

TRIAC (ISOLATED MOLD TYPE)

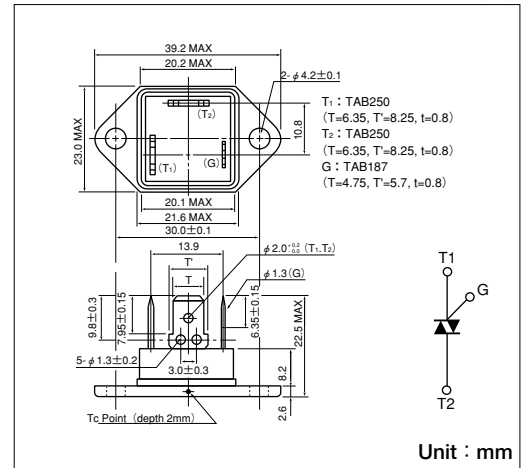
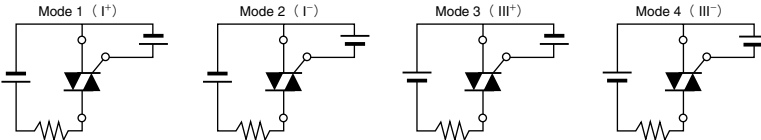
TG40E60

UL:E76102 (M)

TG40E is isolated mold triac suitable for wide range of applications like copier, micro wave ovens, solid state switches, motor control, light control and heater control.

- $I_T(AV)$ 40A
- High surge capability 420A
- Isolated Mounting (AC2500V)
- Tab Terminals

Trigger mode of the triac



Maximum Ratings

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

Symbol	Item	Ratings		Unit
		TG40E60		
V_{DRM}	Repetitive Peak Off-State Voltage	600		V
Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=64^\circ\text{C}$	40	A
I_{TSM}	Surge On-State Current	One cycle, 50/60Hz, peak value, non-repetitive	380/420	A
I^2t	I^2t	Value for one cycle of 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	$I_G=100\text{mA}$, $V_D=\frac{1}{2}V_{DRM}$, $di_G/dt=1\text{A}/\mu\text{s}$	50	$\text{A}/\mu\text{s}$
T_j	Operating Junction Temperature		$-40\sim+125$	$^\circ\text{C}$
T_{stg}	Storage Temperature		$-40\sim+150$	$^\circ\text{C}$
V_{iso}	Isolation Breakdown Voltage (R.M.S.)	A.C.1 minute	2500	V
	Mounting Torque (M4)	Recommended Value $1.0\sim1.4\text{N}\cdot\text{m}$ ($10\sim14\text{kgf}\cdot\text{cm}$)	1.5 (15)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)
	Mass	Typical value	23	g

Electrical Characteristics

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

Symbol	Item	Conditions	Ratings			Unit	
			Min.	Typ.	Max.		
I_{DRM}	Repetitive Peak Off-State Current	$T_j=125^\circ\text{C}$, $V_D=V_{DRM}$			5	mA	
V_{TM}	Peak On-State Voltage	$I_T=60\text{A}$			1.4	V	
I_{GT1}^+	Gate Trigger Current	$V_D=6\text{V}$, $I_T=1\text{A}$	1		50	mA	
I_{GT1}^-			2		50	mA	
I_{GT3}^+			3	—	—	—	mA
I_{GT3}^-			4			50	mA
V_{GT1}^+	Gate Trigger Voltage	$V_D=6\text{V}$, $I_T=1\text{A}$	1		1.5	V	
V_{GT1}^-			2		1.5	V	
V_{GT3}^+			3	—	—	—	V
V_{GT3}^-			4			1.5	V
V_{GD}	Non-Trigger Gate Voltage	$T_j=125^\circ\text{C}$, $V_D=\frac{1}{2}V_{DRM}$	0.2			V	
dv/dt	Critical Rate of Rise of Off-State Voltage	$T_j=125^\circ\text{C}$, $V_D=\frac{2}{3}V_{DRM}$, Exponential wave.	500			$\text{V}/\mu\text{s}$	
$[dv/dt]_c$	Critical Rate of Rise of Off-State Voltage at commutation	$T_j=125^\circ\text{C}$, $V_D=\frac{2}{3}V_{DRM}$, $[di/dt]_c=10\text{A}/\text{ms}$	6			$\text{V}/\mu\text{s}$	
I_H	Holding Current			30		mA	
$R_{th(j-c)}$	Thermal Impedance	Junction to case			1.3	$^\circ\text{C}/\text{W}$	

