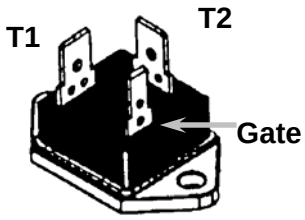
SanRex®

TRIAC
For High Power

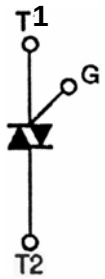
TG40E80

$I_{T(RMS)}$ =40A, V_{DRM}=800V

SanRex Triac **TG40E80** is specially designed use for high power AC switching application. Thanks to SanRex's new isolated diffusion technology, the Triac **TG40E80** 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.



Isolated Fast-on Package



Internal schematic diagram

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

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

Symbol	Item	Conditions	Ratings	Unit
V_{DRM}	Repetitive Peak Off-state Voltage		800	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^2s
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

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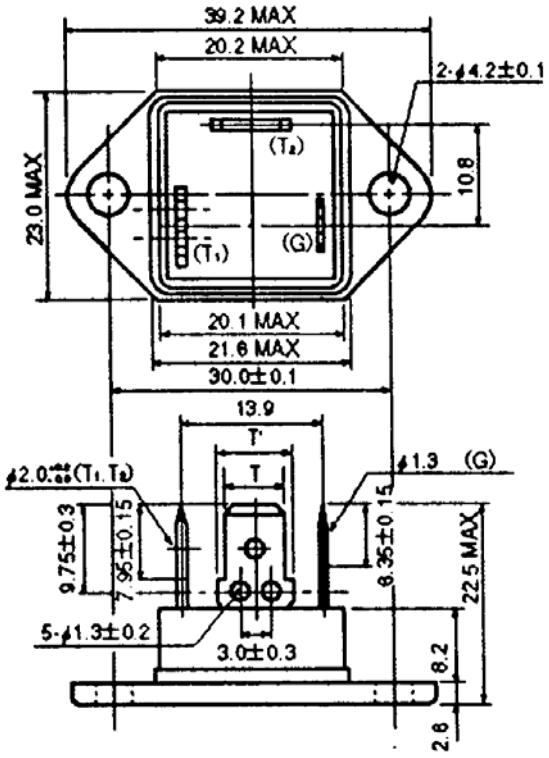
TRIAC for High Power — TG40E80

< 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