

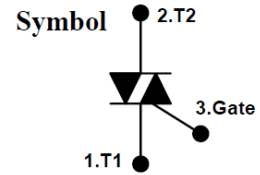
## HTx4-600 600V 4A TRIAC

### FEATURES

- Repetitive Peak Off-State Voltage: 600V
- R.M.S On –State Current ( $I_{T(RMS)} = 4A$ )
- High Commutation  $dv/dt$

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

$$I_{T(RMS)} = 4.0 \text{ A}$$



1.T1 2. T2 3. Gate

TO-220



HTP4-600

TO-220F



HTS4-600

### General Description

The TRIAC HTP4-600 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 ( $T_a = 66^\circ\text{C}$ )	4	A	
$I_{TSM}$	Surge On-State Current (One Cycle, 50/60Hz, Peak, Non Repetitive)	50Hz	30	A
		60Hz	33	A
$V_{GM}$	Peak Gate Voltage	7	V	
$I_{GM}$	Peak Gate Current	0.5	A	
$P_{GM}$	Peak Gate Power Dissipation	3	W	
$V_{ISO}$	Isolation Breakdown Boltate, AC RMS 1Min (HTS4-600 only)	1500	V	
$T_{STG}$	Storage Temperature Range	-40 to +125	$^\circ\text{C}$	
$T_J$	Operating Temperature	-40 to +125	$^\circ\text{C}$	

### Electrical Characteristics (T<sub>a</sub>=25°C)

Symbol	Parameter	Test Conditions		Min	Typ	Max	Units
I <sub>GT</sub>	Gate Trigger Current	V <sub>D</sub> =6V, R <sub>L</sub> =10Ω	1+, 1-, 3-			20	mA
V <sub>GT</sub>	Gate Trigger Voltage	V <sub>D</sub> =6V, R <sub>L</sub> =10Ω	1+, 1-, 3-			1.5	V
V <sub>GD</sub>	Non Trigger Gate Voltage	T <sub>J</sub> =125°C, V <sub>D</sub> =1/2V <sub>DRM</sub>		0.2			V
(dv/dt) <sub>c</sub>	Critical Rate of Rise of Off-State Voltage at Communication	T <sub>J</sub> =125°C, V <sub>D</sub> =2/3V <sub>DRM</sub> (di/dt) <sub>c</sub> =-3A/ms		5.0			V/μS
I <sub>H</sub>	Holding Current				5.0		mA
I <sub>DRM</sub>	Repetitive Peak Off-State Current	V <sub>D</sub> =V <sub>DRM</sub> , Single Phase Half Wave, T <sub>J</sub> =125°C				1.0	mA
V <sub>TM</sub>	Peak On-State Voltage	IT=6A, Inst. Measurement				1.6	V

### Thermal Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
R <sub>θJC</sub>	Thermal Resistance	Junction to Case			2.8	°C/W

