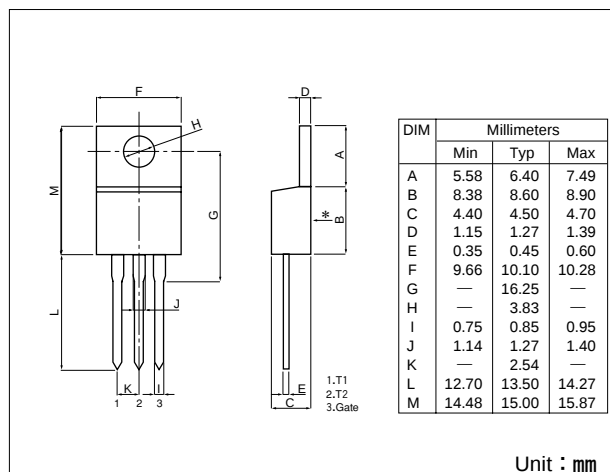
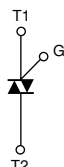


TRIAC (NON-ISOLATED TYPE)

TMG12C60

TMG12C60 are non-isolated 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
- Non-isolated type



Maximum Ratings

($T_j=25^\circ\text{C}$ unless otherwise specified)

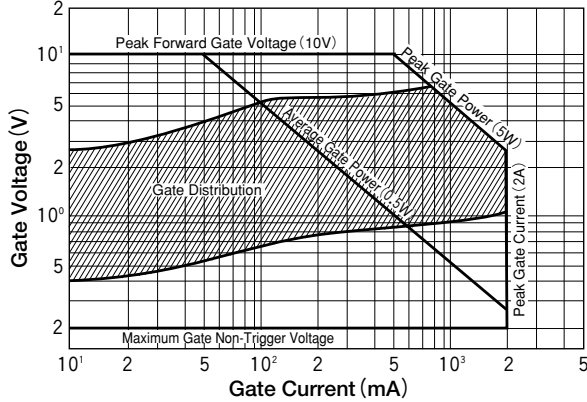
Symbol	Item	Ratings	Unit
		TMG12C60	
V_{DRM}	Repetitive Peak Off-State Voltage	600	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=100^\circ\text{C}$	12	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, peak, non-repetitive	119/130	A
I^2t	I^2t	1ms~10ms	71	A^2S
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
T_j	Operating Junction Temperature		-40 to $+125$	$^\circ\text{C}$
T_{stg}	Storage Temperature		-40 to $+125$	$^\circ\text{C}$
	Mass		2	g

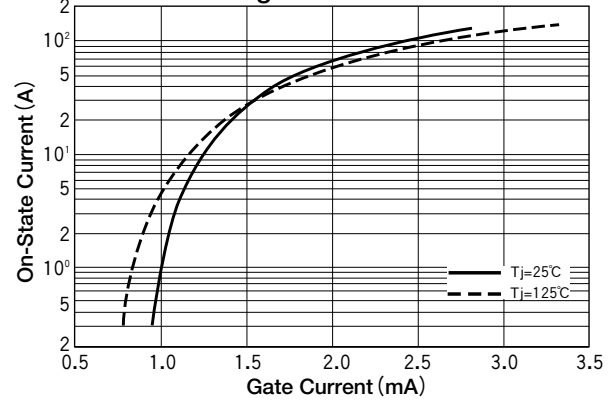
Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{DRM}	Reptitive Peak Off-State Current	$V_D=V_{DRM}$, Single phase, half wave, $T_j=125^\circ\text{C}$			2	mA
V_{TM}	Peak On-State Voltage	$I_T=20\text{A}$, Inst. measurement			1.4	V
I_{GT1}^+	Gate Trigger Current	$V_D=6\text{V}$, $R_L=10\Omega$			30	mA
I_{GT1}^-					30	
I_{GT3}^+					—	
I_{GT3}^-					30	
V_{GT1}^+	Gate Trigger Voltage	$V_D=6\text{V}$, $R_L=10\Omega$			1.5	V
V_{GT1}^-					1.5	
V_{GT3}^+					—	
V_{GT3}^-					1.5	
V_{GD}	Non-Trigger Gate Voltage	$T_j=125^\circ\text{C}$, $V_D=\frac{1}{2}V_{DRM}$	0.2			V
$(dv/dt)_c$	Critical Rate of Rise off-State Voltage at commutation	$T_j=125^\circ\text{C}$, $(di/dt)_c=-6\text{A/ms}$, $V_D=\frac{2}{3}V_{DRM}$	10			$\text{V}/\mu\text{s}$
I_H	Holding Current			20		mA
$R_{th(j-c)}$	Thermal Impedance	Junction to case			1.8	$^\circ\text{C}/\text{W}$

