

TRIAC(Through Hole / Non-isolated)

TMG40C60L

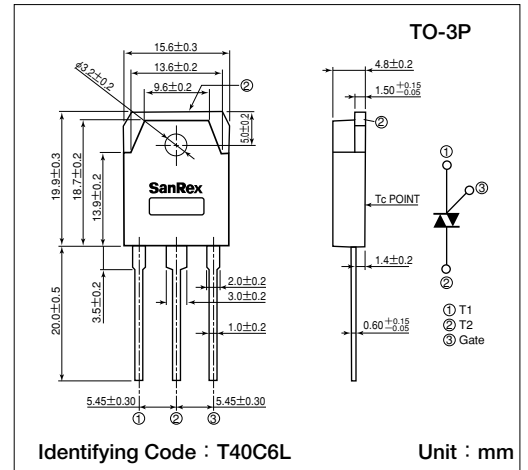
SanRex Triac TMG40C60L is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

- $I_{T(RMS)}=40A$
- High Surge Current
- Lead-Free Package



Maximum Ratings

(T_j=25°C unless otherwise)

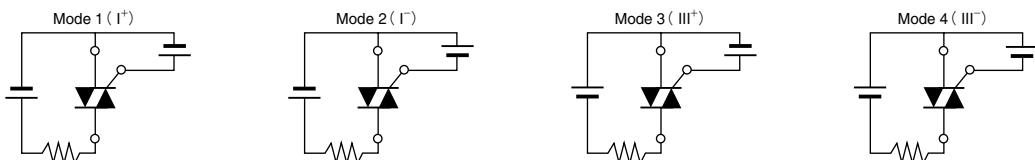
Symbol	Item	Reference	Ratings	Unit
V _{DRM}	Repetitive Peak Off-State Voltage		600	V
I _{T(RMS)}	R.M.S. On-State Current	T _c =97°C	40	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	380/420	A
I ² t	I ² t (for fusing)		730	A ² S
P _{GM}	Peak Gate Power Dissipation		10	W
P _{G(AV)}	Average Gate Power Dissipation		1	W
I _{GM}	Peak Gate Current		3	A
V _{GM}	Peak Gate Voltage		10	V
T _j	Operating Junction Temperature		-40~+125	°C
T _{stg}	Storage Temperature		-40~+150	°C
	Mass		5.1	g

Electrical Characteristics

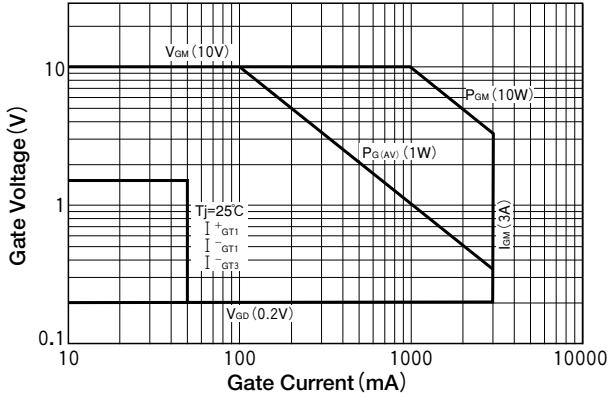
(T_j=25°C unless otherwise)

Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
I _{DRM}	Repetitive Peak Off-State Current	V _D =V _{DRM} , Single phase, half wave, T _j =125°C			5	mA
V _{TM}	Peak On-State Voltage	I _T =60A, Inst. measurement			1.4	V
I _{GT1} ⁺	Gate Trigger Current	V _D =6V, R _L =10Ω			50	mA
I _{GT1} ⁻					50	
I _{GT3} ⁺					—	
I _{GT3} ⁻					50	
V _{GT1} ⁺	Gate Trigger Voltage				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 =½V _{DRM}	0.2			V
[dv/dt] _c	Critical Rate of Rise of Off-State Voltage at Commutation	T _j =125°C, [di/dt] _c =-20A/ms, V _D =⅓V _{DRM}	10			V/μs
I _H	Holding Current			30		mA
R _{th}	Thermal Resistance	Junction to case			0.6	°C/W

