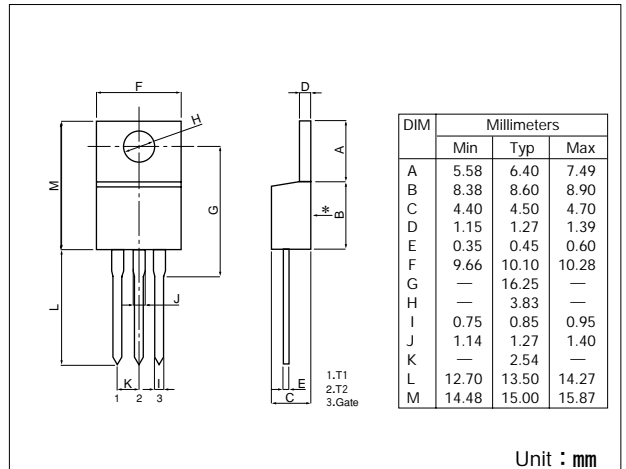
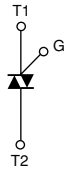


# TRIAC (NON-ISOLATED TYPE)

# TMG16C60

TMG16C60 are non-isolated triac suitable for wide range of applications like copier, microwave oven, solid state switch, motor control, light and heater control.

- $I_{T(RMS)}$  16A
- High surge capability 170A
- Non-isolated type



## Maximum Ratings

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

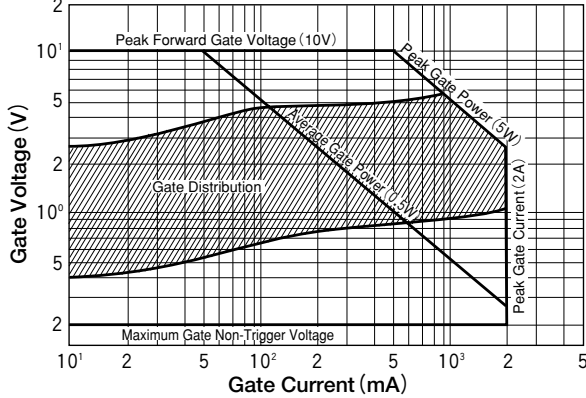
Symbol	Item	Ratings		Unit
		TMG16C60		
$V_{DRM}$	Repetitive Peak Off-State Voltage	600		V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=98^\circ\text{C}$	16	A
$I_{TSM}$	Surge On-State Current	One cycle, 50Hz/60Hz, peak, non-repetitive	155/170	A
$I^2t$	$I^2t$	Value for one cycle of surge current	120	$\text{A}^2\text{S}$
$P_{GM}$	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
$T_j$	Operating Junction Temperature		-40 to +125	$^\circ\text{C}$
$T_{stg}$	Storage Temperature		-40 to +125	$^\circ\text{C}$
	Mass		2	g

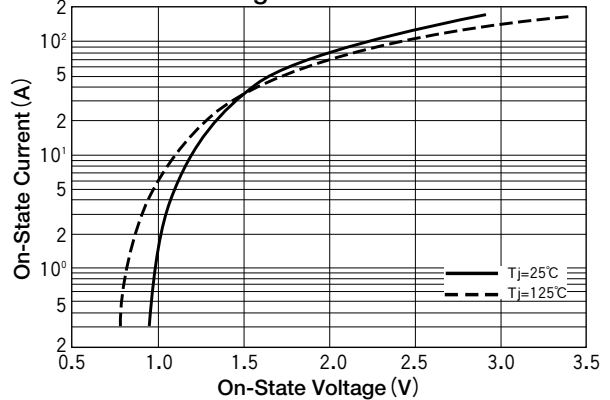
## Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
$I_{DRM}$	Repetitive 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	$V_D=6\text{V}$ , $R_L=10\Omega$	1		30	mA
$I_{GT1}^-$			2		30	
$I_{GT3}^+$			3		—	
$I_{GT3}^-$			4		30	
$V_{GT1}^+$	Gate Trigger Voltage	$V_D=6\text{V}$ , $R_L=10\Omega$	1		1.5	V
$V_{GT1}^-$			2		1.5	
$V_{GT3}^+$			3		—	
$V_{GT3}^-$			4		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	$T_j=125^\circ\text{C}$ , $(di/dt)_c=-8\text{A/ms}$ , $V_D=\frac{2}{3}V_{DRM}$	10			$\text{V}/\mu\text{s}$
$I_H$	Holding Current			25		mA
$R_{th(j-c)}$	Thermal Impedance	Junction to case			1.4	$^\circ\text{C}/\text{W}$

