



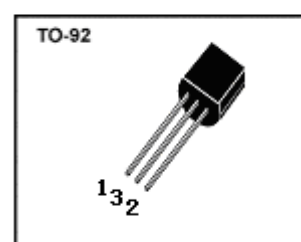
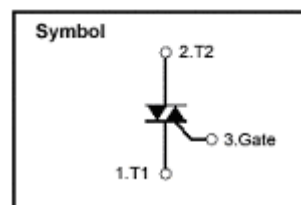
BI-DIRECTIONAL TRIODE THYRISTOR (TRIAC)

Features

- * Repetitive Peak Off-State Voltage: 600V
- * R.M.S On-state Current($I_{T(RMS)}=1A$)
- * High Commutation dv/dt

General Description

The Triac HTR1A60 is suitable for AC switching application, phase control application such as heater control, motor control, lighting control, and static switching relay.



Absolute Maximum Ratings ($T_a=25^\circ C$)

T_{stg} ——Storage Temperature	-40~125
T_J ——Operating Junction Temperature	-40~125
P_{GM} ——Peak Gate Power Dissipation	1W
$P_{G(AV)}$ ——Average Gate Power Dissipation	0.1W
V_{DRM} ——Repetitive Peak Off-State Voltage	600V
$I_T (RMS)$ ——R.M.S On-State Current ($T_a=58^\circ C$)	1A
V_{GM} ——Peak Gate Voltage	6V
I_{GM} ——Peak Gate Current	0.5A
I_{TSM} ——Surge On-State Current (One Cycle, 50/60Hz,Peak,Non-Repetitive)	9.1/10A

**Electrical Characteristics** ($T_a=25$)

Symbol	Items	Min.	Typ.	Max.	Unit	Conditions
I_{DRM}	Repetitive Peak Off-state Current			0.5	mA	$V_D=V_{\text{DRM}}$, Single Phase, Half Wave, $T_J=125$
V_{TM}	Peak On-State Voltage			1.6	V	$I_T=1.5\text{A}$, Inst. Measurement
I_{GT1}^+	Gate Trigger Current ()			5.0	mA	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
I_{GT1}^-	Gate Trigger Current ()			5.0	mA	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
I_{GT3}^-	Gate Trigger Current ()			5.0	mA	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
I_{GT3}^+	Gate Trigger Current ()			10.0	mA	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
V_{GT1}^+	Gate Trigger Voltage ()			1.8	V	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
V_{GT1}^-	Gate Trigger Voltage ()			1.8	V	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
V_{GT3}^-	Gate Trigger Voltage ()			1.8	V	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
V_{GT3}^+	Gate Trigger Voltage ()			2.0	V	$V_D=6\text{V}$, $R_L=10\text{ ohm}$
V_{GD}	Non-Trigger Gate Voltage	0.2			V	$T_J=125$, $V_D=1/2V_{\text{DRM}}$
(dv/dt) _c	Critical Rate of Rise of Off-State Voltage at Commutation	2.0			V/ μS	$T_J=125$, $V_D=2/3V_{\text{DRM}}$ (di/dt) _c =-0.5A/ms
I_{H}	Holding Current		4.0		mA	
R _{th(j-c)}	Thermal Resistance			50	/W	Junction to case
R _{th(j-a)}	Thermal Resistance			120	/W	Junction to Ambient



