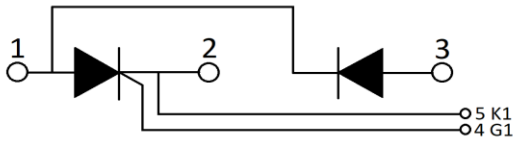
MRH110.16

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 = 85 °C (thyristor) T_c = 100 °C (diode)			110	A
I_T-$I_{F(RMS)}$	RMS on-state current				173	A
I_{RRM} I_{DRM}	Repetitive peak current	at V_{DRM}/V_{RRM} Tj = 125°C			20	mA
I_{TSM}-I_{FSM}	Surge non repetitive current	Thyristor:10ms half sine wave Tj = 45°C			2400	A
		Diode:10ms half sine wave Tj = 45°C			3000	A
I^2t	I^2t for fusing coordination	Thristor: V_R = 60% V_{RRM} Tj = 45°C			28800	A^2s
		Diode: V_R = 60% V_{RRM} Tj = 45°C			45000	A^2s
V_{TO}	Threshold voltage	Tj = 125°C			0.85	V
r_T	On-state slope resistance	Tj = 125°C			1.50	mΩ
V_{TM}-V_{FM}	Thyristor: Peak on-state voltage	T=25°C ; I_T=330A			1.70	V
	Diode: Peak forward voltage	T=25°C ; I_F=330A			1.20	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM} = 67% V_{DRM}, Tj = 125°C, linear voltage rise			500	V/µs
di/dt	Critical rate of rise of off-state current	Tj = 25°C, Gate source 1,5A, Tr < 0,5µs Repetitive			150	A/µs
I_{GT}	Gate trigger current	V_A = 12V, I_A = 1A, 'Tj = 25 °C	20		150	mA
V_{GT}	Gate trigger voltage		0.70		1.80	V
I_H	Holding current	Tj = 25°C	20		150	mA
I_L	Latching current	Tj = 25°C	100		400	mA
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.34	°C/W
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.20	°C/W
V_{ISO}	Isolation voltage	50Hz, RMS, t = 1min, I_{ISO} : 1mA (MAX)		2500		V
F_M	Mounting torque - copper plate (M6)		4		6	N·m
	Mounting torque - terminal (M5)		2.5		3.5	N·m
T_{stg}	Storage Temperature		-40		125	°C
T_j	Operating Temperature		-40		125	°C
W_t	Weight			120		g
Outline	M01-1					

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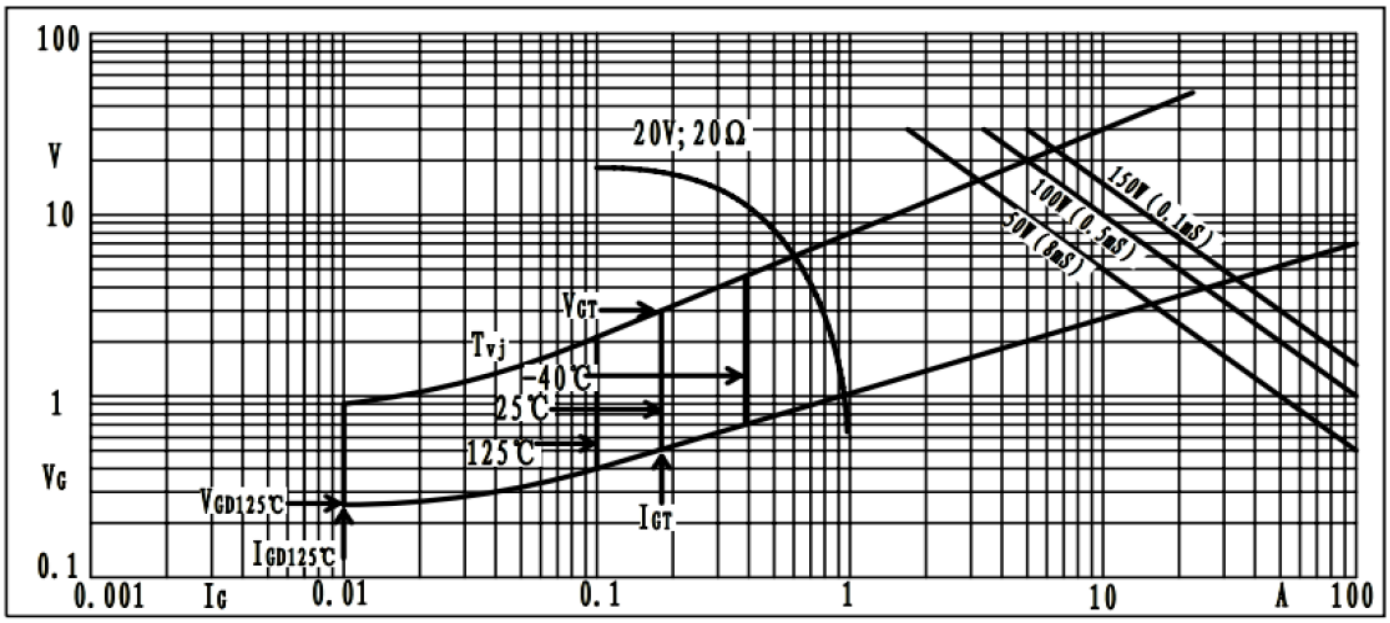