Typical Characteristics

Fig 1. Gate Characteristics

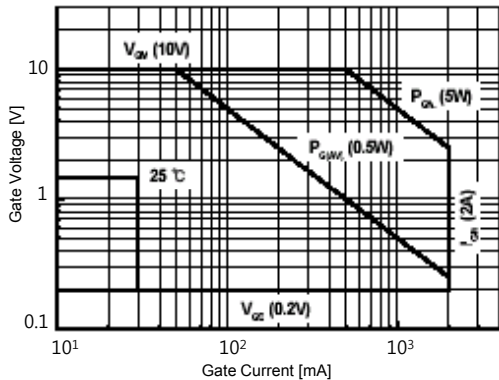


Fig 2. On-State Voltage

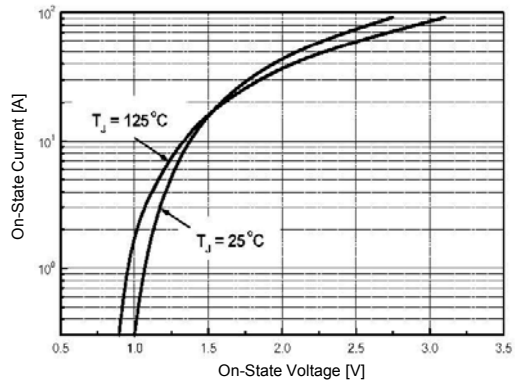


Fig 3. Gate Trigger Voltage vs. Junction Temperature

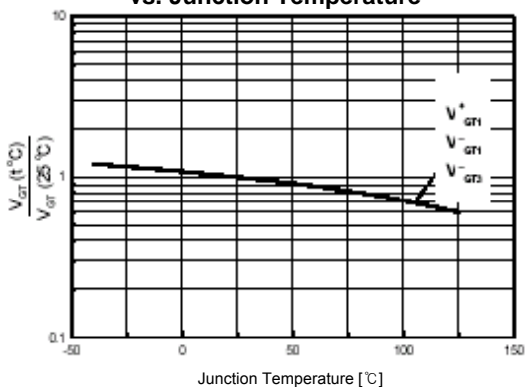


Fig 4. On-State Current vs. Maximum power Dissipation

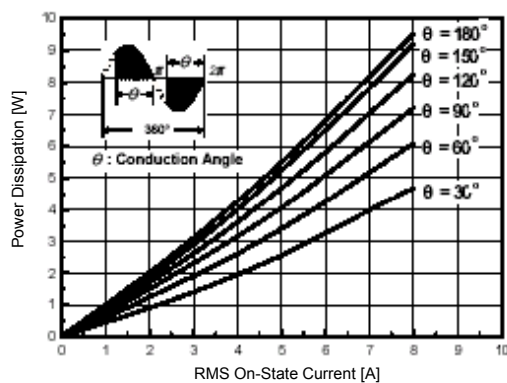


Fig 5. On-State Current vs. Allowable Case Temperature

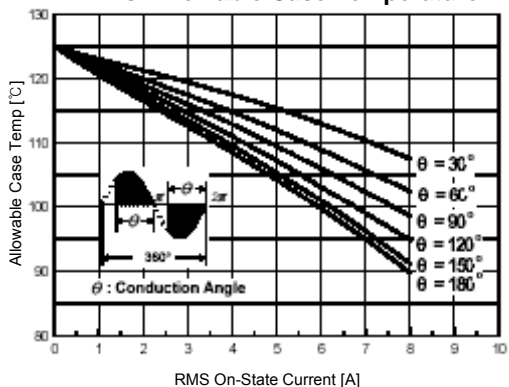
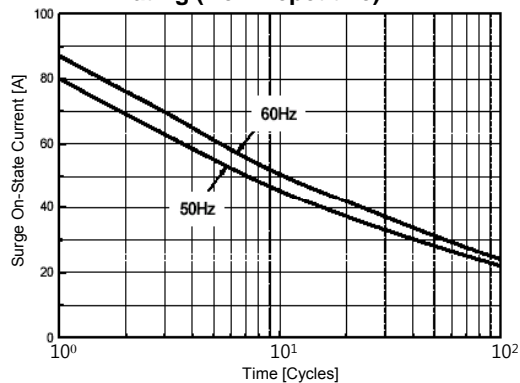
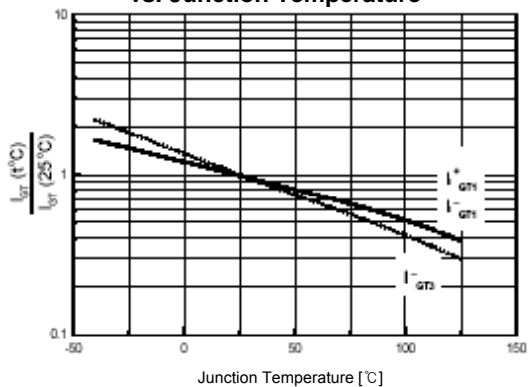


Fig 6. Surge On-State Current Rating (Non-Repetitive)

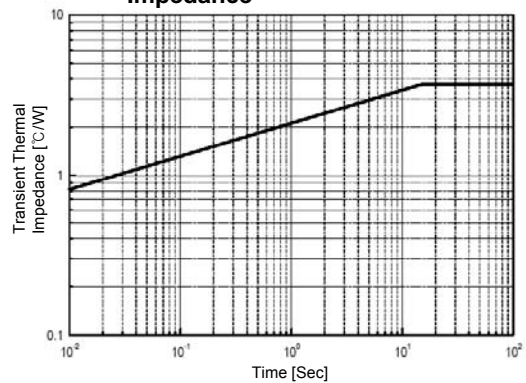


## Typical Characteristics

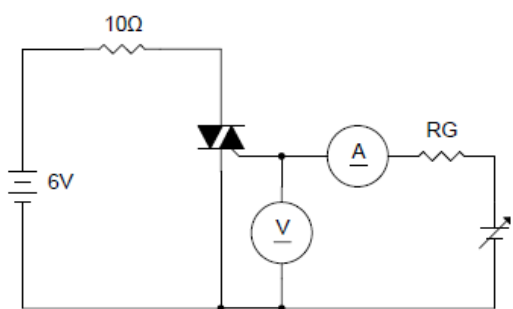
**Fig 7. Gate Trigger Current vs. Junction Temperature**



