MRT820.16-416F3

Thyristors module

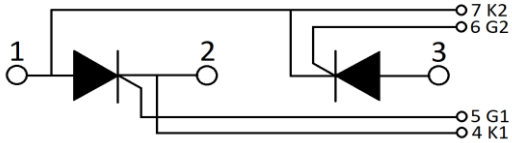


Features:

- 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	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
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz T_c = 85 °C			820	A
$I_{T(RMS)}$	RMS on-state current	180° half sine wave 50Hz			1287	A
I_{RRM} I_{DRM}	Repetitive peak current	at V_{DRM}/V_{RRM} Tj = 135°C			120	mA
I_{TSM}	Surge non repetitive current	10ms half sine wave, Tj = 135°C			20.1	kA
I^2t	I^2t for fusing coordination	10ms half sine wave Tj = 135°C			2020	kA^2s
V_{TO}	Threshold voltage	Tj = 135°C			0.81	V
r_T	On-state slope resistance	Tj = 135°C			0.24	mΩ
V_{TM}	Peak on-state voltage	Tj = 25°C ; I_T = 1500A			1.38	V
dv/dt	Critical rate of rise of off-state voltage	V_{DM} = 2/3 V_{DRM}, Tj = 135°C			1000	V/µs
di/dt	Critical rate of rise of off-state current	Tj = 135°C, Gate source 1,5A, tr ≤ 0,5µs, Repetitive			200	A/µs
t_{gd}	Gate controlled dely time	Tj = 25°C, I_G = 1A, di_g/dt = 1A/µs			4	µs
t_q	Circuit commutated turn-off time	Tj = 135°C, I_{TM} = 800A, tp = 2000µs, V_R = 50V, dv/dt = 20V/µs, di/dt = -10A/µs		250		µs
I_{GT}	Gate trigger current	V_A = 12V, I_A = 1A, 'Tj = 25 °C	30		250	mA
V_{GT}	Gate trigger voltage		0.8		3.0	V
I_H	Holding current		10		300	mA
I_L	Latching current	Tj = 25°C, I_A/I_G = 1A, di_g/dt = 1A/µs, tg = 30µs			1500	mA
V_{GD}	Non-trigger gate voltage	V_{DM} = 2/3 V_{DRM}, Tj = 135°C			0.25	V
I_{GD}	Non-trigger gate current	V_{DM} = 2/3 V_{DRM}, Tj = 135°C			5	mA
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.047	°C/W
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.015	°C/W
V_{ISO}	Isolation voltage	50Hz, RMS, t = 1min, I_{ISO} : 1mA (MAX)	3000			V
F_M	Mounting torque - copper plate (M6)		4.5		6.0	N·m
	Mounting torque - terminal (M10)		10.0		12.0	N·m
T_{stg}	Storage Temperature		-40		+125	°C
T_j	Operating Temperature		-40		+135	°C
W_t	Weight			1410		g
Outline	416F3					

