

# TRIAC(Through Hole / Non-isolated)

# TMG25CQ60L

(Tj=150°C)

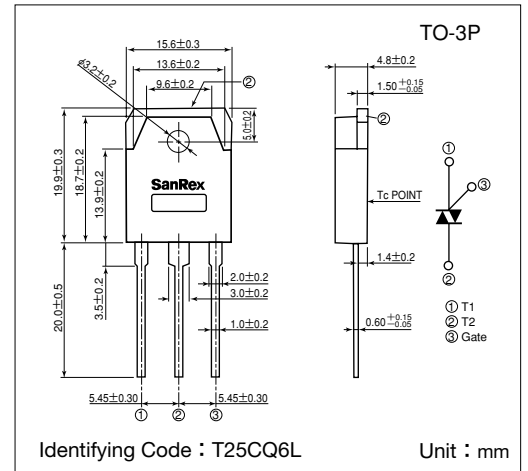
**SanRex** Triac TMG25CQ60L is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

### Typical Applications

- Home Appliances : Washing Machines, Vacuum Cleaners, Rice Cookers, Micro Wave Ovens, Hair Dryers, other control applications
- Industrial Use : SMPS, Copier Machines, Motor Controls, Dimmer, SSR, Heater Controls, Vending Machines, other control applications

### Features

- IT(RMS)=25A
- High Surge Current
- Low Voltage Drop
- Lead-Free Package



### Maximum Ratings

(Tj=25°C unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
VDRM	Repetitive Peak Off-State Voltage		600	V
IT(RMS)	R.M.S. On-State Current	Tc=114°C	25	A
ITSM	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	225/250	A
I <sup>2</sup> t	I <sup>2</sup> t (for fusing)		260	A <sup>2</sup> S
PGM	Peak Gate Power Dissipation		5	W
PG(AV)	Average Gate Power Dissipation		0.5	W
IGM	Peak Gate Current		2	A
VGM	Peak Gate Voltage		10	V
Tj	Operating Junction Temperature		-40~+150	°C
Tstg	Storage Temperature		-40~+150	°C
	Mass		5.1	g

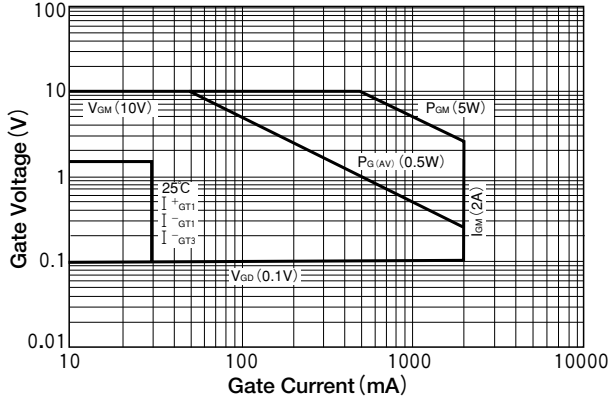
### Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive Peak Off-State Current	V <sub>D</sub> =V <sub>DRM</sub> , Single phase, half wave, Tj=150°C			5	mA	
V <sub>TM</sub>	Peak On-State Voltage	I <sub>T</sub> =35A, Inst. measurement			1.4	V	
I <sub>GT1</sub> <sup>+</sup>	Gate Trigger Current	V <sub>D</sub> =6V, R <sub>L</sub> =10Ω			30	mA	
I <sub>GT1</sub> <sup>-</sup>					30		
I <sub>GT3</sub> <sup>+</sup>					—		
I <sub>GT3</sub> <sup>-</sup>					30		
V <sub>GT1</sub> <sup>+</sup>	Gate Trigger Voltage					1.5	V
V <sub>GT1</sub> <sup>-</sup>						1.5	
V <sub>GT3</sub> <sup>+</sup>						—	
V <sub>GT3</sub> <sup>-</sup>						1.5	
V <sub>GD</sub>	Non-Trigger Gate Voltage	Tj=150°C, V <sub>D</sub> =1/2V <sub>DRM</sub>	0.1			V	
[dv/dt] <sub>c</sub>	Critical Rate of Rise of Off-State Voltage at Commutation	Tj=150°C, [di/dt] <sub>c</sub> =-12.5A/ms, V <sub>D</sub> =2/3V <sub>DRM</sub>	5			V/μs	
I <sub>H</sub>	Holding Current			35		mA	
R <sub>th</sub>	Thermal Resistance	Junction to case			1.2	°C/W	