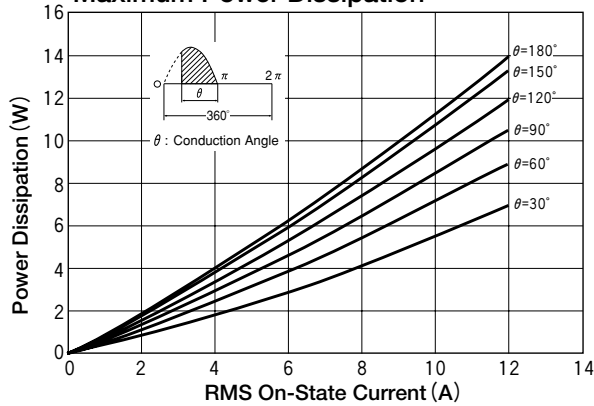
Gate Characteristics



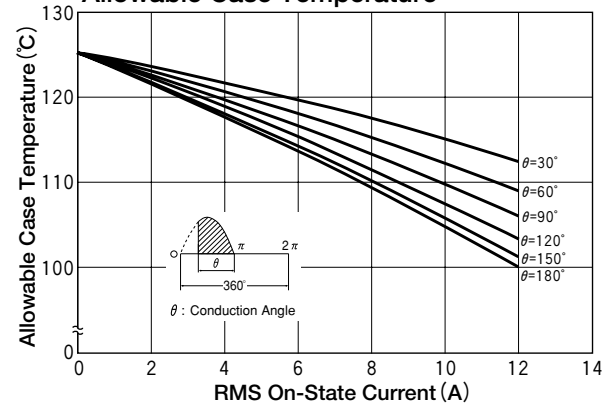
On-State Voltage



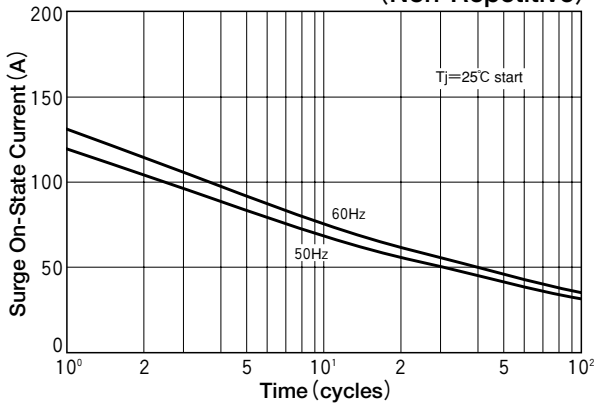
On State Current vs. Maximum Power Dissipation



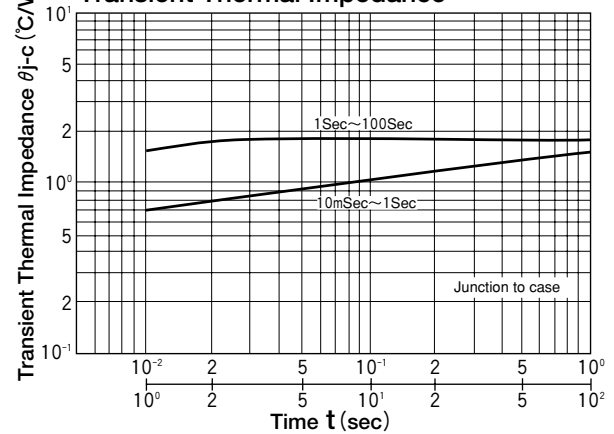
On State Current vs. Allowable Case Temperature



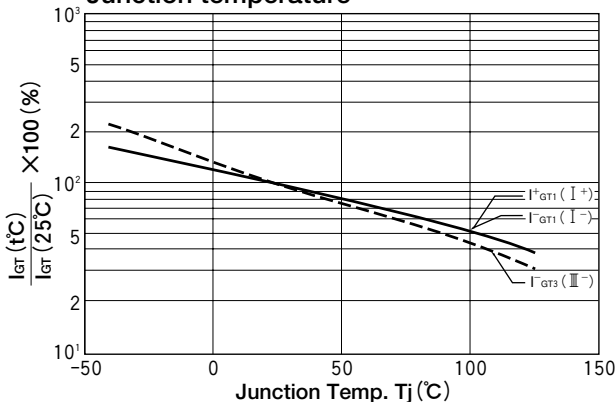
Surge On-State Current Rating (Non-Repetitive)



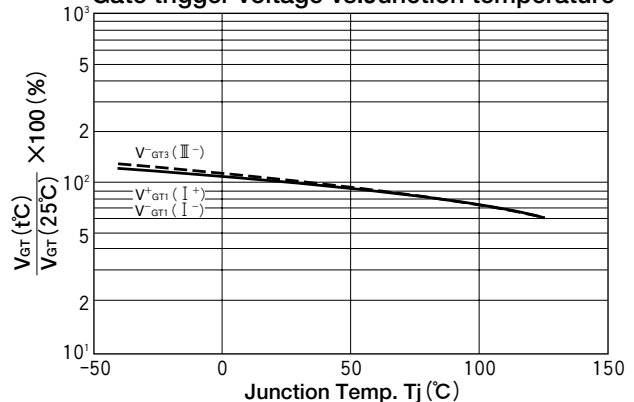
Transient Thermal Impedance



Gate trigger current vs. Junction temperature



Gate trigger voltage vs. Junction temperature



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