MRT820.16-416F3

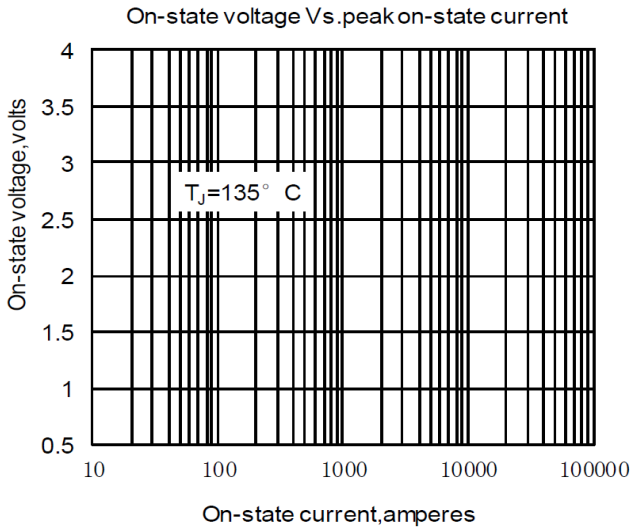


Fig1

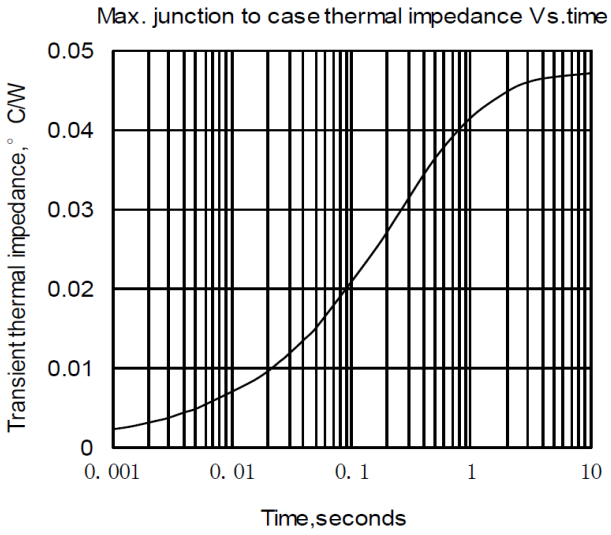


Fig2

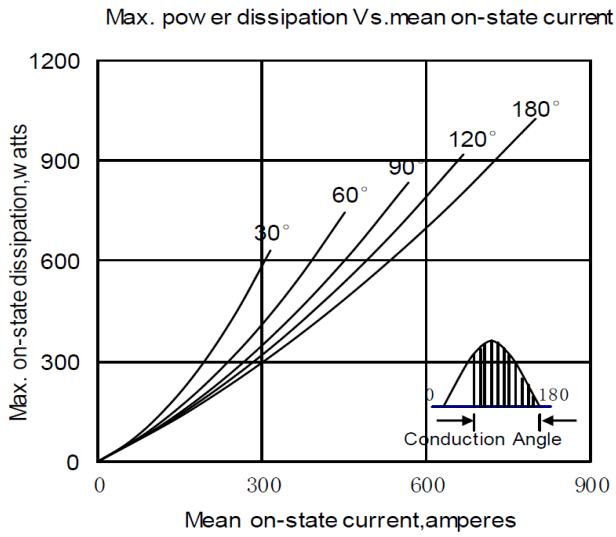


Fig3

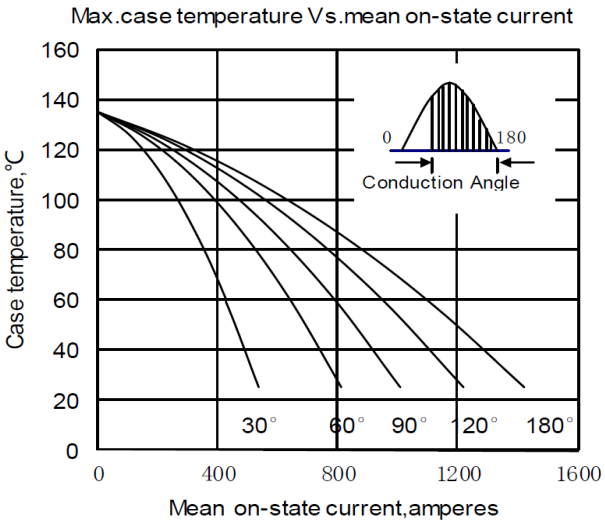


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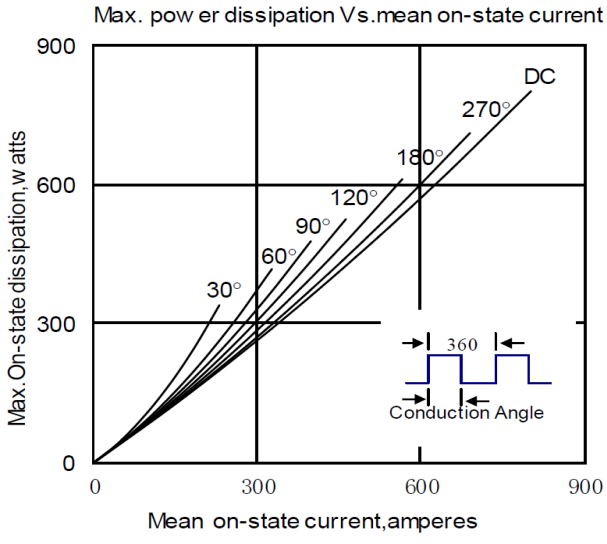


