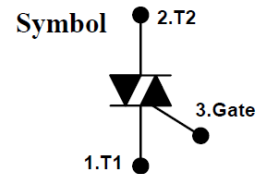


HTD4-600 / HTU4-600 600V 4A TRIAC

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

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



FEATURES

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

1.T1 2. T2 3. Gate

TO-251



HTU4-600

TO-252



HTD4-600

General Description

The devices is sensitive gate TRIAC suitable for direct coupling to TTL,HTL,CMOS and application such as various logic functions, low power AC switching applications, such as fan speed, small light controllers and home appliance equipment.

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 ($T_a = 107^\circ\text{C}$)	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	1	A	
P_{GM}	Peak Gate Power Dissipation	1.5	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	$V_D=6\text{V}$, $R_L=10\Omega$	1+, 1-, 3-		5	mA
			3+		10	mA
V_{GT}	Gate Trigger Voltage	$V_D=6\text{V}$, $R_L=10\Omega$	1+, 1-, 3-		1.4	V
			3+		1.8	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	$T_J=125^\circ\text{C}$, $V_D=2/3V_{DRM}$ $(di/dt)_c=-0.5\text{A/ms}$	5.0			V/ μS
I_H	Holding Current				10	mA
I_{DRM}	Repetitive Peak Off-State Current	$V_D=V_{DRM}$, Single Phase, Half Wave, $T_J=125^\circ\text{C}$			1.0	mA
V_{TM}	Peak On-State Voltage	$I_T=6\text{A}$, Inst, Measurement			1.7	V

Thermal Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$R_{\theta JC}$	Thermal Resistance	Junction to Case			3.0	$^\circ\text{C/W}$