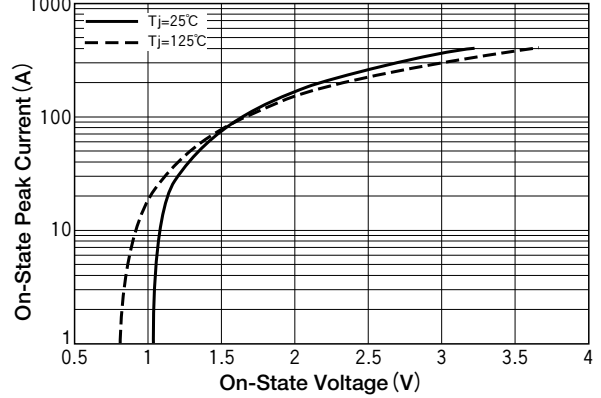
Trigger mode of the triac



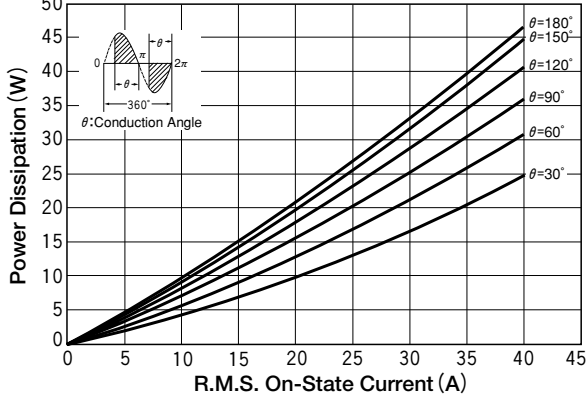
Gate Characteristics



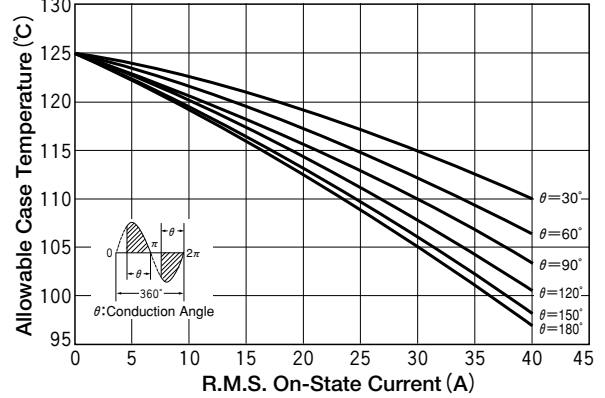
On-State Characteristics



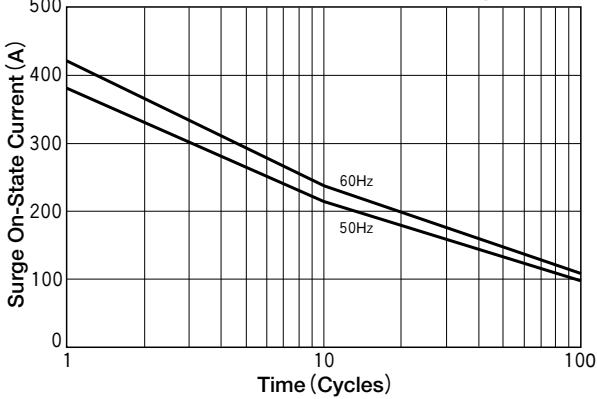
R.M.S. On-State Current vs Maximum Power Dissipation



