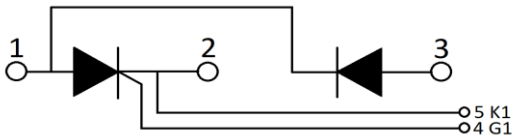
MRH250.16

Thyristor/Diode module

Features:

- International standard package
- High surge 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	Characteristcs	Test Conditions	Value			Unit
			Min	Typ	Max	
$V_{RSM/DSM}$	Non-repetitive reverse/forward blocking voltage	Tj = 25°C			1700	V
$V_{RRM/DRM}$	Repetitive reverse/forward blocking voltage	Tj = 25°C			1600	V
I_T-$I_{F(AV)}$	On-state/forward average current	180° half sine wave 50Hz T_c = 83 °C			250	A
I_T.$I_{F(RMS)}$	RMS on-state current				390	A
I_{RRM} I_{DRM}	Repetitive peak current	at V_{DRM}/V_{RRM} Tj = 125°C			50	mA
I_{TSM}-I_{FSM}	Surge non repetitive current	10ms half sine wave, V_R = 0V Tj = 25°C			7000	A
I^2t	I^2t for fusing coordination	10ms half sine wave, Tj = 25°C			245000	A^2s
V_{TO}	Threshold voltage	Tj = 125°C		0.86		V
r_T	On-state slope resistance	Tj = 125°C			1.05	mΩ
V_{TM}-V_{FM}	Peak on-state voltage	T=25°C ; I_F/I_T=750A			1.80	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM} = 67% V_{DRM}, Tj = 125°C, linear voltage rise			1000	V/µs
di/dt	Critical rate of rise of off-state current	Tj = 125°C, V_D = 50% V_{DRM}, I_G = 150mA, di_G/dt = 0.1A/µs			150	A/µs
I_{GT}	Gate trigger current	V_A = 6V, 'Tj = 25 °C			150	mA
V_{GT}	Gate trigger voltage				3	V
V_{GD}	Gate non-trigger voltage	V_D = 67% V_{DRM}, Tj = 125°C			0.25	V
I_H	Holding current	Tj = 25°C		150		mA
I_L	Latching current	Tj = 25°C		200		mA
t_{gt}	Turn on time	Tj = 25°C		3		µs
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.10	°C/W
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.05	°C/W
V_{ISO}	Isolation voltage	50Hz, RMS, t = 1min, I_{ISO} : 1mA (MAX)		3000		V
F_M	Mounting torque - copper plate (M6)		4		6	N·m
	Mounting torque - terminal (M6)		4		6	N·m
T_{stg}	Storage Temperature		-40		125	°C
T_j	Operating Temperature		-40		125	°C
W_t	Weight			160		g
Outline	M42					

