

# HTP20-600

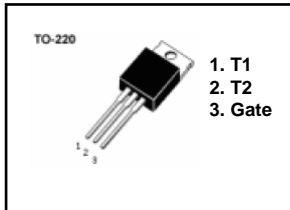
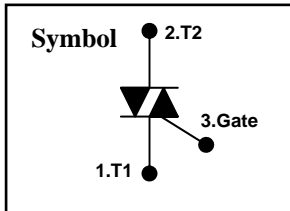
## 600V 20A TRIAC

$$V_{DRM} = 600\text{ V}$$

$$I_{T(RMS)} = 20\text{ A}$$

### FEATURES

- Repetitive Peak Off-State Voltage: 600V
- R.M.S On-state Current ( $I_{T(RMS)}=20\text{A}$ )
- High Commutation  $dv/dt$



### General Description

The TRIAC HTP20-600 is suitable for AC switching application, phase control application such as heater control, motor control, lighting control, and static switching relay.

### Absolute Maximum Ratings $(T_a=25^\circ\text{C})$

Symbol	Parameter	Value	Units	
$V_{DRM}$	Repetitive Peak Off-State Voltage	600	V	
$I_{T(RMS)}$	R.M.S On-State Current ( $T_a = 90^\circ\text{C}$ )	20	A	
$I_{TSM}$	Surge On-State Current (One Cycle, 50/60Hz, Peak, Non Repetitive)	50Hz	170	A
		60Hz	190	
$V_{GM}$	Peak Gate Voltage	10	V	
$I_{GM}$	Peak Gate Current	2	A	
$P_{GM}$	Peak Gate Power Dissipation	5	W	
$T_{STG}$	Storage Temperature Range	-40 to +125	$^\circ\text{C}$	
$T_j$	Operating Temperature	-40 to +125	$^\circ\text{C}$	

**Electrical Characteristics** ( $T_a=25^\circ\text{C}$ )

Symbol	Parameter	Test Conditions		Min	Typ	Max	Units
$I_{GT}$	Gate Trigger Current	$V_D=6V, R_L=10\Omega$	1+, 1-, 3-			30	mA
$V_{GT}$	Gate Trigger Voltage	$V_D=6V, R_L=10\Omega$	1+, 1-, 3-			1.5	V
$V_{GD}$	Non Trigger Gate Voltage	$T_j=125^\circ\text{C}, V_D=1/2V_{DRM}$		0.2			V
$(dv/dt)_c$	Critical Rate of Rise of Off-State Voltage at Communication	$T_j=125^\circ\text{C}, V_D=2/3V_{DRM}$ $(di/dt)_c=10A/ms$		8.0			V/ $\mu\text{s}$
$I_H$	Holding Current				25		mA
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D=V_{DRM}$ , Single Phase, Half Wave, $T_j=125^\circ\text{C}$				2.0	mA
$V_{TM}$	Peak On-State Voltage	$I_T=6A$ , Inst, Measurement				1.4	V

**Thermal Characteristics**

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$R_{TH(J-C)}$	Thermal Resistance	Junction to Case			1.4	$^\circ\text{C}/\text{W}$