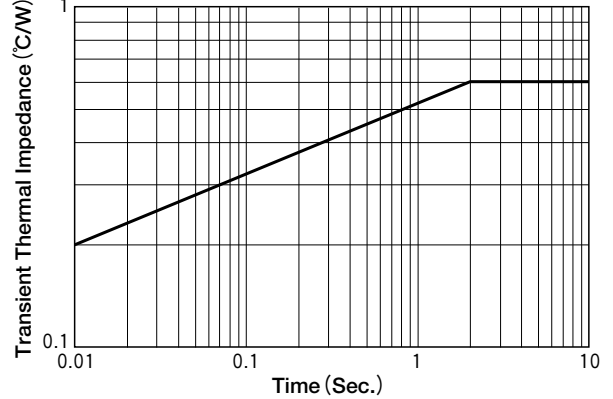
R.M.S. On-State Current vs Allowable Case Temperature



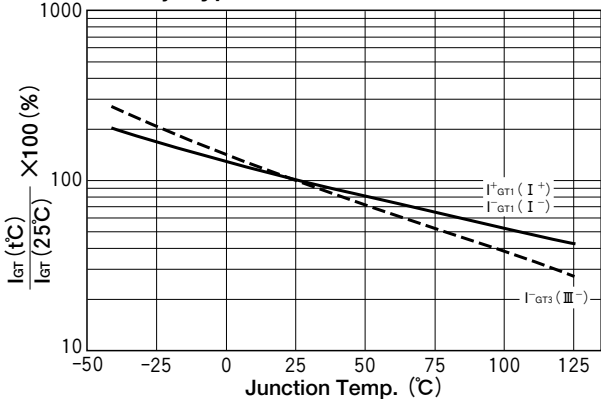
Surge On-State Current Rating (Non-Repetitive)



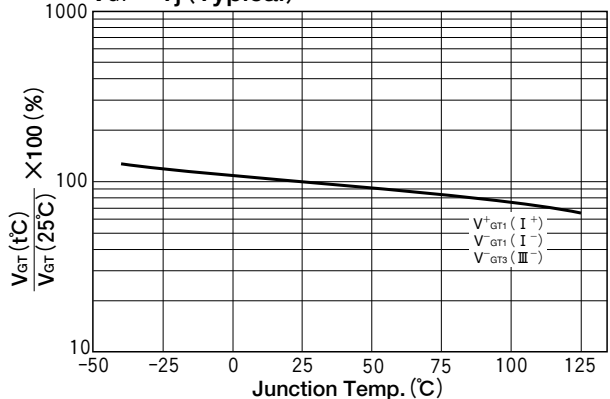
Transient Thermal Impedance



$I_{GT} - T_j$ (Typical)



$V_{GT} - T_j$ (Typical)



TRIAC(Through Hole / Non-isolated)

TMG40C80L

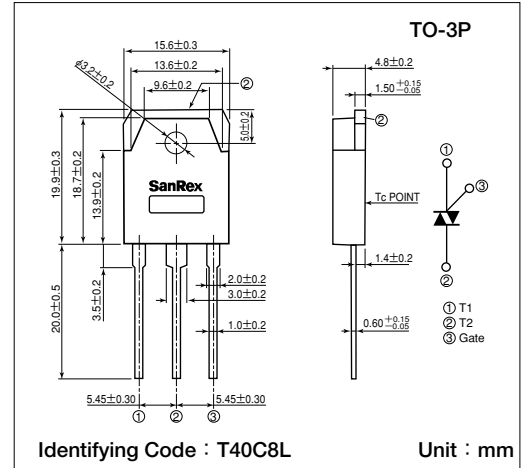
SanRex Triac TMG40C80L is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

- $I_{T(RMS)}=40A$
- High Surge Current
- Lead-Free Package



Maximum Ratings

(T_j=25°C unless otherwise)