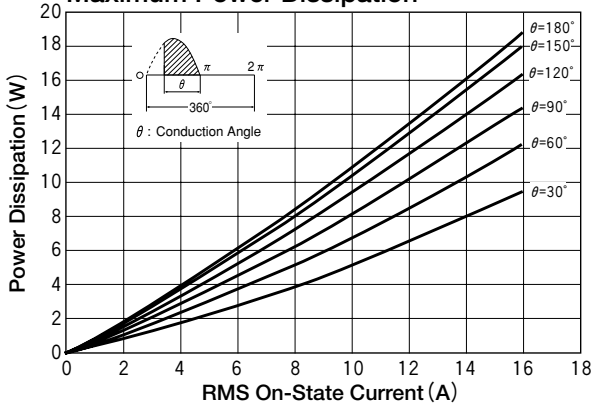
### Gate Characteristics



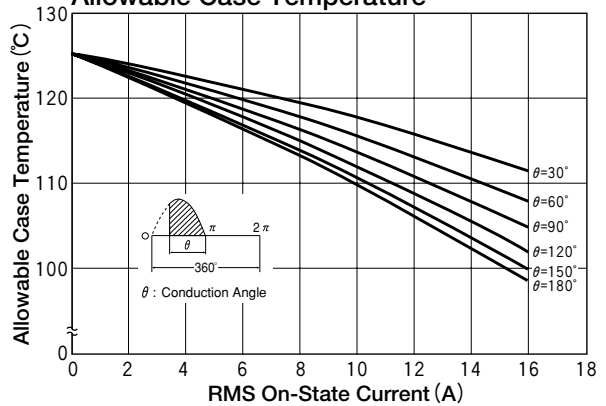
### On-State Voltage



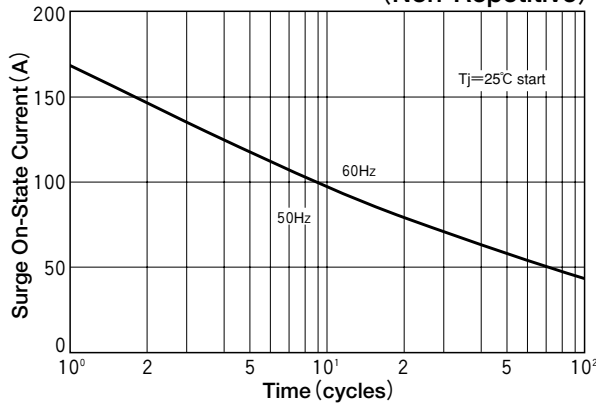
### On State Current vs. Maximum Power Dissipation



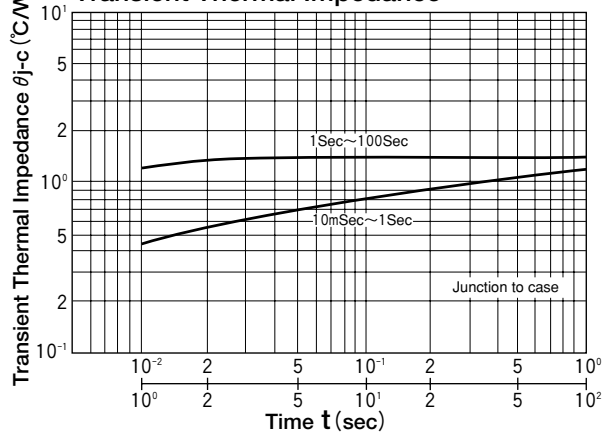
### On State Current vs. Allowable Case Temperature



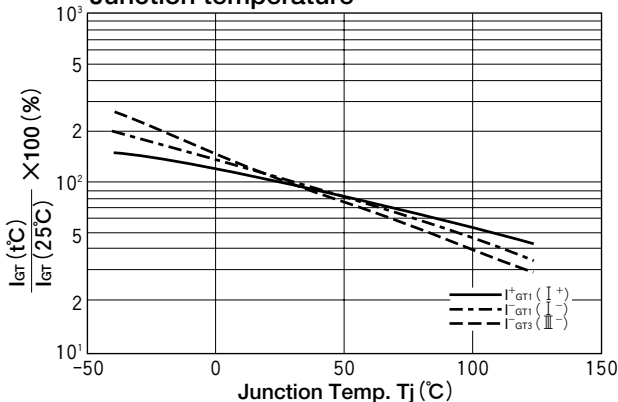
### Surge On-State Current Rating (Non-Repetitive)



### Transient Thermal Impedance



### Gate trigger current vs. Junction temperature



### Gate trigger voltage vs. Junction temperature

