$ , $I_{ISO} : 1\text{mA (MAX)}$	3000			V
$F_M$	Mounting torque - copper plate (M6)			6.0		N·m
	Mounting torque - terminal (M8)			12.0		N·m
$T_{stg}$	Storage Temperature		-40		150	$^\circ\text{C}$
$T_j$	Operating Temperature		-40		150	$^\circ\text{C}$
$W_t$	Weight			810		g
Outline	413F3D					

Peak forward Voltage Vs. Peak forward Current

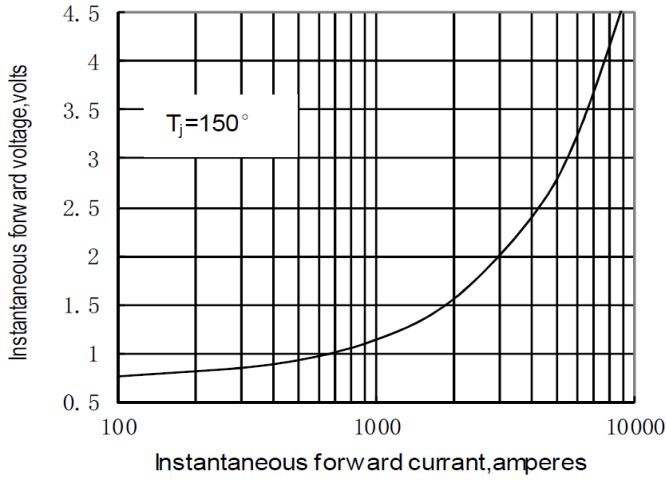