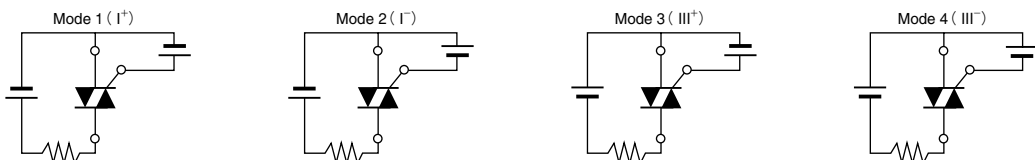
Symbol	Item	Reference	Ratings	Unit
V _{DRM}	Repetitive Peak Off-State Voltage		800	V
I _{T(RMS)}	R.M.S. On-State Current	T _c =97°C	40	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	380/420	A
I ² t	I ² t (for fusing)		730	A ² S
P _{GM}	Peak Gate Power Dissipation		10	W
P _{G(AV)}	Average Gate Power Dissipation		1	W
I _{GM}	Peak Gate Current		3	A
V _{GM}	Peak Gate Voltage		10	V
T _j	Operating Junction Temperature		-40~+125	°C
T _{stg}	Storage Temperature		-40~+150	°C
	Mass		5.1	g

Electrical Characteristics

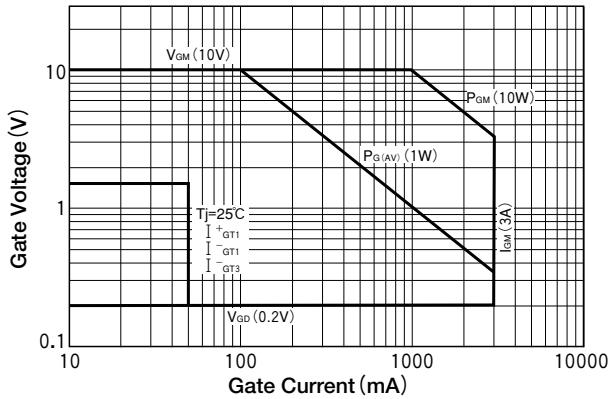
(T_j=25°C unless otherwise)

Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
I _{DRM}	Repetitive Peak Off-State Current	V _D =V _{DRM} , Single phase, half wave, T _j =125°C			5	mA
V _{TM}	Peak On-State Voltage	I _T =60A, Inst. measurement			1.4	V
I _{GT1} ⁺	Gate Trigger Current	V _D =6V, R _L =10Ω			50	mA
I _{GT1} ⁻					50	
I _{GT3} ⁺					—	
I _{GT3} ⁻					50	
V _{GT1} ⁺	Gate Trigger Voltage				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 =½V _{DRM}	0.2			V
[dv/dt] _c	Critical Rate of Rise of Off-State Voltage at Commutation	T _j =125°C, [di/dt] _c =-20A/ms, V _D =400V	10			V/μs
I _H	Holding Current			30		mA
R _{th}	Thermal Resistance	Junction to case			0.6	°C/W