Fig1. Gate trigger characteristics

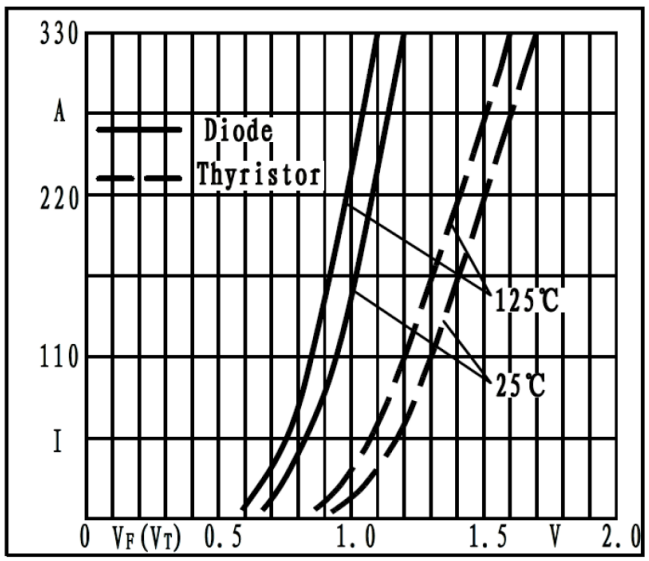

Fig2. Forward characteristics

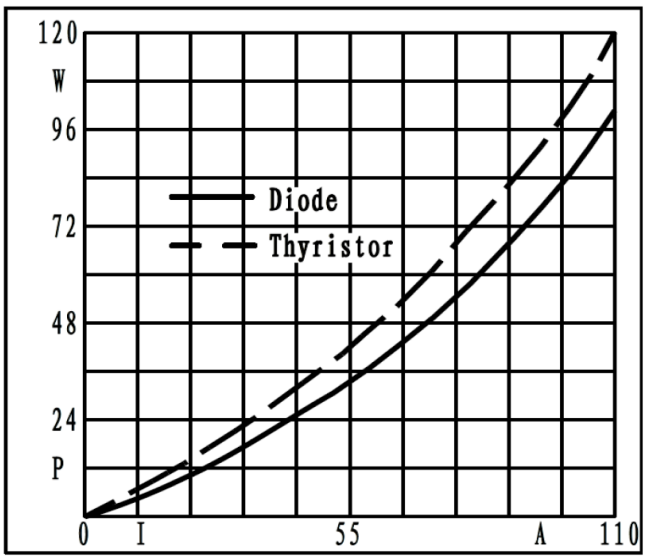

Fig3. Power dissipation

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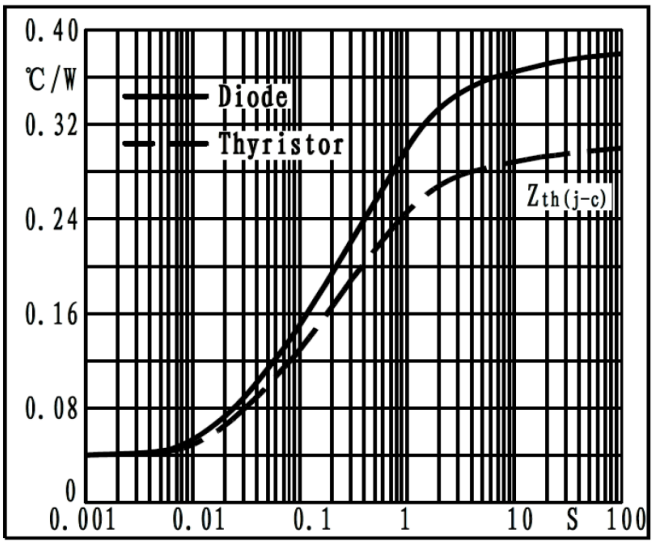