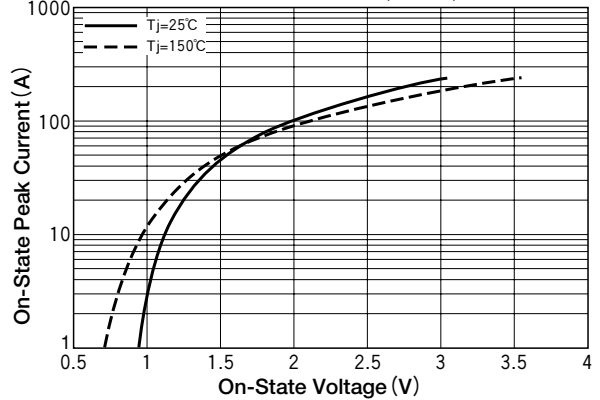
Trigger mode of the triac



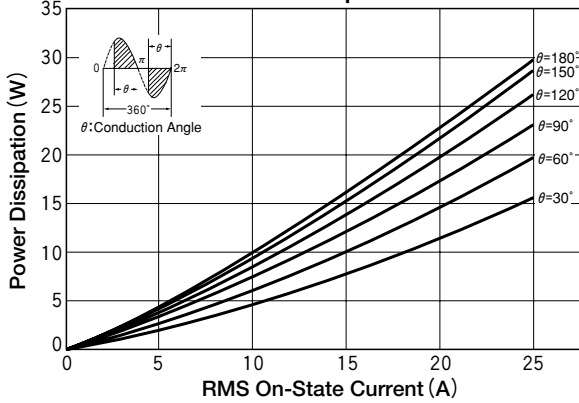
### Gate Characteristics



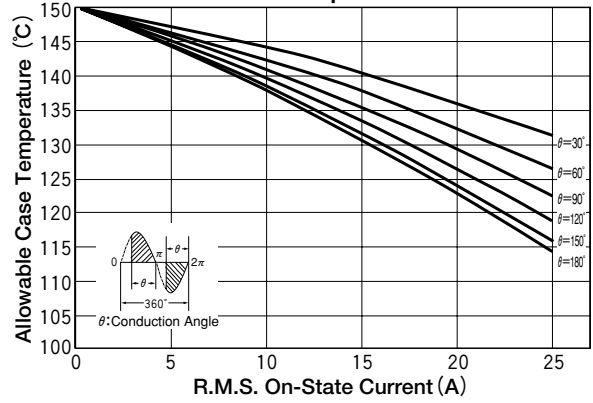
### On-State Characteristics (MAX)



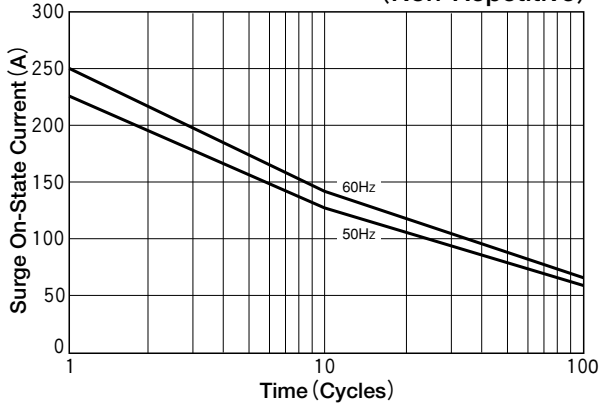
### RMS On-State Current vs Maximum Power Dissipation



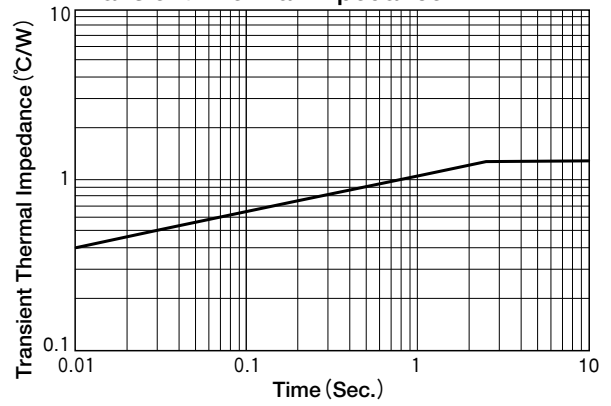
### R.M.S On-State vs Allowable Case Temperature



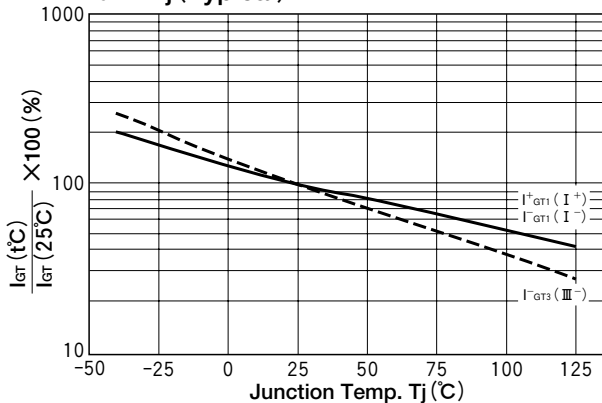
### Surge On-State Current Rating (Non-Repetitive)



### Transient Thermal Impedance



### I<sub>GT</sub> - T<sub>j</sub> (Typical)



### V<sub>GT</sub> - T<sub>j</sub> (Typical)