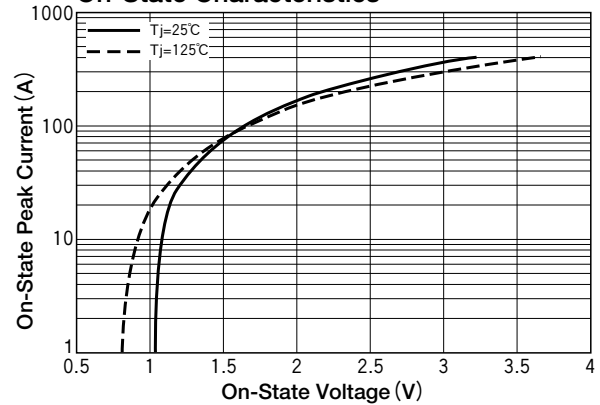
Trigger mode of the triac



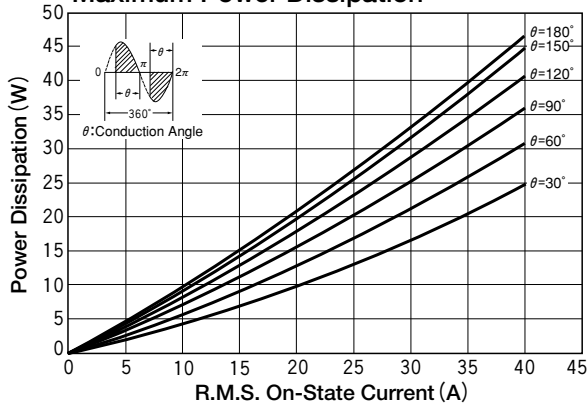
Gate Characteristics



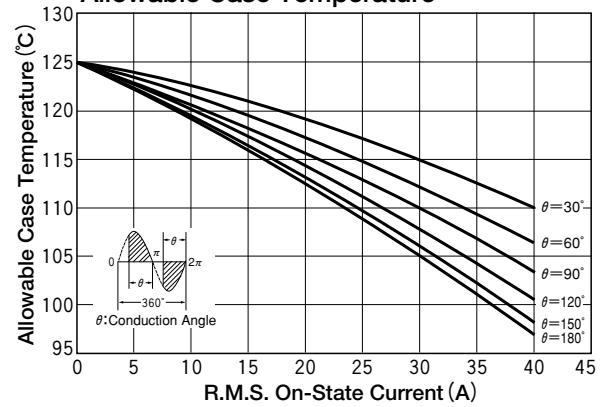
On-State Characteristics



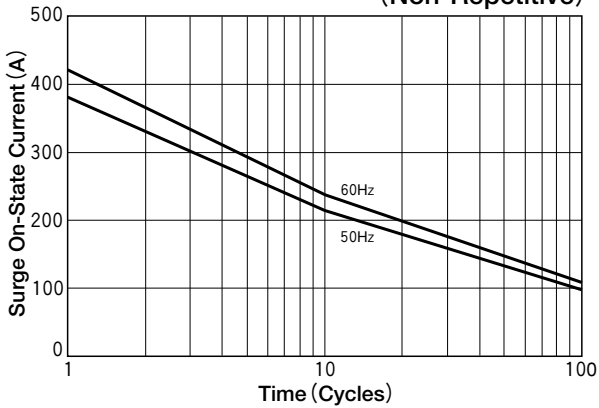
R.M.S. On-State Current vs Maximum Power Dissipation



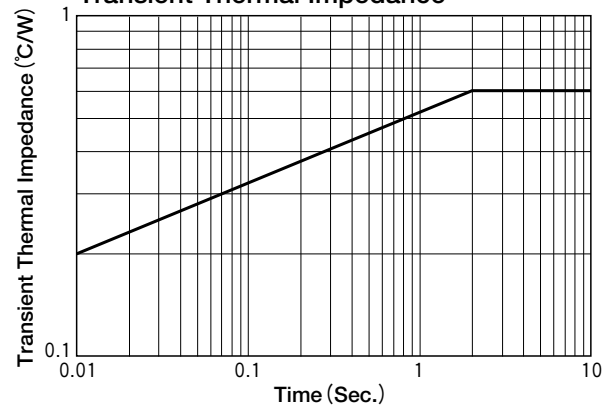
R.M.S. On-State Current vs Allowable Case Temperature



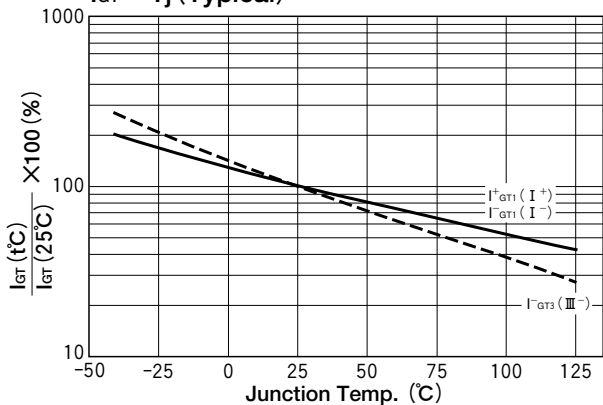
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



I_{GT} - T_J (Typical)



V_{GT} - T_J (Typical)

