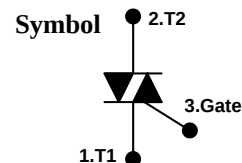


HTx12-600

600V 12A TRIAC

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

$$I_{\text{T(RMS)}} = 12.0 \text{ A}$$



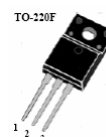
FEATURES

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

1.T1 2. T2 3. Gate



HTP12-600



HTS12-600

General Description

The TRIAC HTP12-600 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
$I_{\text{T(RMS)}}$	R.M.S On-State Current ($T_a = 100^{\circ}\text{C}$)	HTP12-600	12	A
	R.M.S On-State Current ($T_c = 79^{\circ}\text{C}$)	HTS12-600		
I_{TSM}	Surge On-State Current (One Cycle, 50/60Hz, Peak, Non Repetitive)	50Hz	119	A
		60Hz	130	
V_{GM}	Peak Gate Voltage		10	V
I_{GM}	Peak Gate Current		2	A
P_{GM}	Peak Gate Power Dissipation		5	W
V_{ISO}	Isolation Breakdown Boltate, AC RMS 1Min (HTS12-600 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_a=25℃)

Symbol	Parameter	Test Conditions		Min	Typ	Max	Units
I _{GT}	Gate Trigger Current	V _D =6V, R _L =10Ω	1+, 1-, 3-			30	mA
V _{GT}	Gate Trigger Voltage	V _D =6V, R _L =10Ω	1+, 1-, 3-			1.5	V
V _{GD}	Non Trigger Gate Voltage	T _j =125℃, V _D =1/2V _{DRM}		0.2			V
(dv/dt) _c	Critical Rate of Rise of Off-State Voltage at Communication	T _j =125℃, V _D =2/3V _{DRM} (di/dt) _c =-6A/ms		10.0			V/uS
I _H	Holding Current				20		mA
I _{DRM}	Repetitive Peak Off-State Current	V _D =V _{DRM} , Single Phase, Half Wave, T _j =125℃				2.0	mA
V _{TM}	Peak On-State Voltage	IT=6A, Inst, Measurement				1.4	V

Thermal Characteristics

Symbol	Parameter	Test Conditions	Case	Min	Typ	Max	Units
R _{TH(Q-C)}	Thermal Resistance	Junction to Case	HTP16-600			1.8	℃/W
			HTS16-600			3.3	℃/W