Fig.1

Max. junction To case Thermal Impedance Vs. Time

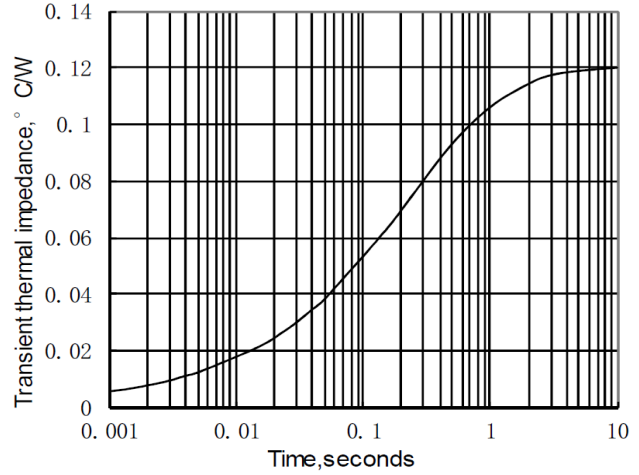


Fig.2

Max. Power Dissipation Vs. Mean forward Current

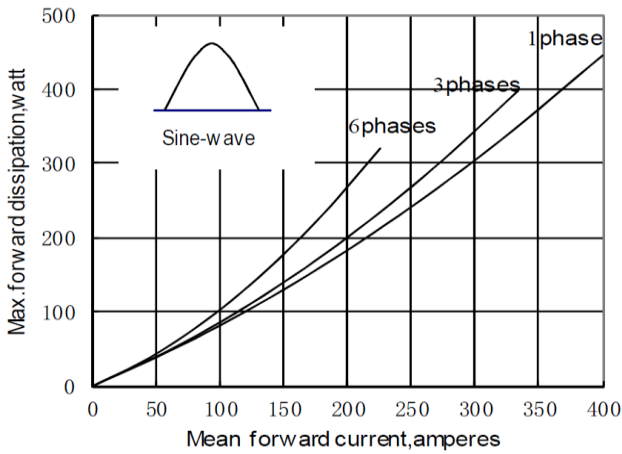


Fig.3

Max. case Temperature Vs. Mean forward Current

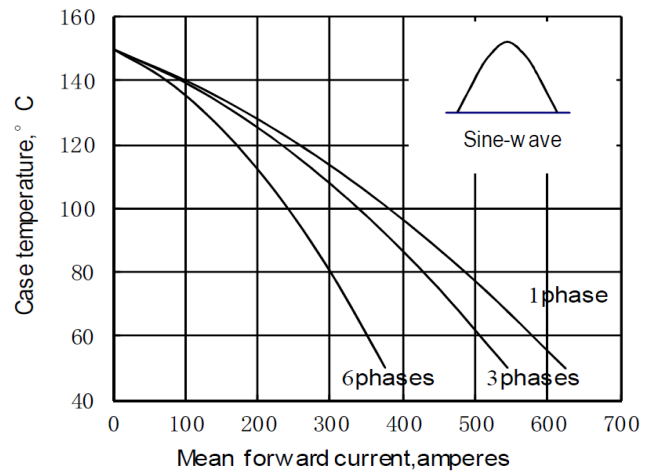


Fig.4

Max. Power Dissipation Vs. Mean forward Current

