

## MRH330.16-413F3D

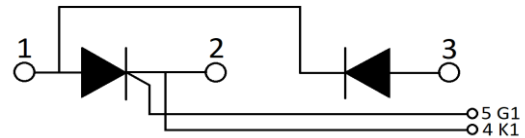
### Thyristor/Diode module

#### Features:

- Pressure contact technology with increased power cycling capability
- Glass passivated chip
- Simple mounting
- UL recognized, file no. E312789

#### Typical applications:

- Power converters
- Lighting control
- DC motor control and drives
- Heat and temperature control



Symbol	Characteristics	Test Conditions	Value			Unit
			Min	Typ	Max	
$V_{RSM/DSM}$	Non-repetitive reverse/forward blocking voltage	$T_j = 25^\circ\text{C}$			1700	V
$V_{RRM/DRM}$	Repetitive reverse/forward blocking voltage	$T_j = 25^\circ\text{C}$			1600	V
$I_T I_{F(AV)}$	On-state/forward average current	180° half sine wave 50Hz			330	A
$I_T I_{F(RMS)}$	RMS on-state current	$T_c = 75^\circ\text{C}$			471	A
$I_{RRM}$ $I_{DRM}$	Repetitive peak current	at $V_{DRM}/V_{RRM}$ $T_j = 125^\circ\text{C}$			35	mA
$I_{TSM} I_{FSM}$	Surge non repetitive current	10ms half sine wave $T_j = 125^\circ\text{C}$			9200	A
$I^2 t$	$I^2 t$ for fusing coordination	10ms half sine wave $V_R = 60\% V_{RRM}$ $T_j = 125^\circ\text{C}$			414000	A <sup>2</sup> s
$V_{TO}$	Threshold voltage	$T_j = 125^\circ\text{C}$			0.80	V
$r_T$	On-state slope resistance	$T_j = 125^\circ\text{C}$			0.53	mΩ
$V_{TM} V_{FM}$	Thyristor: Peak on-state voltage	$T = 25^\circ\text{C}$ ; $I_{T,F} = 750\text{A}$			1.45	V
$dv/dt$	Critical rate of rise of off-state voltage	$V_{DM} = 67\% V_{DRM}$ ; $T_j = 125^\circ\text{C}$ , linear voltage rise			800	V/μs
$di/dt$	Critical rate of rise of off-state current	$T_j = 125^\circ\text{C}$ , Gate source 500mA, $T_r < 0,5\mu\text{s}$ Repetitive			100	A/μs
$I_{GT}$	Gate trigger current	$V_A = 12\text{V}$ , $T_j = 25^\circ\text{C}$	30		180	mA
$V_{GT}$	Gate trigger voltage		1.0		2.5	V
$I_H$	Holding current	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{V}$	20		180	mA
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.12	°C/W
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.04	°C/W
$V_{ISO}$	Isolation voltage	50Hz, RMS, $t = 1\text{min}$ , $I_{ISO} : 1\text{mA (MAX)}$	2500			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		125	°C
$T_j$	Operating Temperature		-40		125	°C
$W_t$	Weight			820		g
Outline	413F3D					