Performance Curves

Fig 1. Gate Characteristics

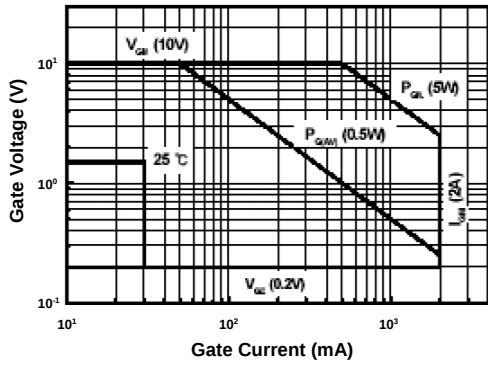


Fig 2. On-State Voltage

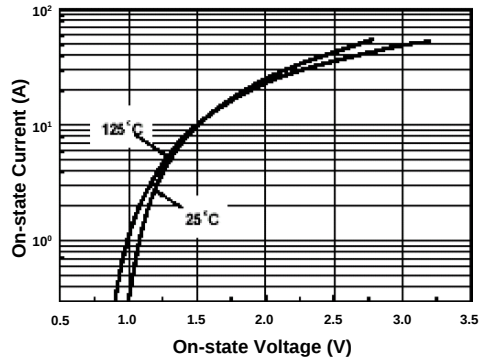


Fig 3. Gate Trigger Voltage vs. Junction Temperature

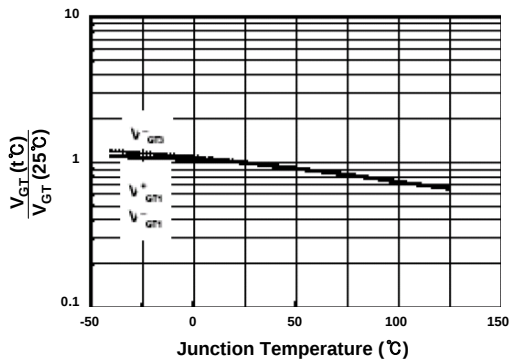


Fig 4. On State Current vs. Maximum Power Dissipation

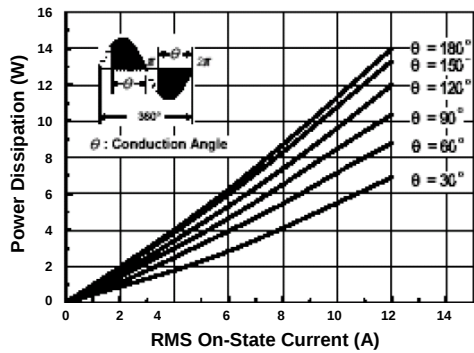


Fig 5. On State Current vs. Allowable Case Temperature

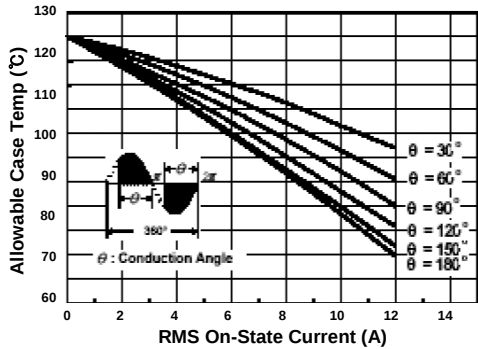


Fig 6. Surge On-State Current Rating (Non-Repetitive)

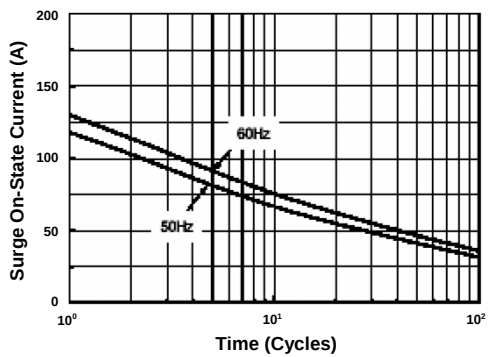


Fig 7. Gate Trigger Current vs. Junction Temperature

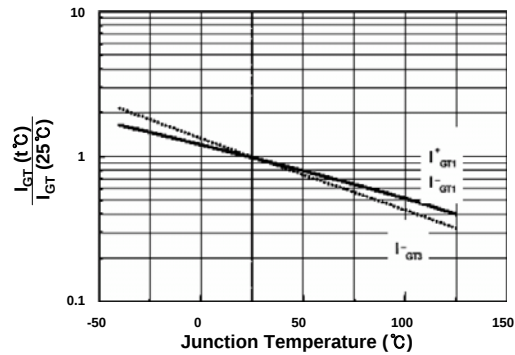


Fig8. Transient Thermal Impedance

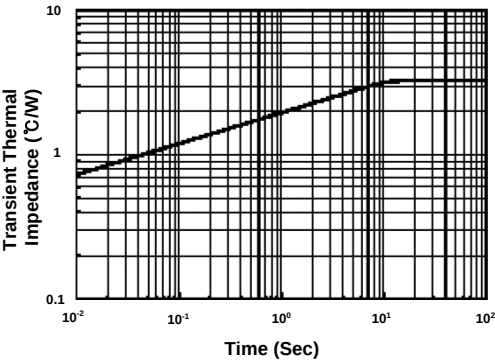
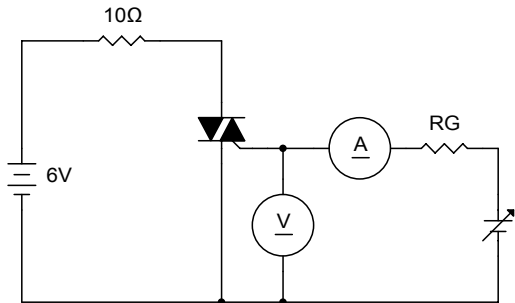
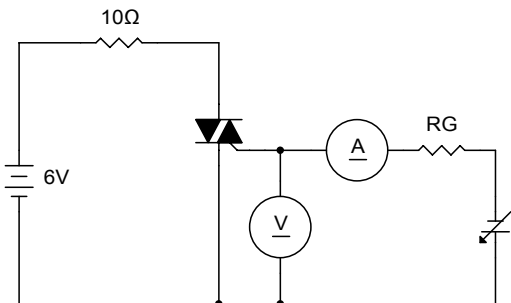