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Performance Curves

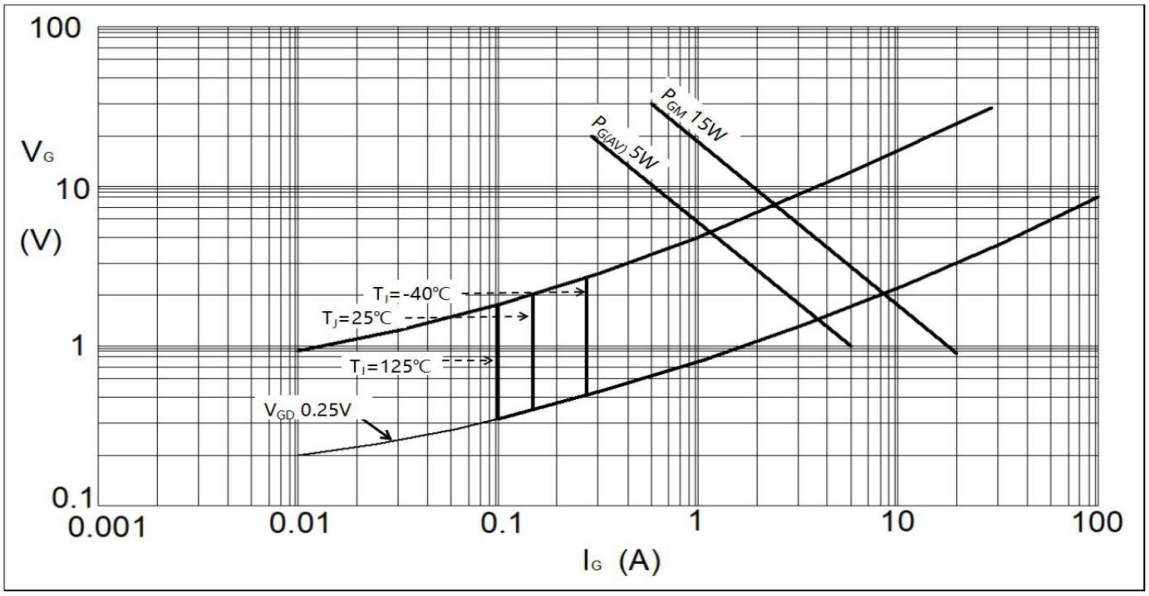

Fig1. Gate Trigger Characteristics

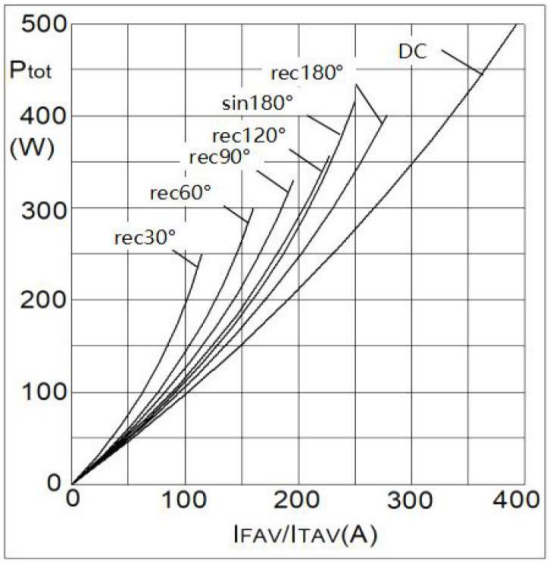

Fig2. Power Dissipation

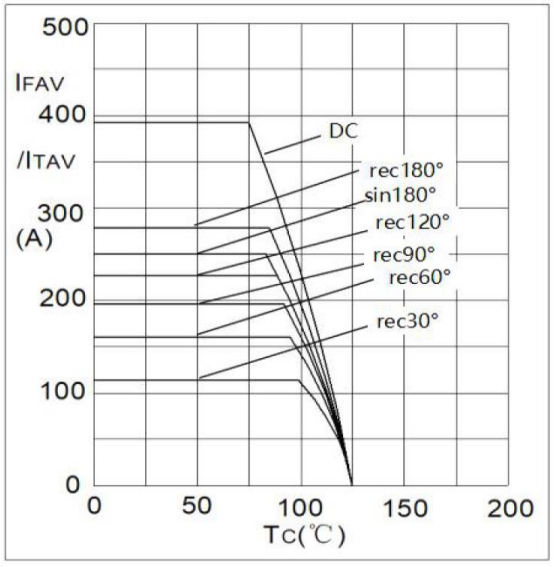

Fig3. Forward Current Derating Curve

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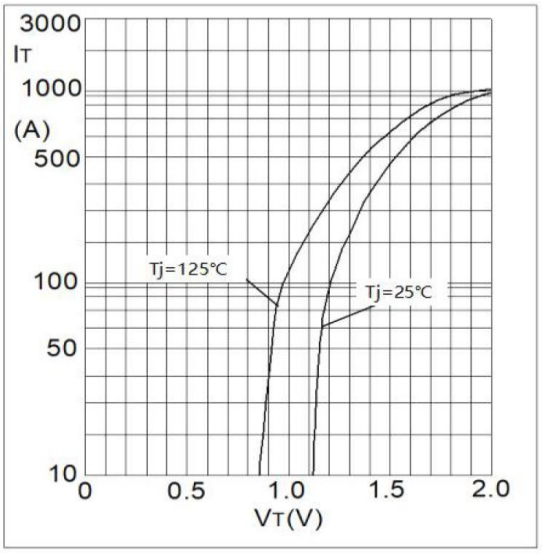


