SanRex®

TRIAC
For High Power

| TG40E60 |

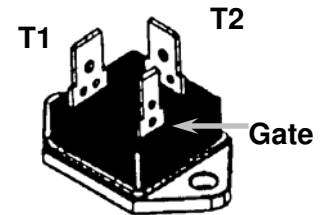**$I_{T(RMS)}$ =40A, V_{DRM}=600V**

SanRex Triac **TG40E60** is specially designed use for high power AC switching application. Thanks to SanRex's new isolated diffusion technology, the Triac **TG40E60** features high dv/dt, dv/dt/c and very low on-state voltage. These benefits make this design an extremely reliable and efficient device for use in wide variety of applications.

Features
* High Power
* High Surge Current
* Low On-State Voltage
* High Commutation Performance
* UL registered E76102

Typical Applications
* Home Appliances
* Water Heaters
* Heater Controls
* Lighting Controls
* Temperature Controls

Isolated Fast-on Package

Internal schematic diagram
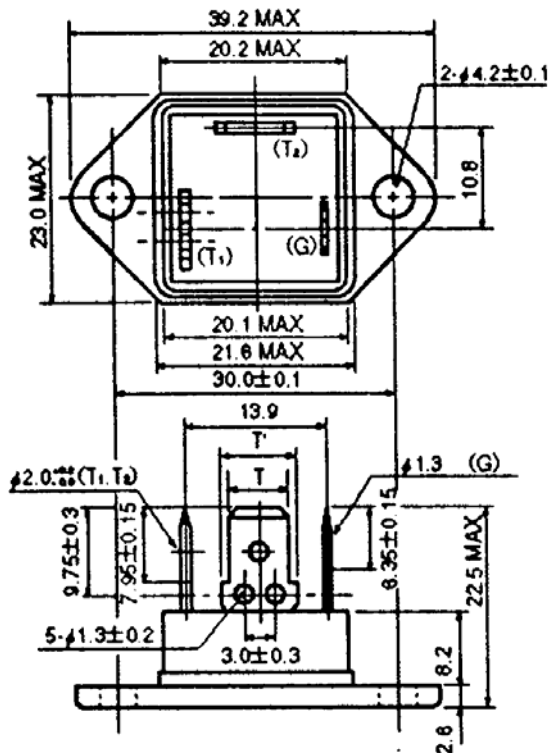
< Maximum Ratings>   (Tj = 25°C unless otherwise noted)

Symbol	Item	Conditions	Ratings	Unit
V_{DRM}	Repetitive Peak Off-state Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-state Current	T_C = 64°C	40	A
I_{TSM}	Surge On-state Current	One cycle, 60Hz, Peak, non-repetitive	420	A
I^2t	I^2t (for fusing)	Value for one cycle surge current	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
di/dt	Critical Rate of Rise of On-State Current	I_G =100mA, V_D=1/2V_{DRM}, di_G/dt=1A/μs	50	A/Fs
Tj	Operation Junction Temperature		-40 to +125	°C
T_{stg}	Storage Temperature		-40 to +150	°C
V_{ISO}	Isolation Breakdown Voltage	R.M.S. , A.C. 1 minute	2500	V
	Mounting Torque (M4)	Recommended value 1.0 – 1.4 N*m	1.5	N*m
	Mass	Typical Value	23	g

SanRex®

TRIAC for High Power
TG40E60

< Electrical Characteristics >
(Tj= 25°C unless otherwise noted)

Symbol	Item		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{DRM}	Repetitive Peak Off-state Current		$T_j = 125°C$, $V_D = V_{DRM,}$			5	mA
V_{TM}	Peak On-State Voltage		$I_T = 60A$, Instant measurement			1.4	V
$I_{GT}1^+$	QI	Gate Trigger Current	$V_D = 6V$, $I_T = 1A$			50	mA
$I_{GT}1^-$	QII					50	mA
$I_{GT}3^+$	QIV					-	mA
$I_{GT}3^-$	QIII					50	mA
$V_{GT}1^+$	QI	Gate Trigger Voltage	$V_D = 6V$, $I_T = 1A$			1.5	V
$V_{GT}1^-$	QII					1.5	V
$V_{GT}3^+$	QIV					-	V
$V_{GT}3^-$	QIII					1.5	V
V_{GD}	Non-Trigger Gate Voltage		$Tj = 125°C$, $V_D=1/2V_{DRM}$	0.2			V
dv/dt	Critical Rate of Rise of Off-State Voltage		$Tj = 125°C$, $V_D=1/2V_{DRM}$, Exponential wave	500			V/Fs
(dv/dt)c	Critical Rate of Rise of Commutation Voltage		$Tj =125°C$, $V_D=2/3V_{DRM}$, (di/dt)c= 10 A/ms	6			V/Fs
I_H	Holding Current				30		mA
Rth(j-c)	Thermal Resistance		Junction to case			1.3	°C/W

T₁: TAB250 (T=6.35, T'=8.25, t=0.8)
T₂: TAB250 (T=6.35, T'=8.25, t=0.8)
G: TAB187 (T=4.75, T'=5.7, t=0.8)

* Dimensions in millimeters