Fig4. Transient thermal impedance

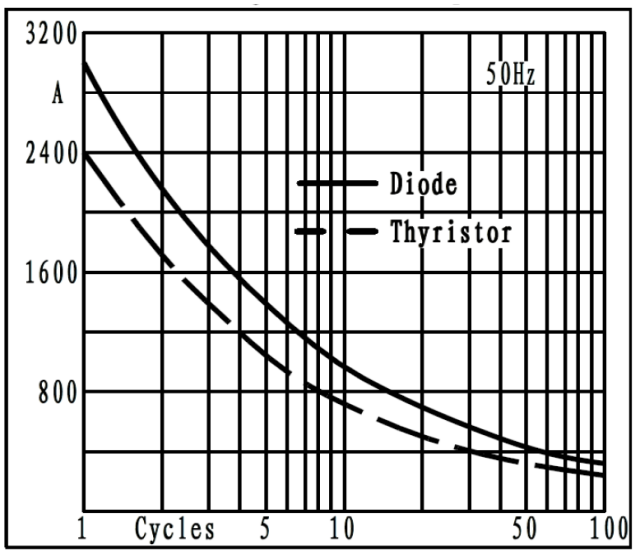


Fig5. Max non-repetitive forward surge current

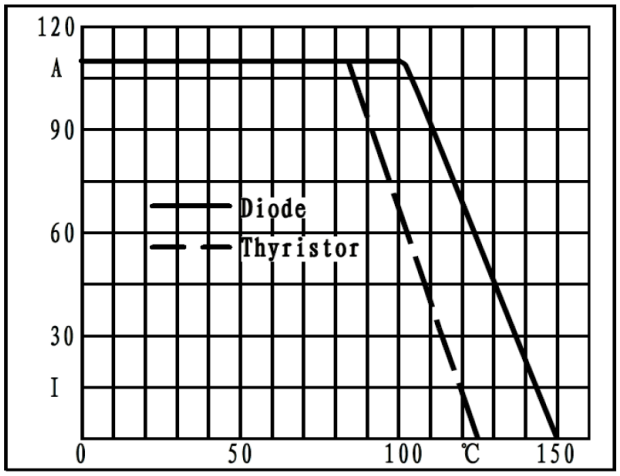
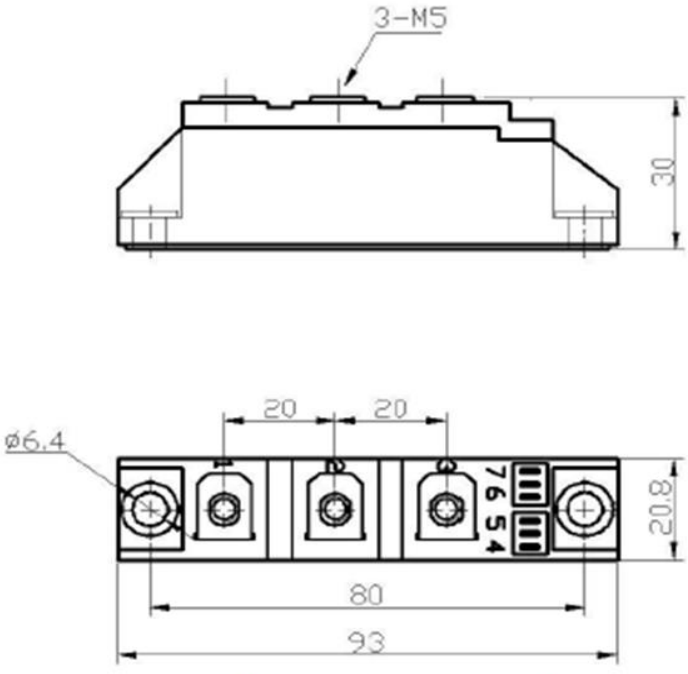


Fig6. Forward current derating curve



(dimensions in mm)

S.CO.M.E.S. Srl
Via Enrico Mattei, 6/8 - 26283 - Castiglione d'Adda (LO) - Italy
Phone: +39 0377 901243 Fax: +39 0377 900206