Fig4. Forward Characteristics

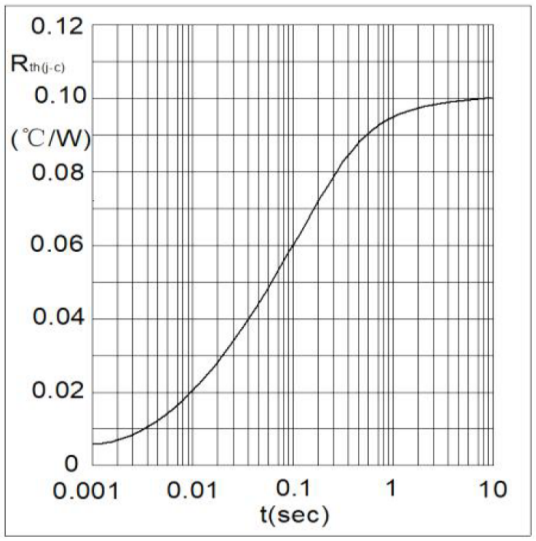


Fig5. Transient Thermal impedance

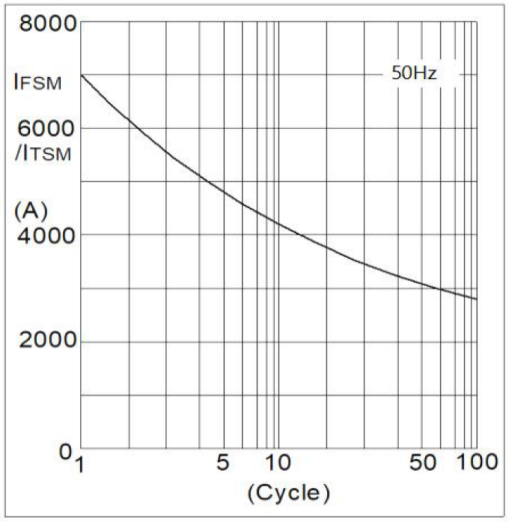
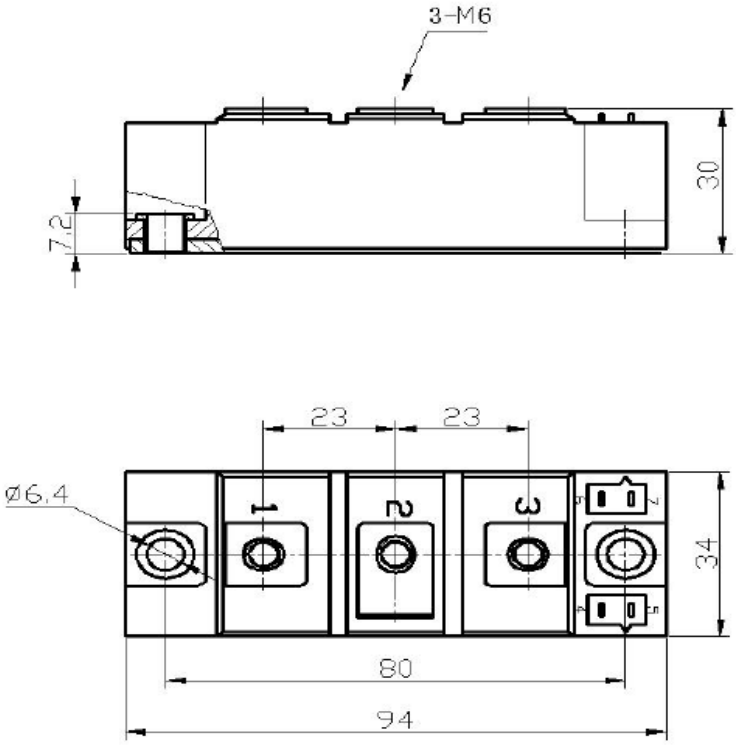


Fig6. Max Non-Repetitive Forward Surge Current



(dimensions in mm)

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