



NON INSULATED TYPE TRIAC (TO-220 PACKAGE)

Features

- * Repetitive Peak Off-State Voltage: 600V
- * R.M.S On-State Current($I_{T(RMS)}=12A$)
- * High Commutation dv/dt

General Description

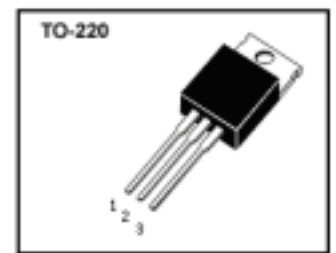
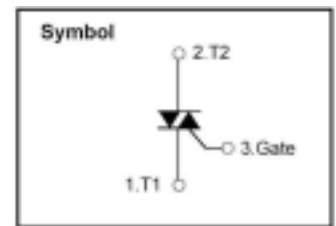
The Triac HTP12A60 is suitable for wide range of applications, like copier, microwave oven, heater control, motor control, lighting control, and static switching relay.

Absolute Maximum Ratings ($T_a=25$)

T_{stg} —Storage Temperature.....	-40~125
T_j —Operating Junction Temperature	-40~125
P_{GM} —Peak Gate Power Dissipation.....	5W
V_{DRM} —Repetitive Peak Off-State Voltage.....	600V
$I_T (RMS)$ —R.M.S On-State Current ($T_a=100$)	12A
V_{GM} —Peak Gate Voltage.....	10V
I_{GM} —Peak Gate Current.....	2.0A
I_{TSM} —Surge On-State Current (One Cycle, 50/60Hz,Peak,Non-Repetitive).....	119/130A

Electrical Characteristics ($T_a=25$)

Symbol	Items	Min.	Typ.	Max.	Unit	Conditions
I_{DRM}	Repetitive Peak Off-State Current			2.0	mA	$V_D=V_{DRM}$,Single Phase,Half Wave, $T_j=125$
V_{TM}	Peak On-State Voltage			1.4	V	$I_T=20A$, Inst. Measurement
I_{+GT1}	Gate Trigger Current ()			30	mA	$V_D=6V$, $R_L=10$ ohm
I_{-GT1}	Gate Trigger Current ()			30	mA	$V_D=6V$, $R_L=10$ ohm
I_{-GT3}	Gate Trigger Current ()			30	mA	$V_D=6V$, $R_L=10$ ohm
V_{+GT1}	Gate Trigger Voltage ()			1.5	V	$V_D=6V$, $R_L=10$ ohm
V_{-GT1}	Gate Trigger Voltage ()			1.5	V	$V_D=6V$, $R_L=10$ ohm
V_{-GT3}	Gate Trigger Voltage ()			1.5	V	$V_D=6V$, $R_L=10$ ohm
V_{GD}	Non-Trigger Gate Voltage	0.2			V	$T_j=125$, $V_D=1/2V_{DRM}$
$(dv/dt)_c$	Critical Rate of Rise of Off-State Voltage at Commutation	10			V/ μ S	$T_j=125$, $V_D=2/3V_{DRM}$ $(di/dt)_c=-6A/ms$
I_H	Holding Current		20		mA	
$R_{th(j-c)}$	Thermal Resistance			1.8	/W	Junction to case