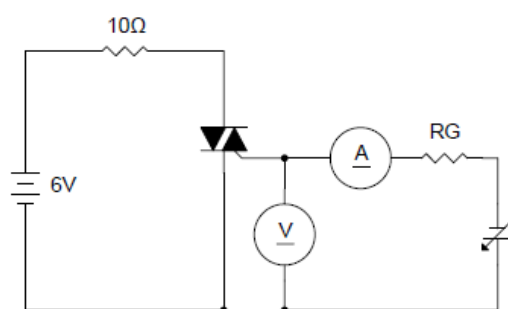
**Fig 8. Transient Thermal Impedance**



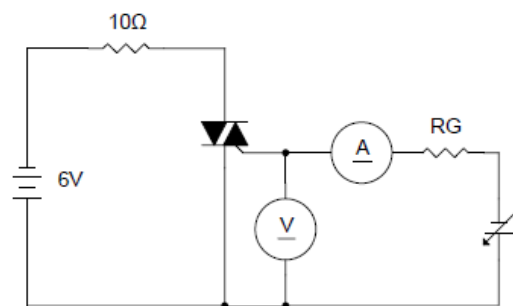
**Fig 9. Gate Trigger Characteristics Test Circuit**



Test Procedure I



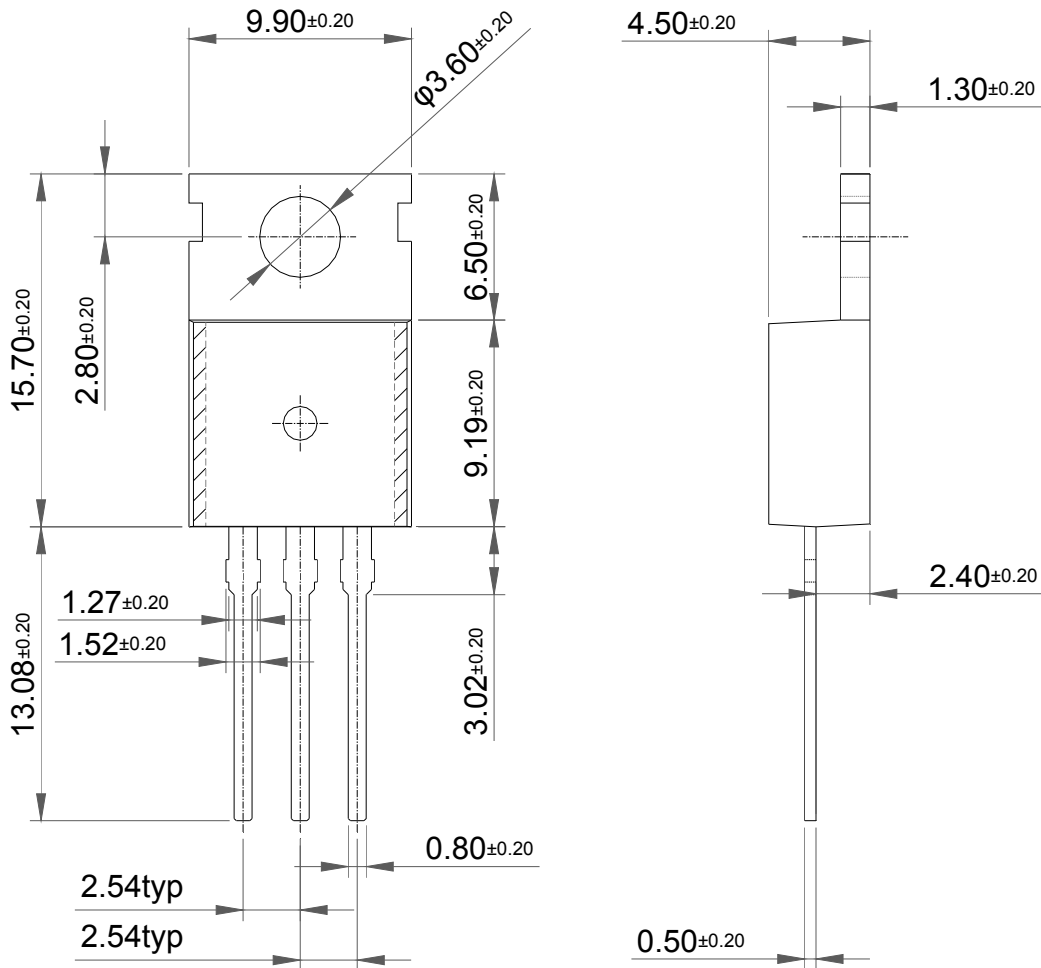
Test Procedure II



Test Procedure III

Package Dimension

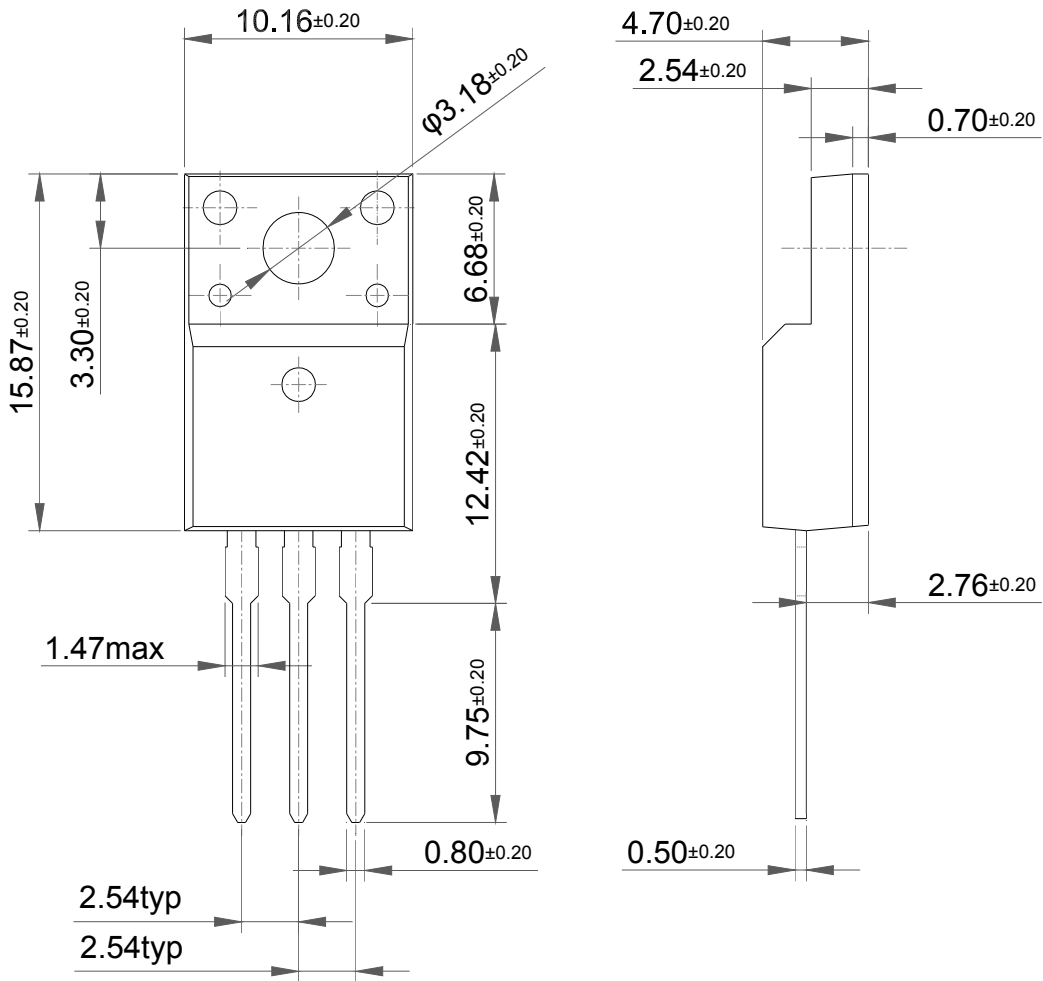
HTP4-600  
(TO-220)



HTX4-600

Package Dimension

HTS4-600  
(TO-220F)



HTX4-600