Performance Curves

Fig 1. Gate Characteristics

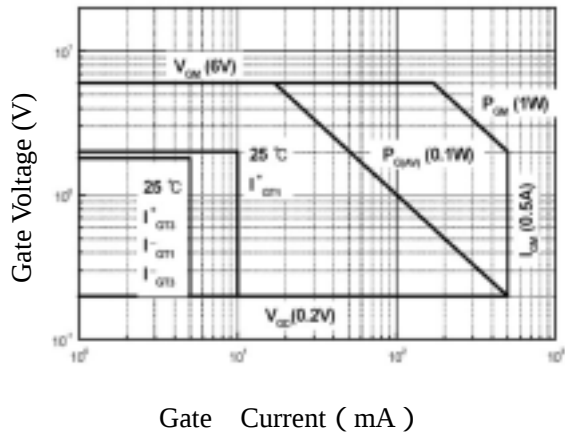


Fig 2. On-State Voltage

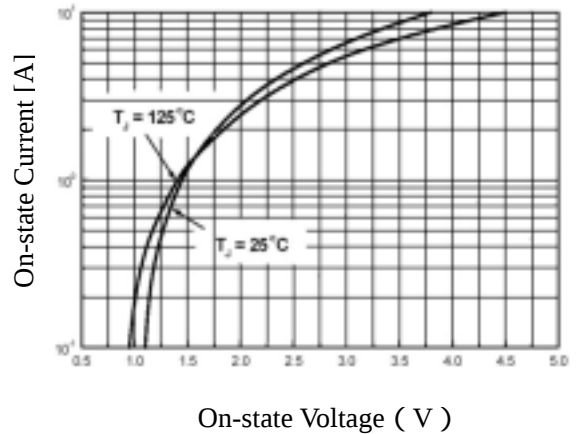


Fig 3. Gate Trigger Voltage vs. Junction Temperature

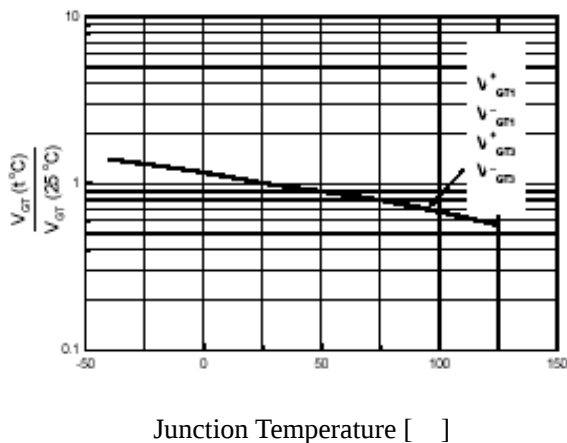


Fig 4. On State Current vs. Maximum Power Dissipation

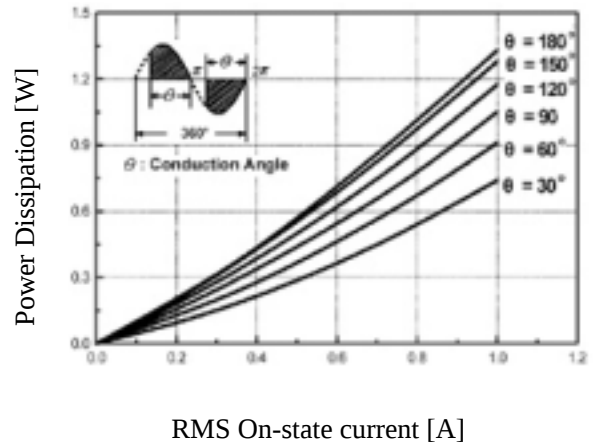


Fig 5. On State Current vs. Allowable Case Temperature

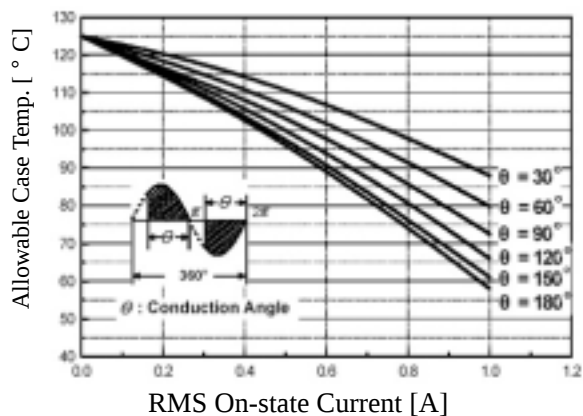


Fig 6. Surge On-State Current Rating (Non-Repetitive)