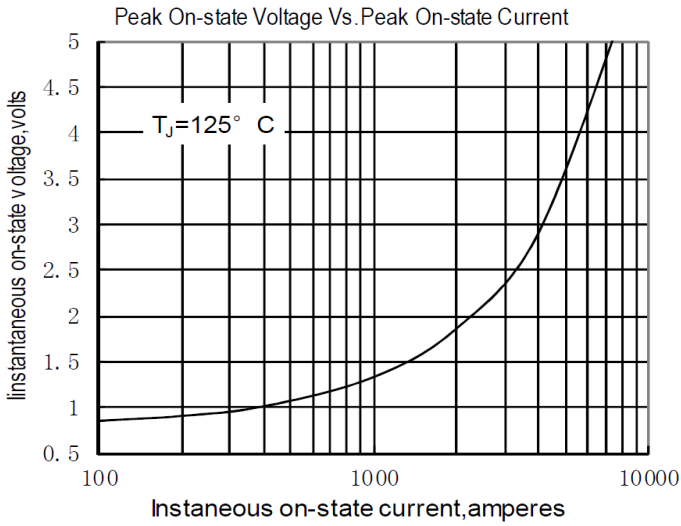


Fig. 1

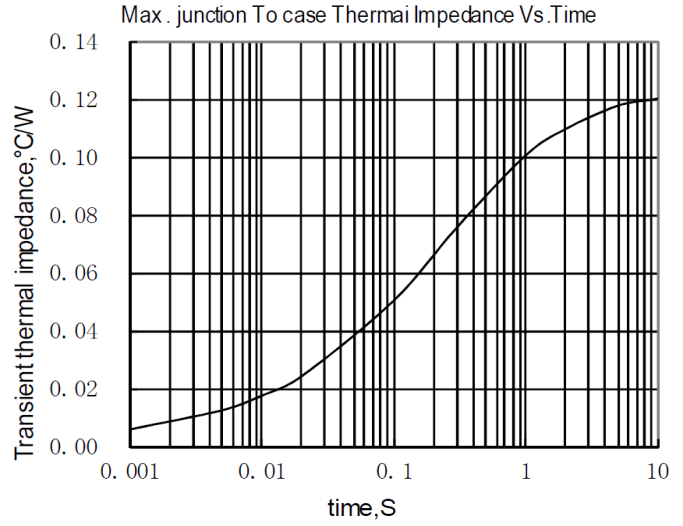


Fig. 2

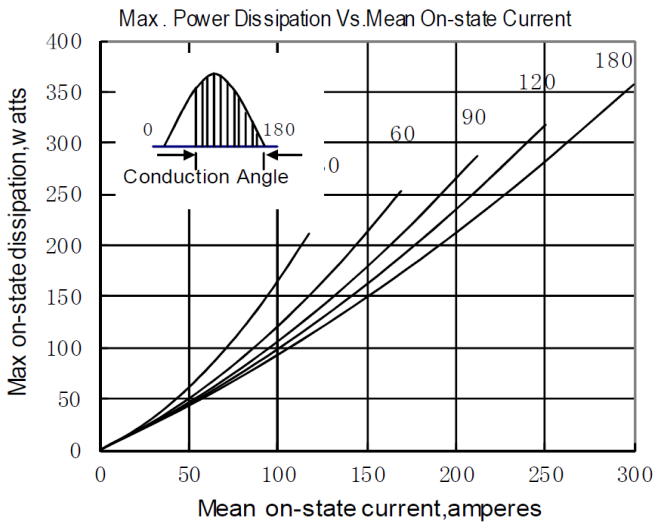


Fig. 3

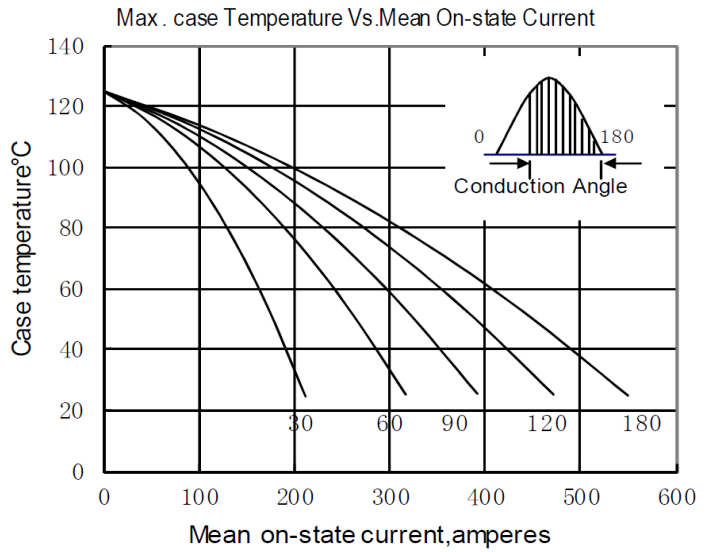


Fig. 4

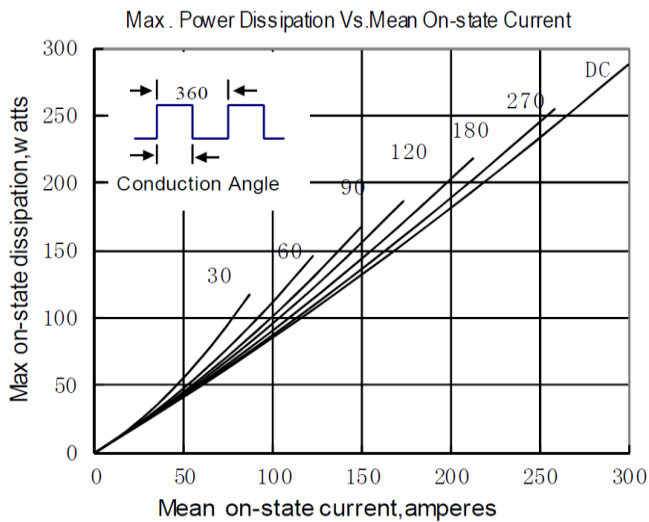


