

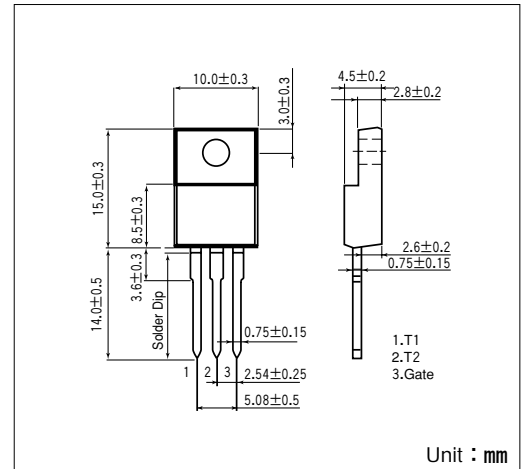
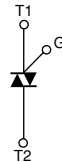
TRIAC (ISOLATED TYPE)

TMG12C60F

UL:E76102 (M)

TMG12C40/60F are isolated mold triac suitable for wide range of applications like copier, microwave oven, solid state switch, motor control, light and heater control.

- I_{T(RMS)} 12A
- High surge capability 130A
- Full molded isolated type



Maximum Ratings

(T_j=25°C unless otherwise specified)

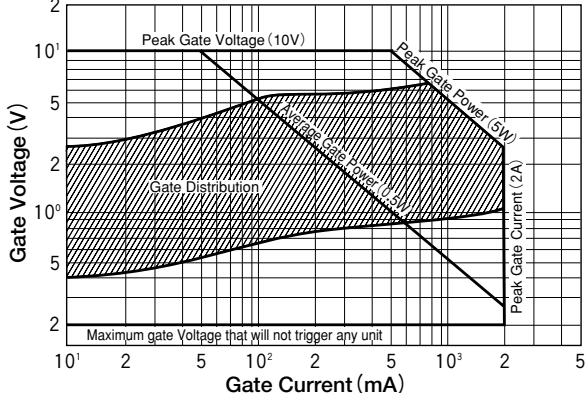
Symbol	Item	Ratings		Unit
		TMG12C40F	TMG12C60F	
V _{DRM}	Repetitive Peak Off-State Voltage	400	600	V

Symbol	Item	Conditions	Ratings	Unit
I _{T(RMS)}	R.M.S. On-State Current	T _c =79°C	12	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, peak, non-repetitive	119/130	A
I ² t	I ² t		71	A ² S
P _{GM}	Peak Gate Power Dissipation		5	W
P _{G(AV)}	Average Gate Power Dissipation		0.5	W
I _{GM}	Peak Gate Current		2	A
V _{GM}	Peak Gate Voltage		10	V
V _{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	1500	V
T _j	Operating Junction Temperature		-40 to +125	°C
T _{stg}	Storage Temperature		-40 to +125	°C
	Mass		2	g

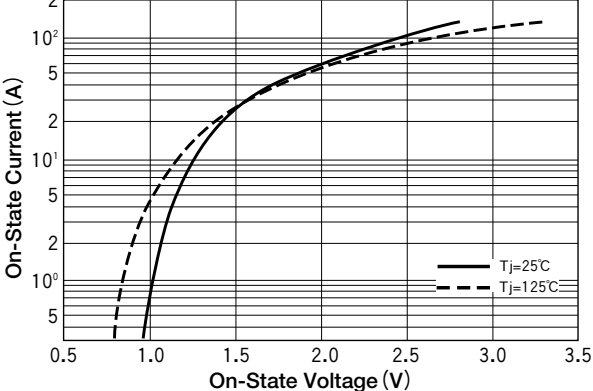
Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I _{DRM}	Reptitive Peak Off-State Current	V _D =V _{DRM} , Single phase, half wave, T _j =125°C			2	mA
V _{TM}	Peak On-State Voltage	I _T =20A, Inst. measurement			1.4	V
I _{GT1} ⁺	Gate Trigger Current	V _D =6V, R _L =10Ω			30	mA
I _{GT1} ⁻					30	
I _{GT3} ⁺					—	
I _{GT3} ⁻					30	
V _{GT1} ⁺	Gate Trigger Voltage	V _D =6V, R _L =10Ω			1.5	V
V _{GT1} ⁻					1.5	
V _{GT3} ⁺					—	
V _{GT3} ⁻					1.5	
V _{GD}	Non-Trigger Gate Voltage	T _j =125°C, V _D =1/2 V _{DRM}	0.2			V
[dv/dt] _c	Critical Rate of Rise off-State Voltage at commutation	T _j =125°C, [di/dt] _c =-6A/ms, V _D =2/3 V _{DRM}	10			V/μs
I _H	Holding Current			20		mA
R _{th(j-c)}	Thermal Impedance	Junction to case			3.3	°C/W

