

HTP12A60

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

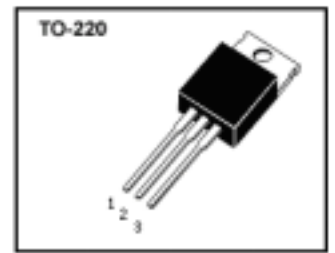
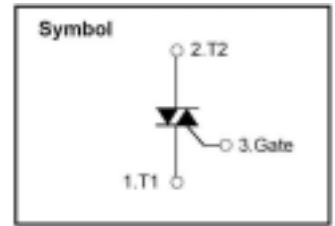
The Triac HTP12A60 is suitable for wide range of applications, like copier, microwave oven, heater control, motor control, lighting control, and static switching relay.

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

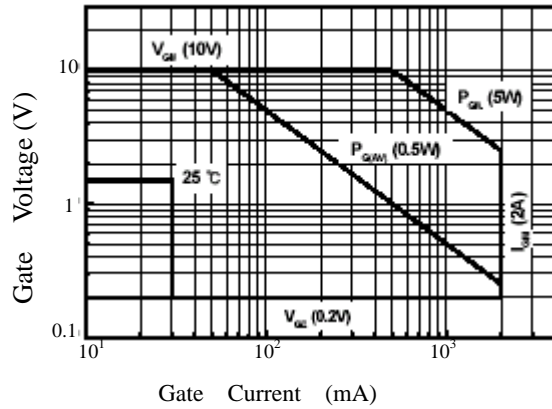


Fig 3. Gate Trigger Voltage vs. Junction Temperature

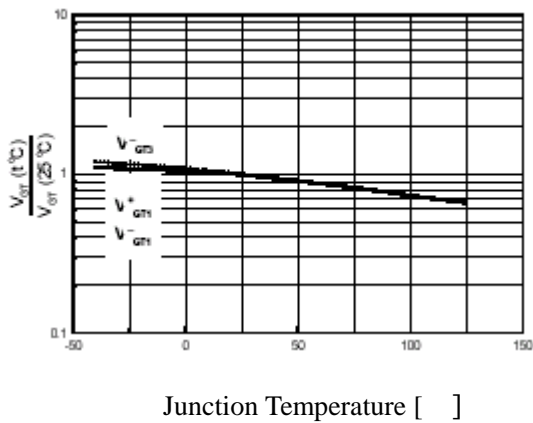


Fig 5. On State Current vs. Allowable Case Temperature

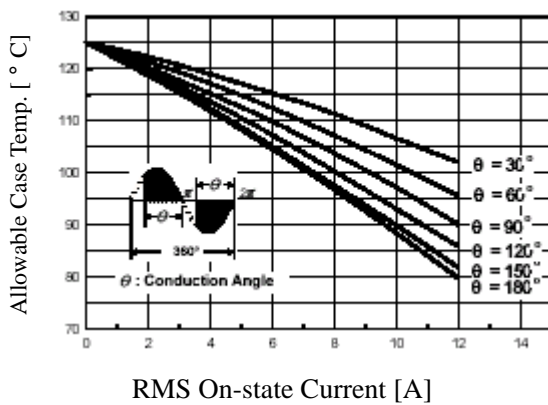


Fig 2. On-State Voltage

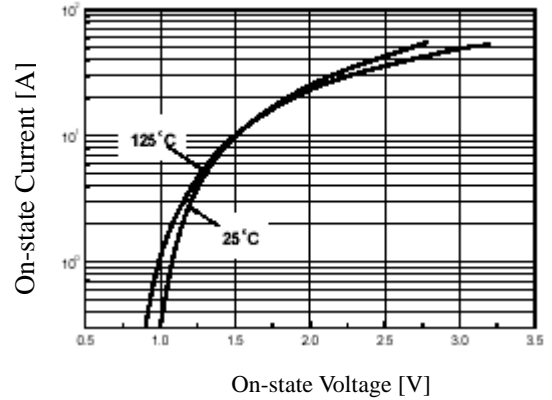