Performance Curves

Fig 1. Gate Characteristics

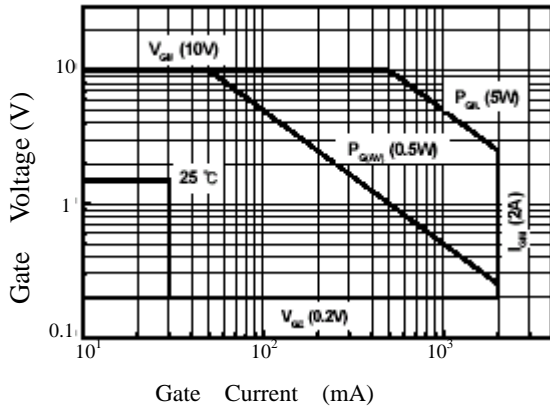


Fig 2. On-State Voltage

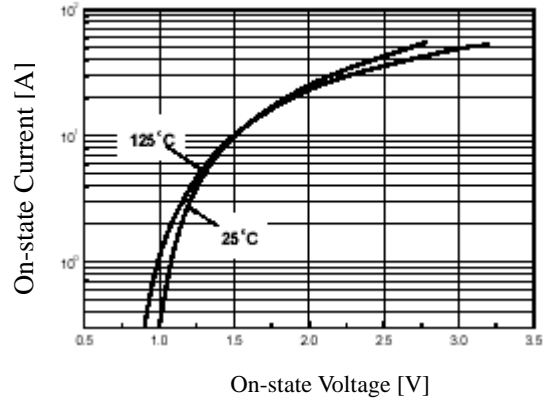


Fig 3. Gate Trigger Voltage vs. Junction Temperature

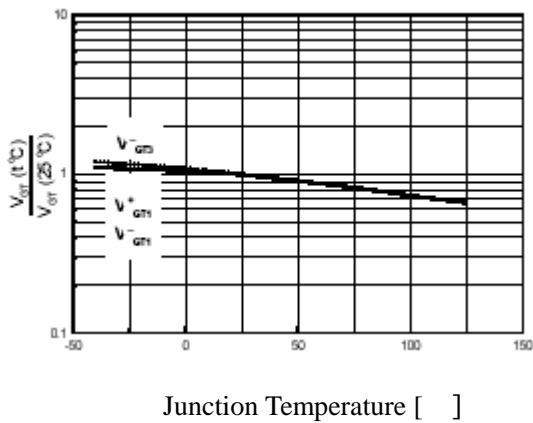


Fig 4. On State Current vs. Maximum Power Dissipation

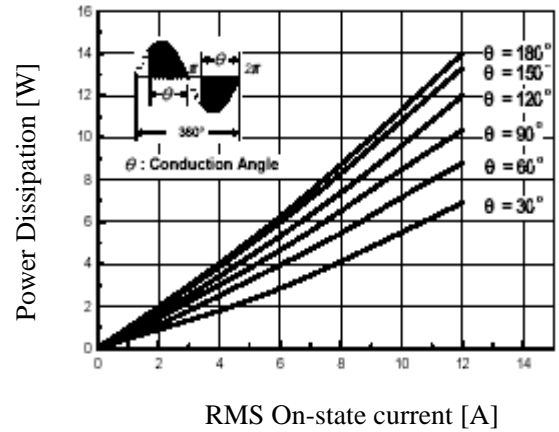


Fig 5. On State Current vs. Allowable Case Temperature

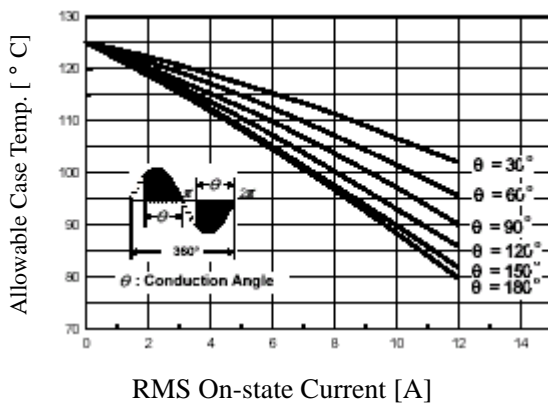


Fig 6. Surge On-State Current Rating (Non-Repetitive)

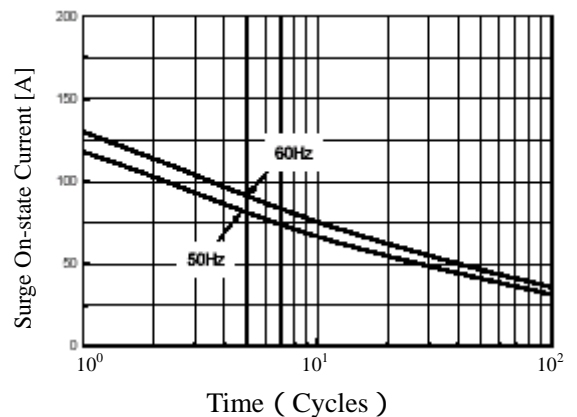
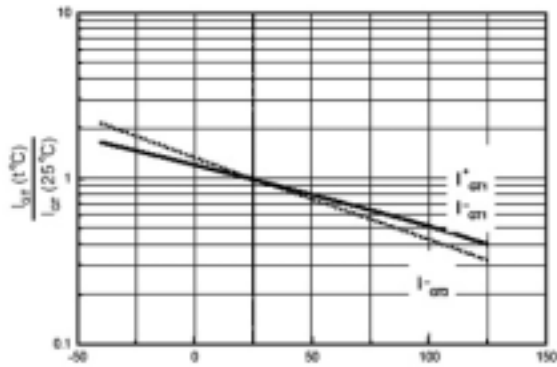


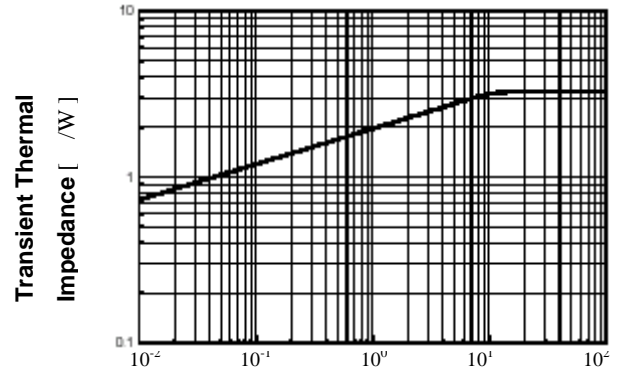


Fig 7. Gate Trigger Current vs. Junction Temperature



Junction Temperature [°C]

Fig 8. Transient Thermal Impedance



Time (sec)

Fig 9. Gate Trigger Characteristics Test Circuit