Performance Curves

Fig 1. Gate Characteristics

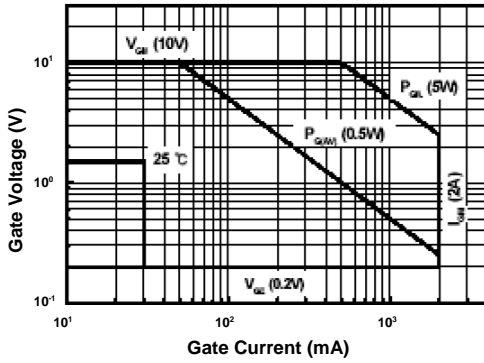


Fig 2. On-State Voltage

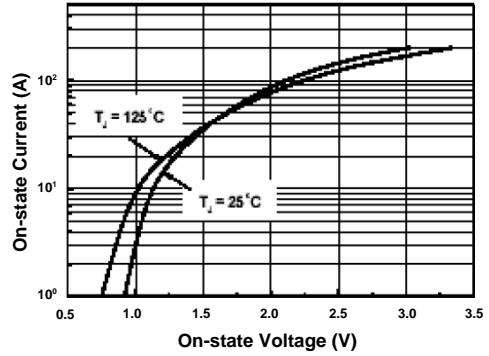


Fig 3. Gate Trigger Voltage vs. Junction Temperature

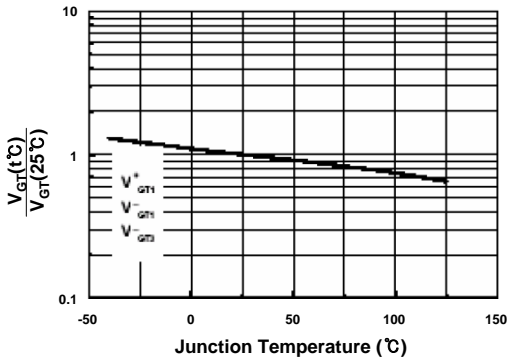


Fig 4. On State Current vs. Maximum Power Dissipation

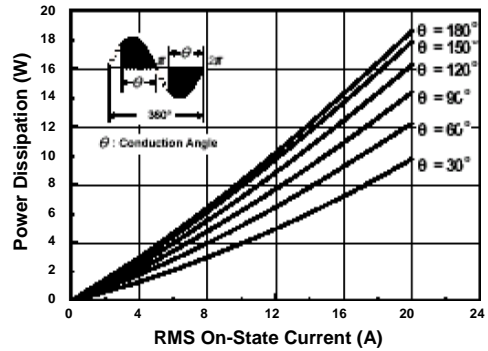


Fig 5. On State Current vs. Allowable Case Temperature

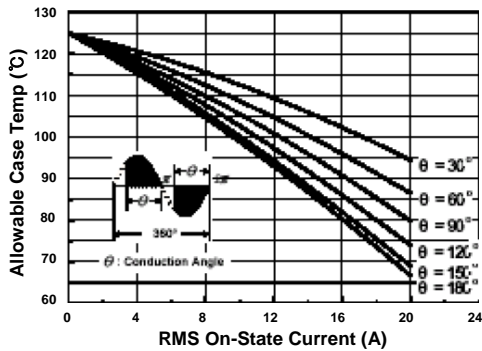
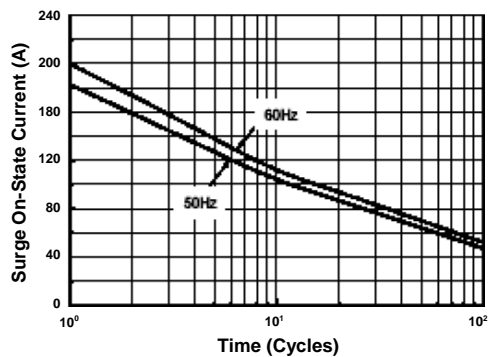
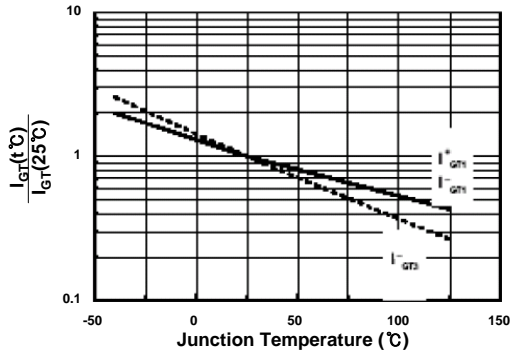


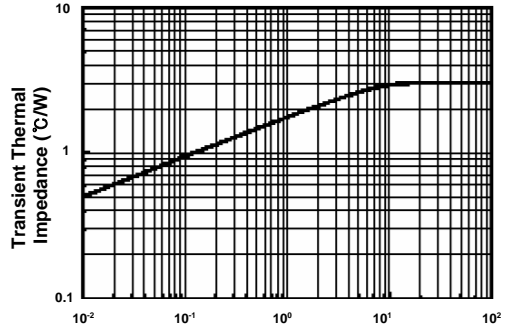
Fig 6. Surge On-State Current Rating (Non-Repetitive)



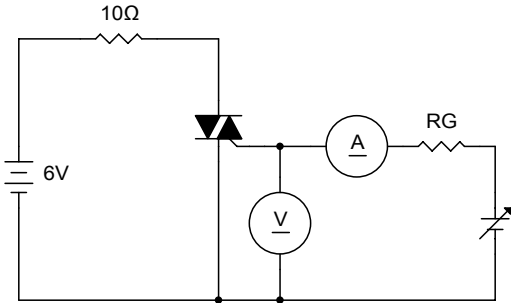
**Fig 7. Gate Trigger Current vs. Junction Temperature**



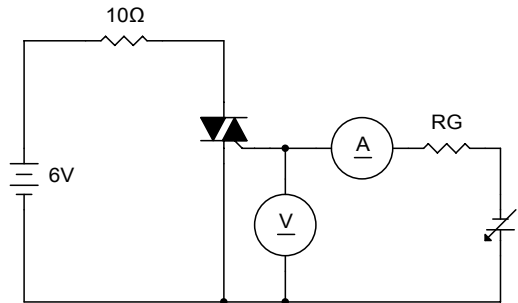
**Fig8. Transient Thermal Impedance**



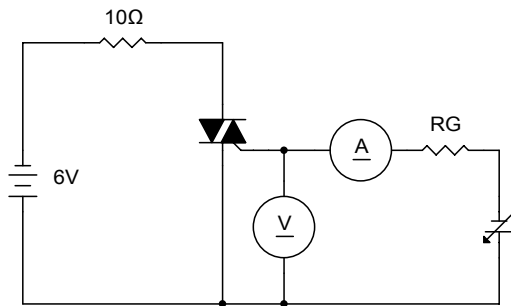
**Fig 7. Gate Trigger Characteristics Test Circuit**



**Test Procedure I**



**Test Procedure II**



**Test Procedure III**

Package Dimension

HTP20-600  
(TO-220)