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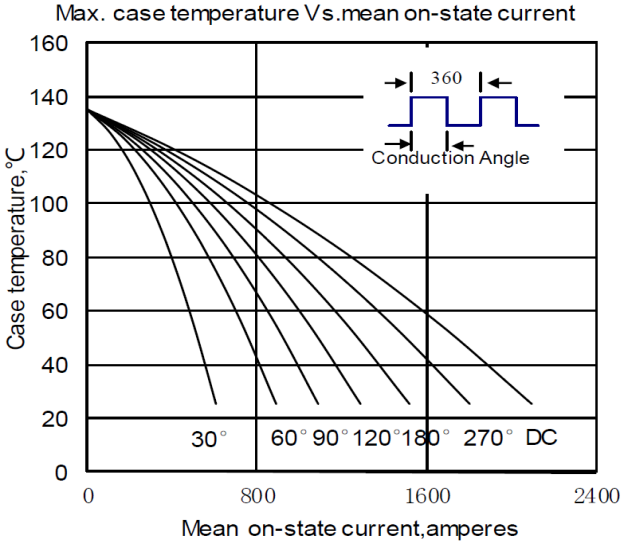


Fig6

MRT820.16-416F3

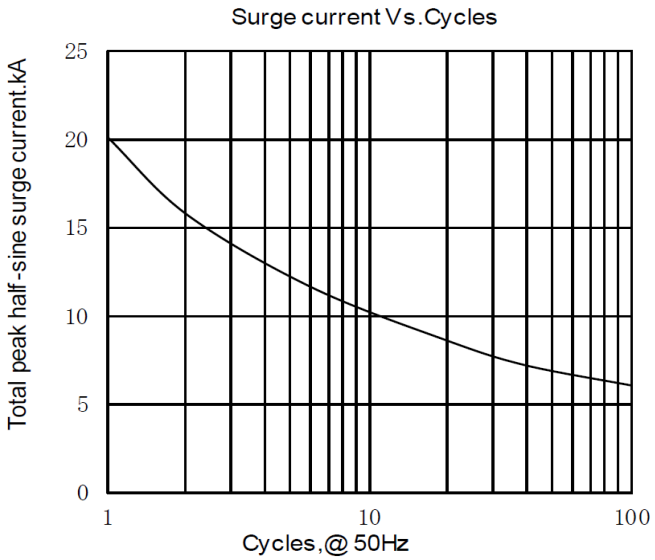


Fig7

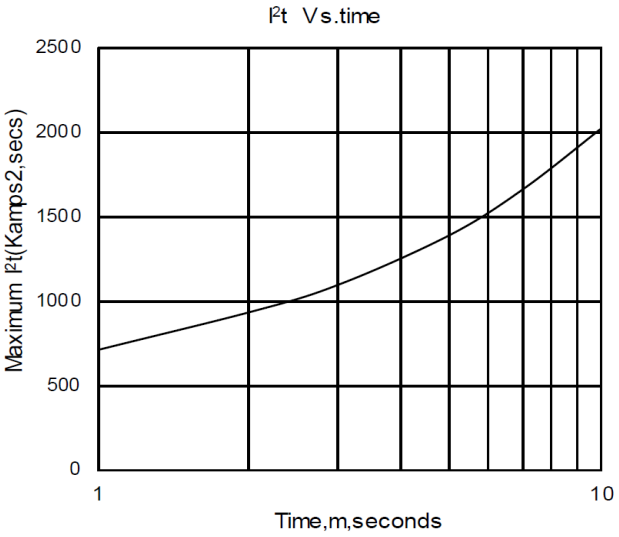


Fig8