Fig. 5

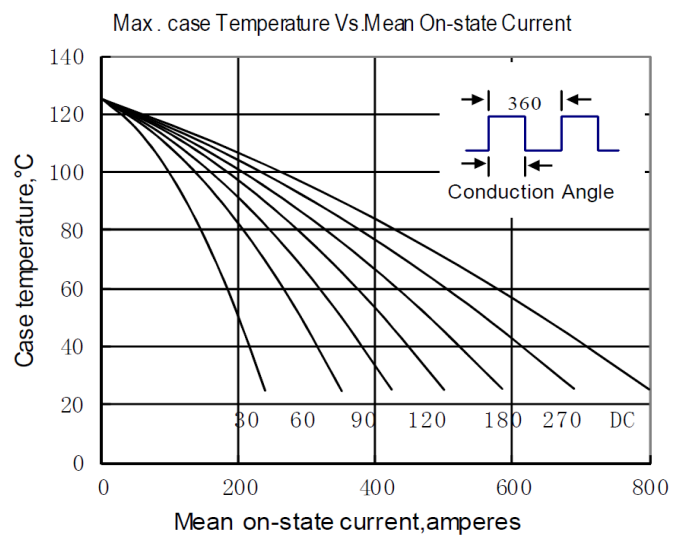


Fig. 6

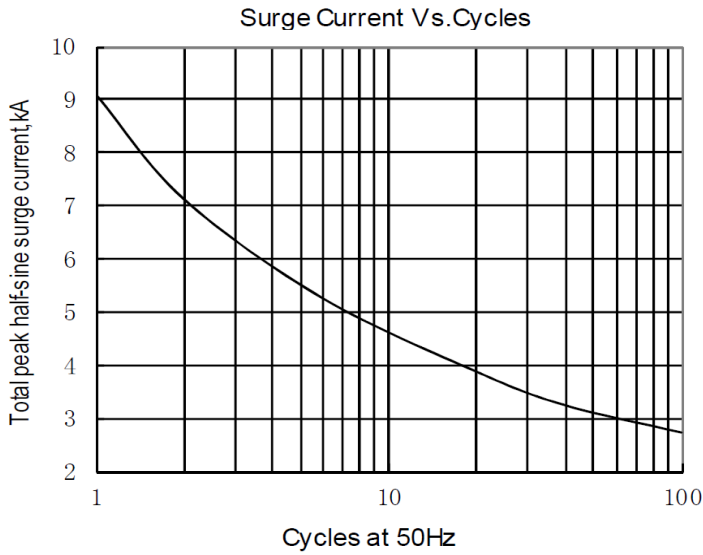


Fig.7

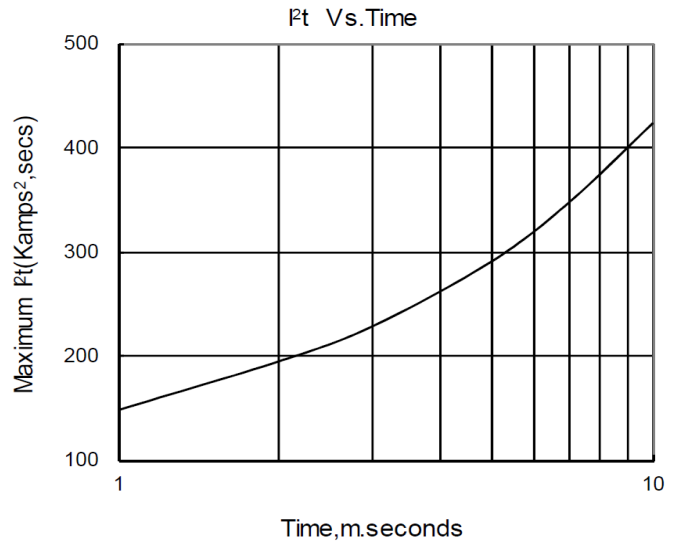


Fig.8

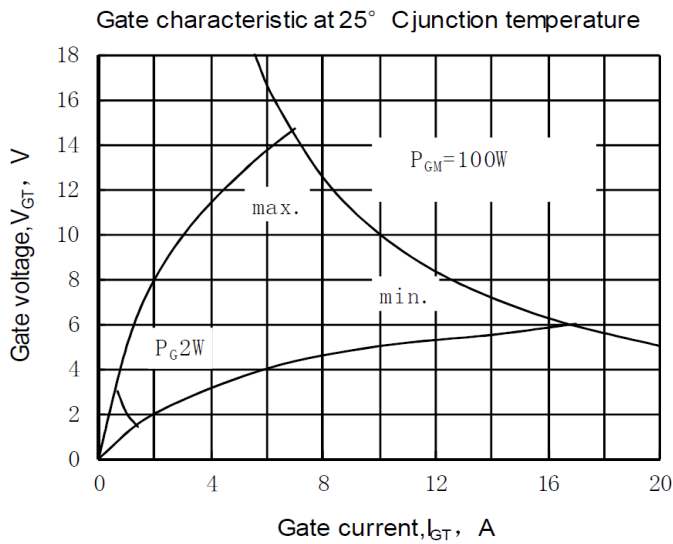


Fig.9