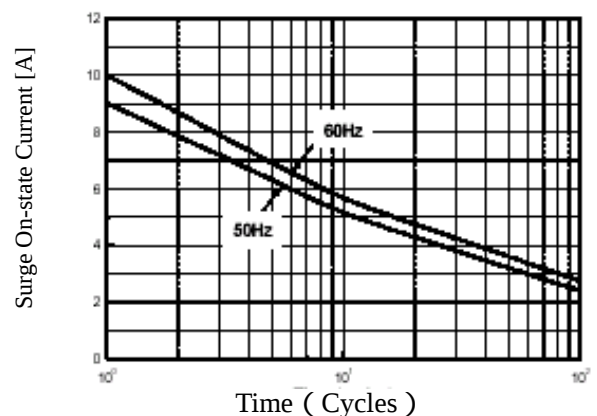




Fig 7. Gate Trigger Current vs. Junction Temperature

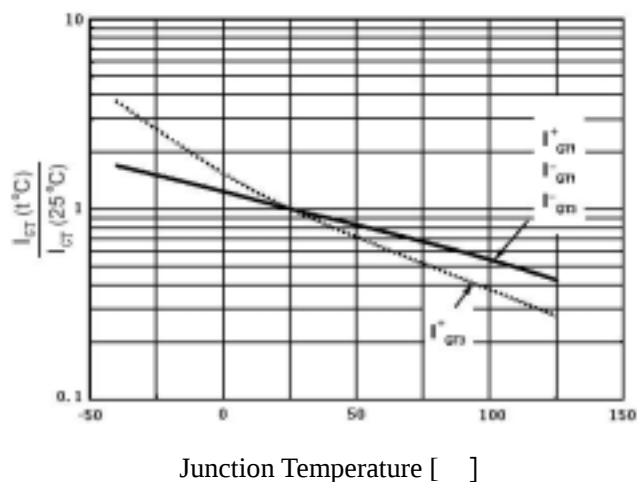


Fig 8. Transient Thermal Impedance

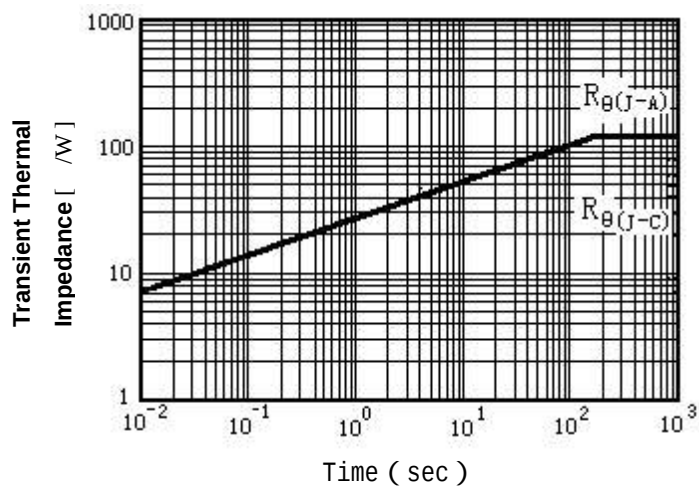
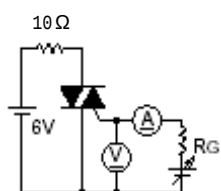
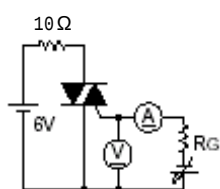


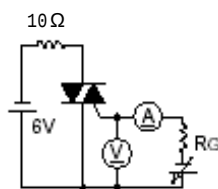
Fig 9. Gate Trigger Characteristics Test Circuit



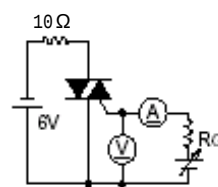
Test Procedure



Test Procedure



Test Procedure



Test Procedure