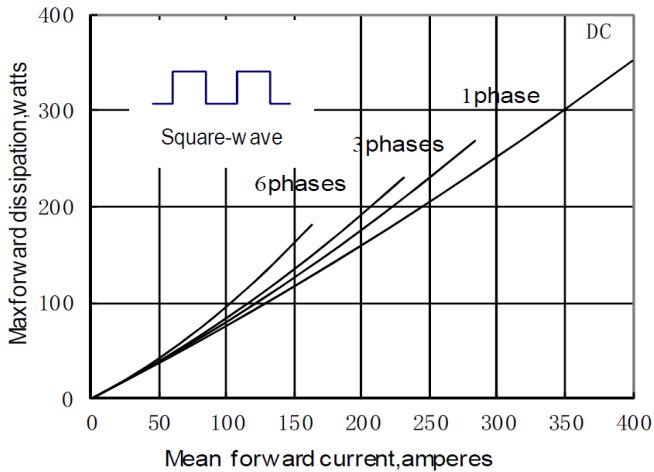


Fig.5

Max. case Temperature Vs. Mean forward Current

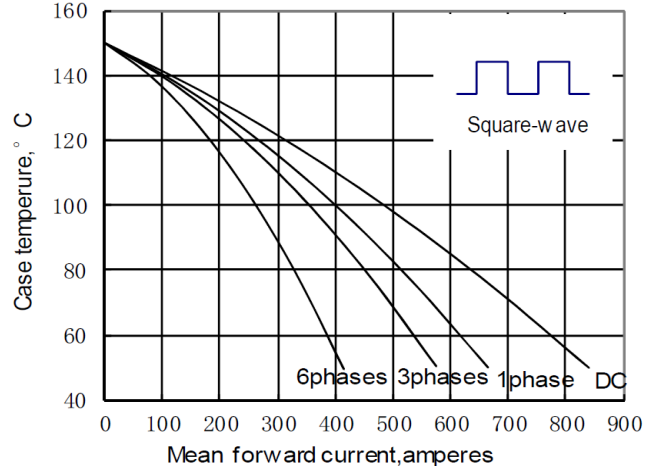


Fig.6

## MRS380.16-413F3D

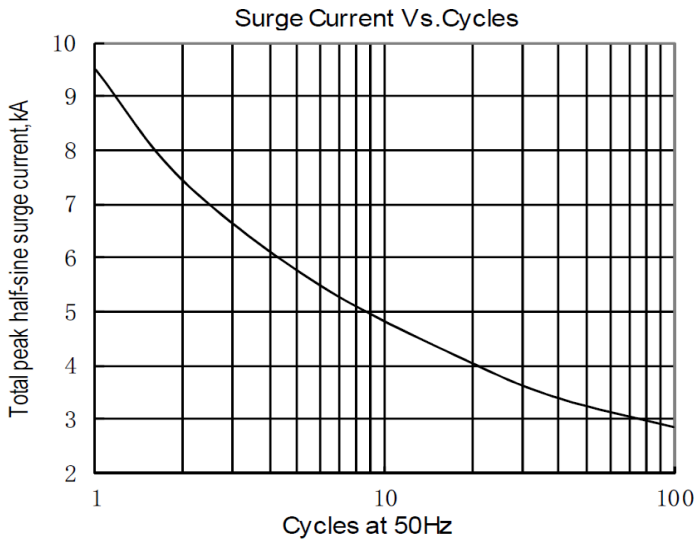


Fig.7

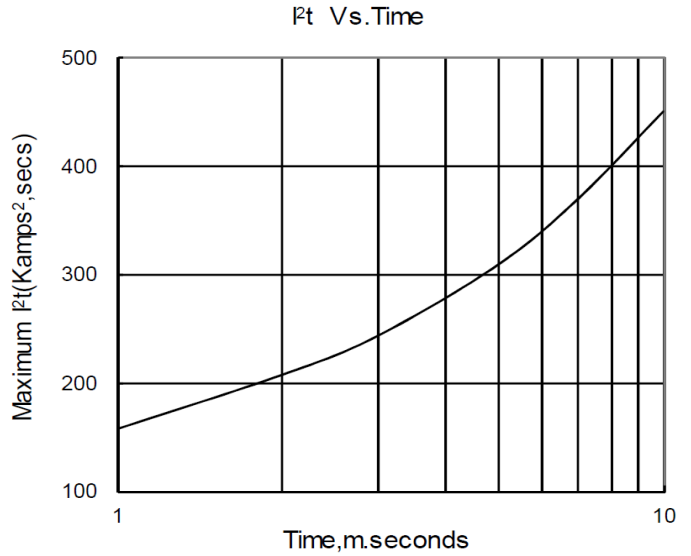
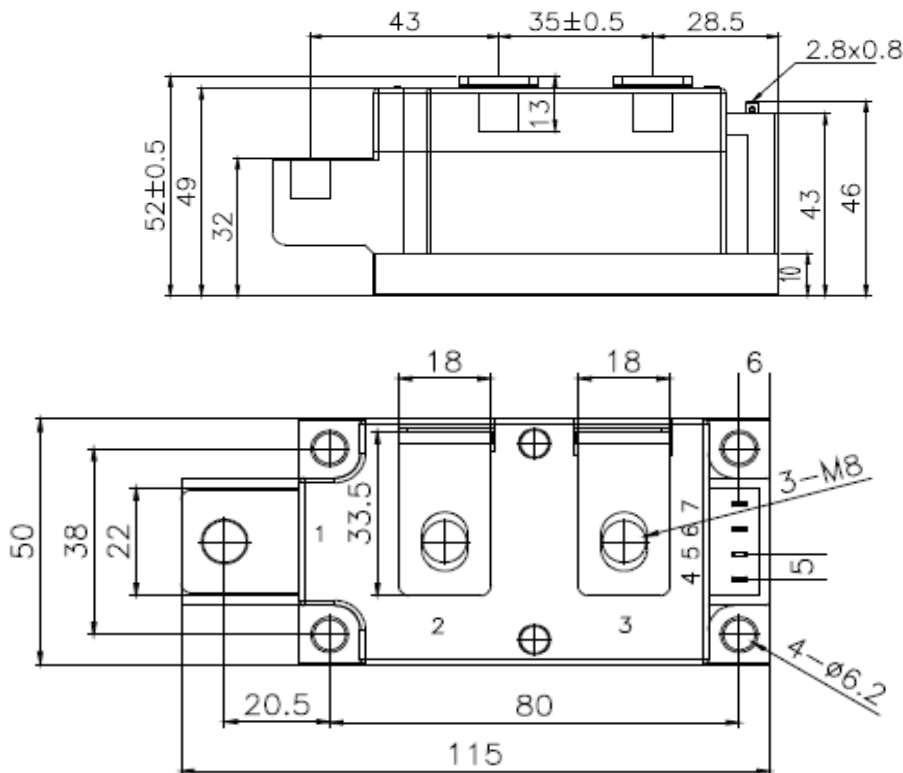


Fig.8

### Outline:



(dimensions in mm)

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