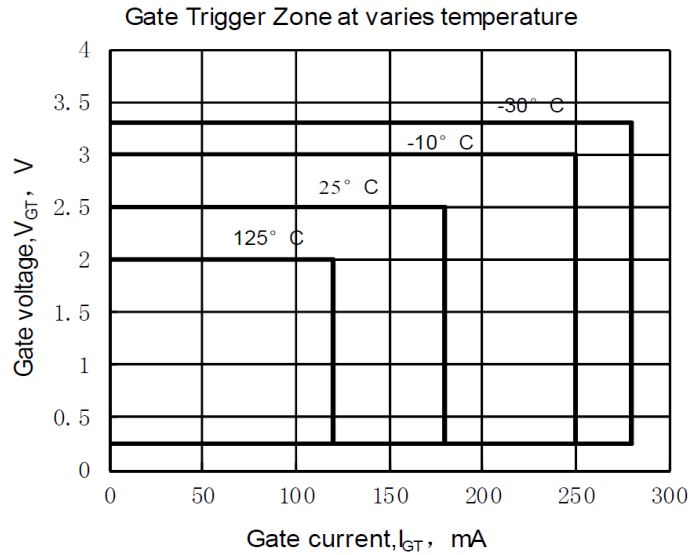
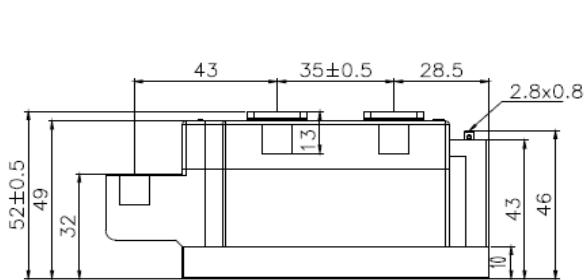
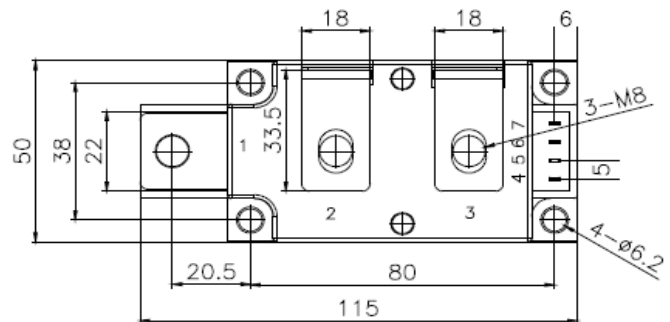


Fig.10

### Outline:



(dimensions in mm)



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