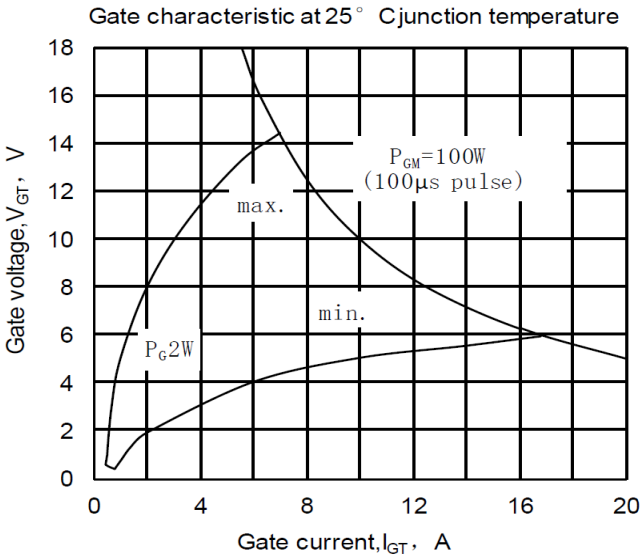


Fig9

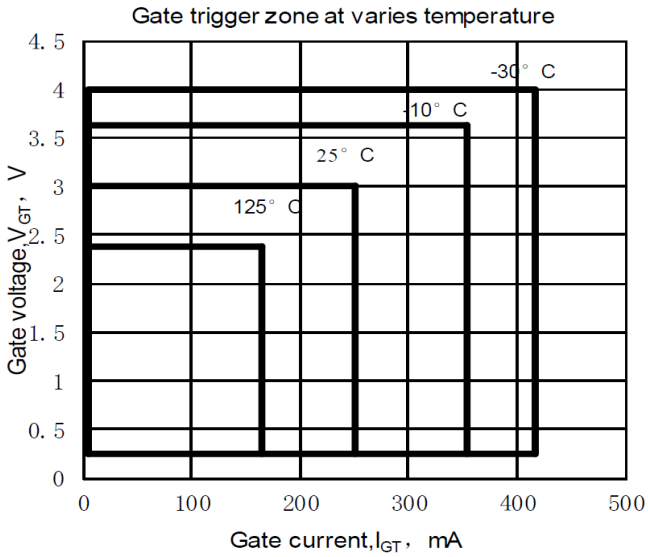
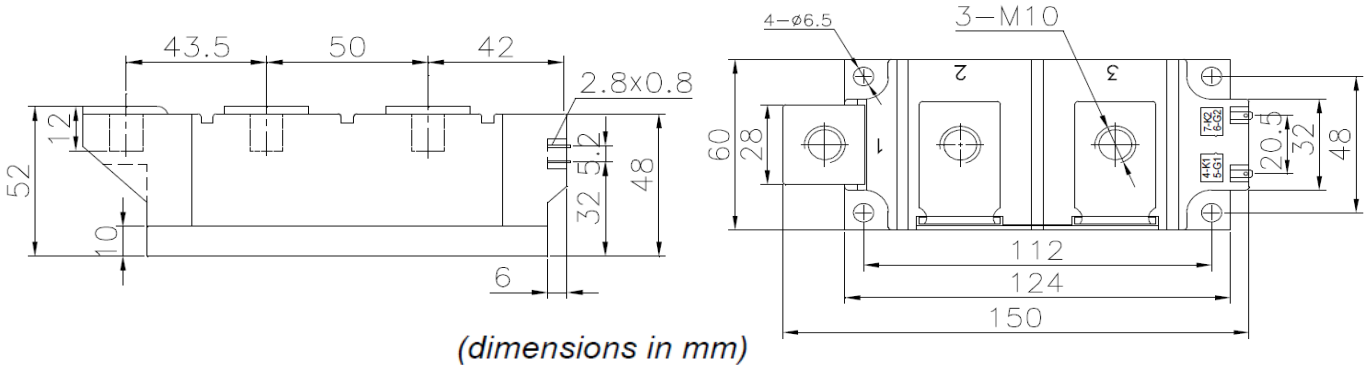


Fig10



(dimensions in mm)

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