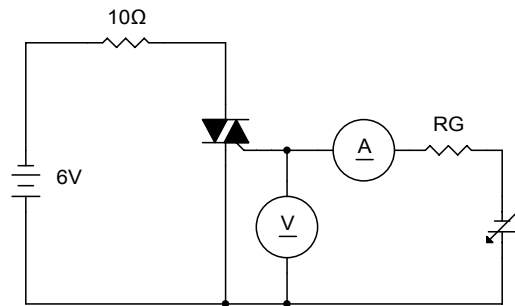
Fig 7. Gate Trigger Characteristics Test Circuit



Test Procedure I



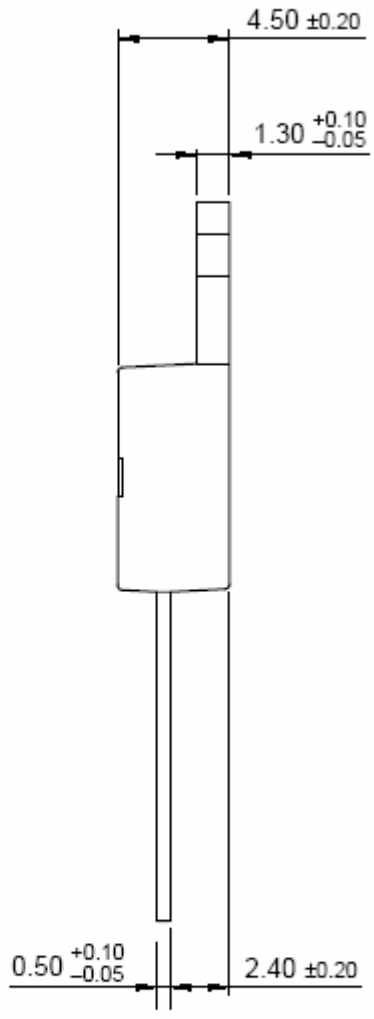
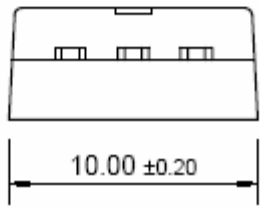
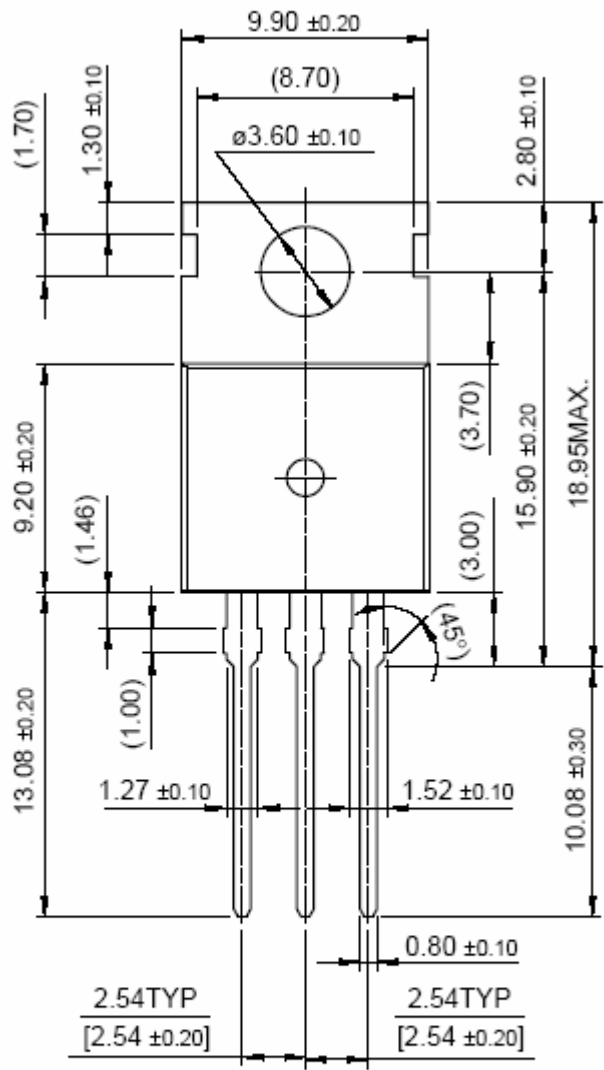
Test Procedure II