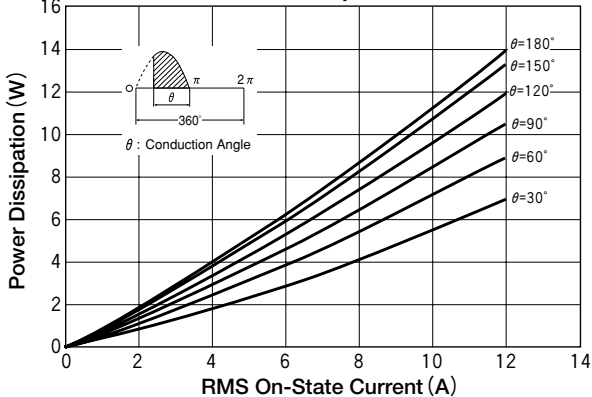
Gate Characteristics



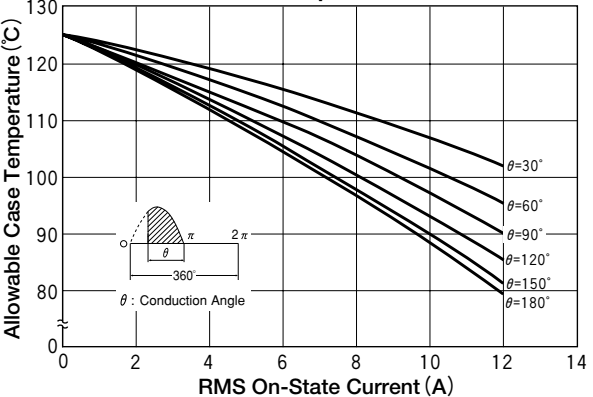
On-State Voltage



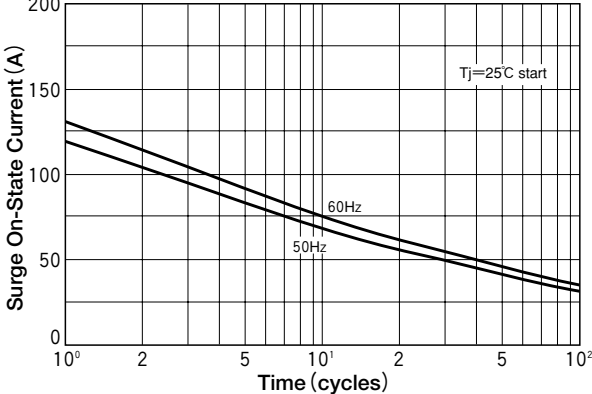
On State Current vs. Maximum Power Dissipation



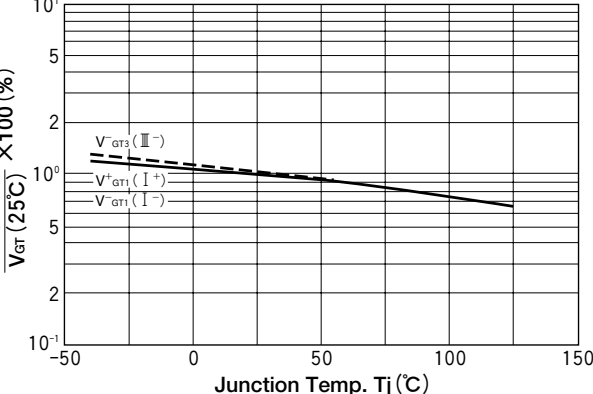
On State Current vs. Allowable Case Temperature



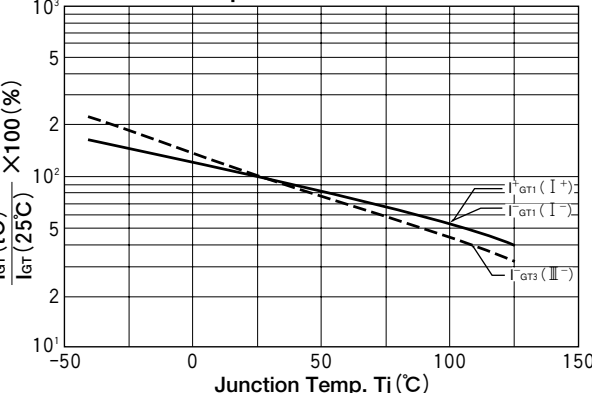
Surge On-State Current Rating (Non-Repetitive)



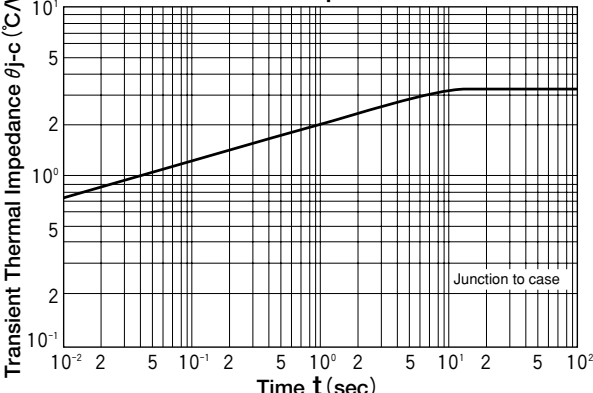
Gate trigger voltage vs. Junction temperature



Gate trigger current vs. Junction temperature



Transient Thermal Impedance



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