Fig 4. On State Current vs. Maximum Power Dissipation

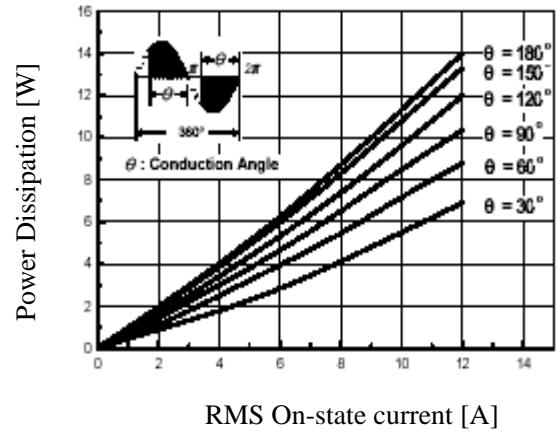
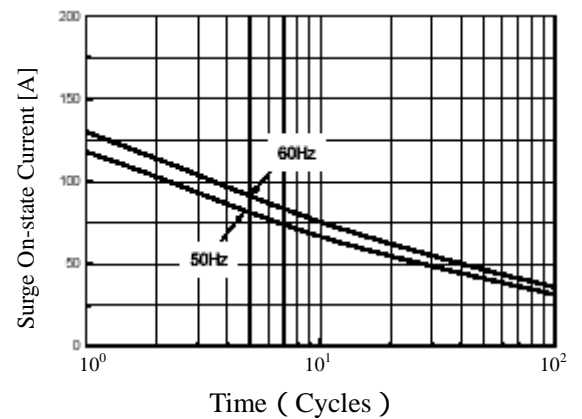
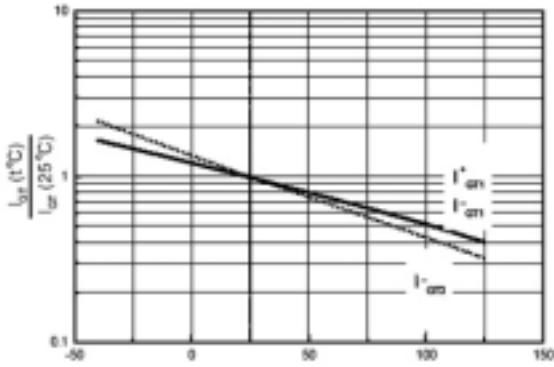


Fig 6. Surge On-State Current Rating (Non-Repetitive)



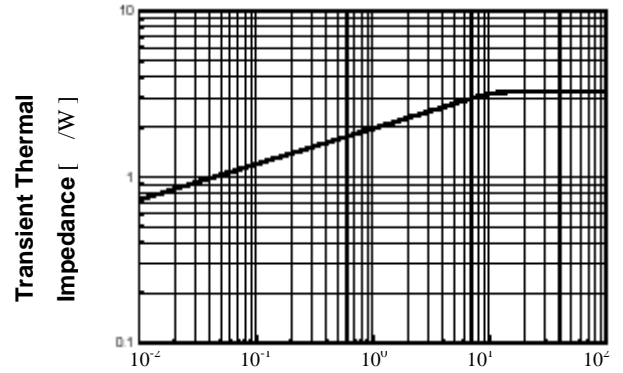
HTP12A60

Fig 7. Gate Trigger Current vs. Junction Temperature



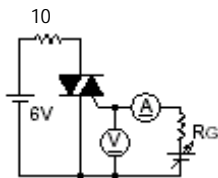
Junction Temperature [°C]

Fig 8. Transient Thermal Impedance

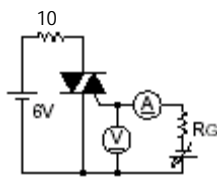


Time (sec)

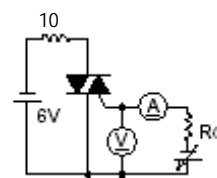
Fig 9. Gate Trigger Characteristics Test Circuit



Test Procedure



Test Procedure



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