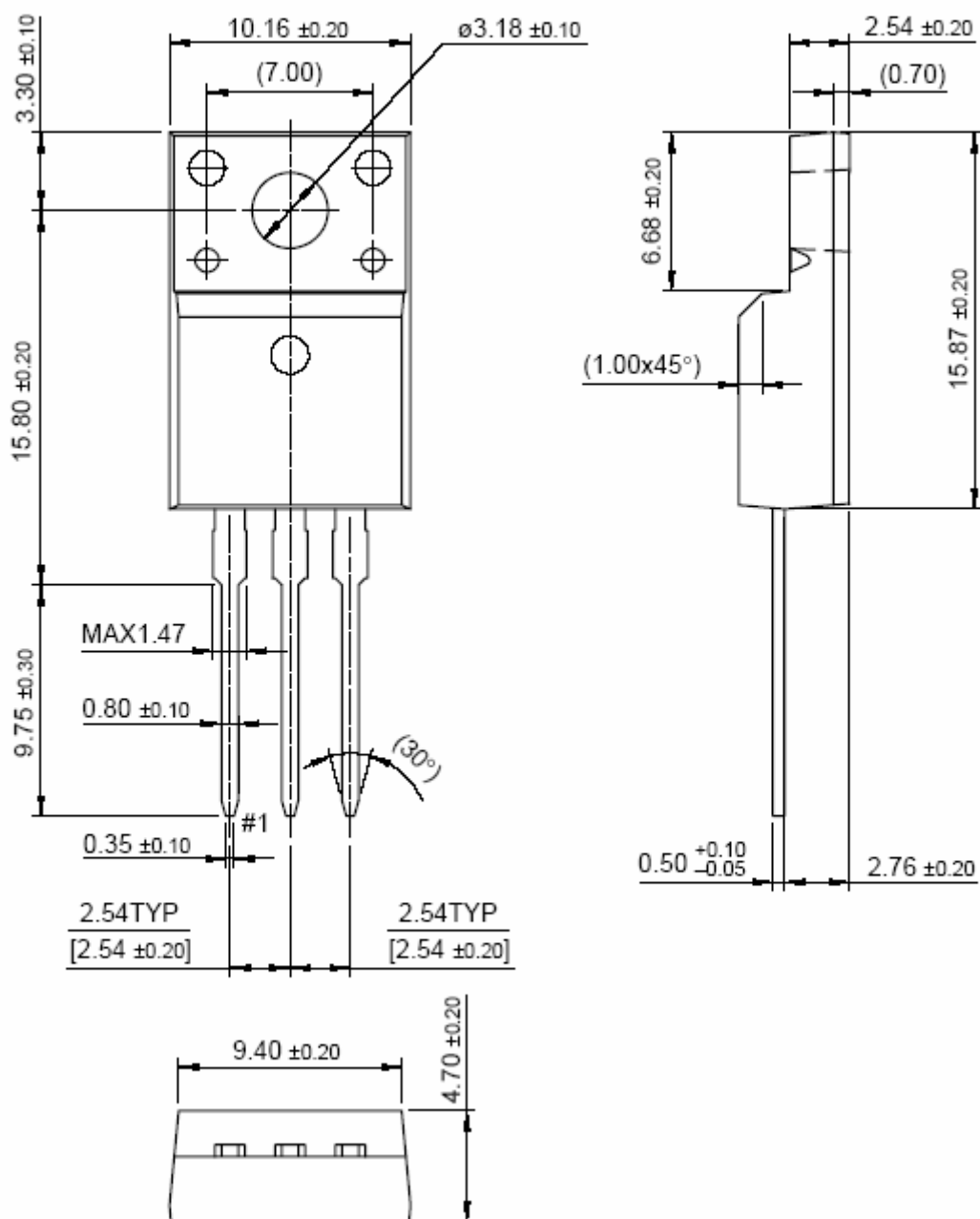
Test Procedure III

Package Dimension

HTP12-600
(TO-220)



Package Dimensions

HTS12-600
(TO-220F)

Dimensions in Millimeters