Typical Characteristics

Fig 1. Gate Characteristics

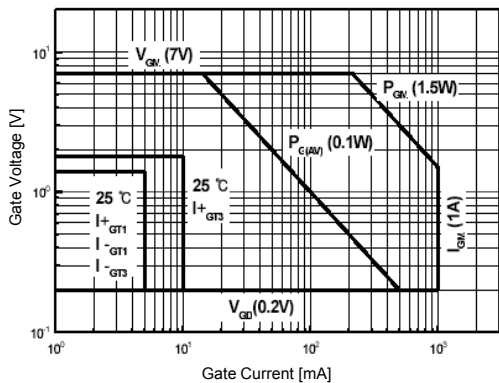


Fig 2. On-State Voltage

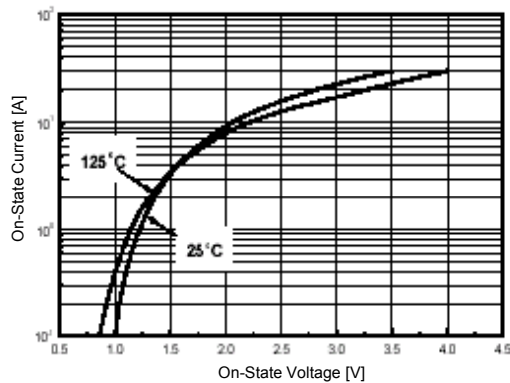


Fig 3. Gate Trigger Voltage vs. Junction Temperature

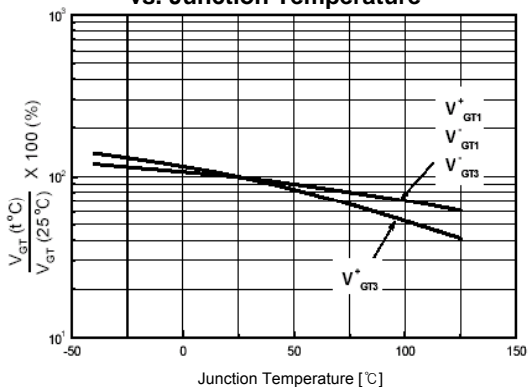


Fig 4. On-State Current vs. Maximum power Dissipation

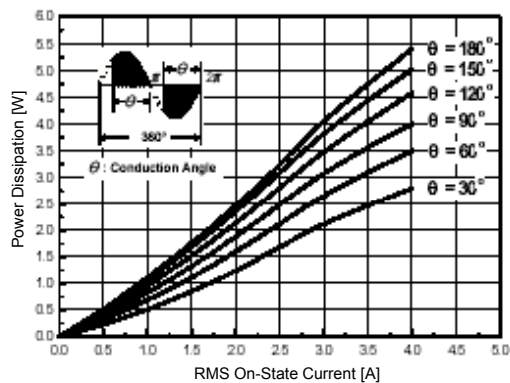


Fig 5. On-State Current vs. Allowable Case Temperature

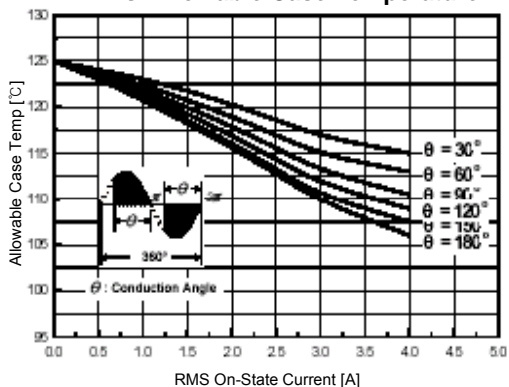
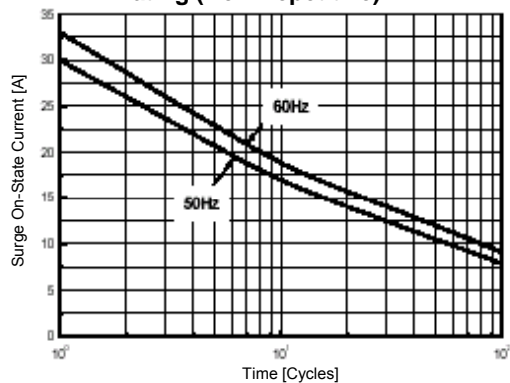


Fig 6. Surge On-State Current Rating (Non-Repetitive)



Typical Characteristics

Fig 7. Gate Trigger Current vs. Junction Temperature

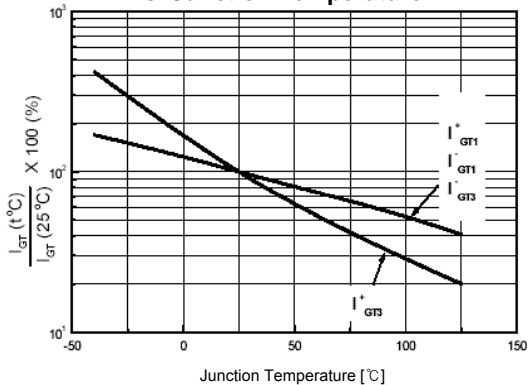


Fig 8. Transient Thermal Impedance

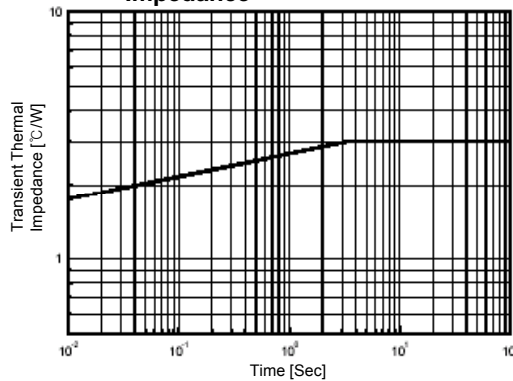
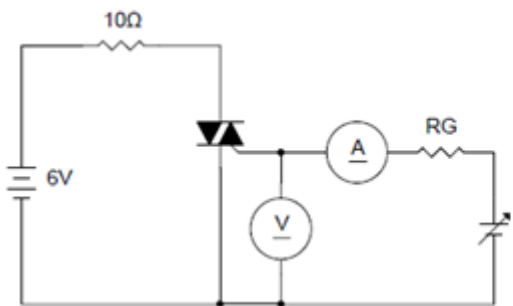
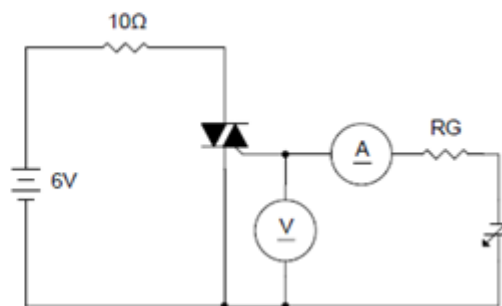


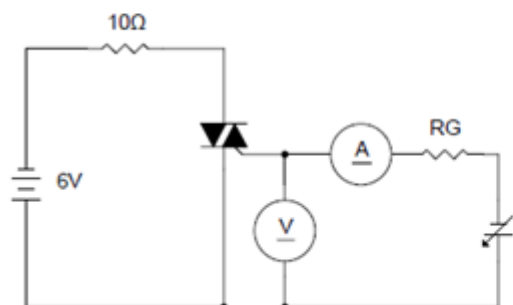
Fig 7. Gate Trigger Characteristics Test Circuit



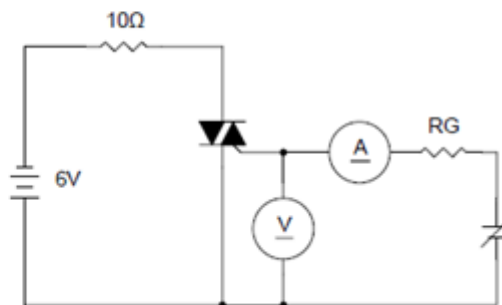
Test Procedure I



Test Procedure II



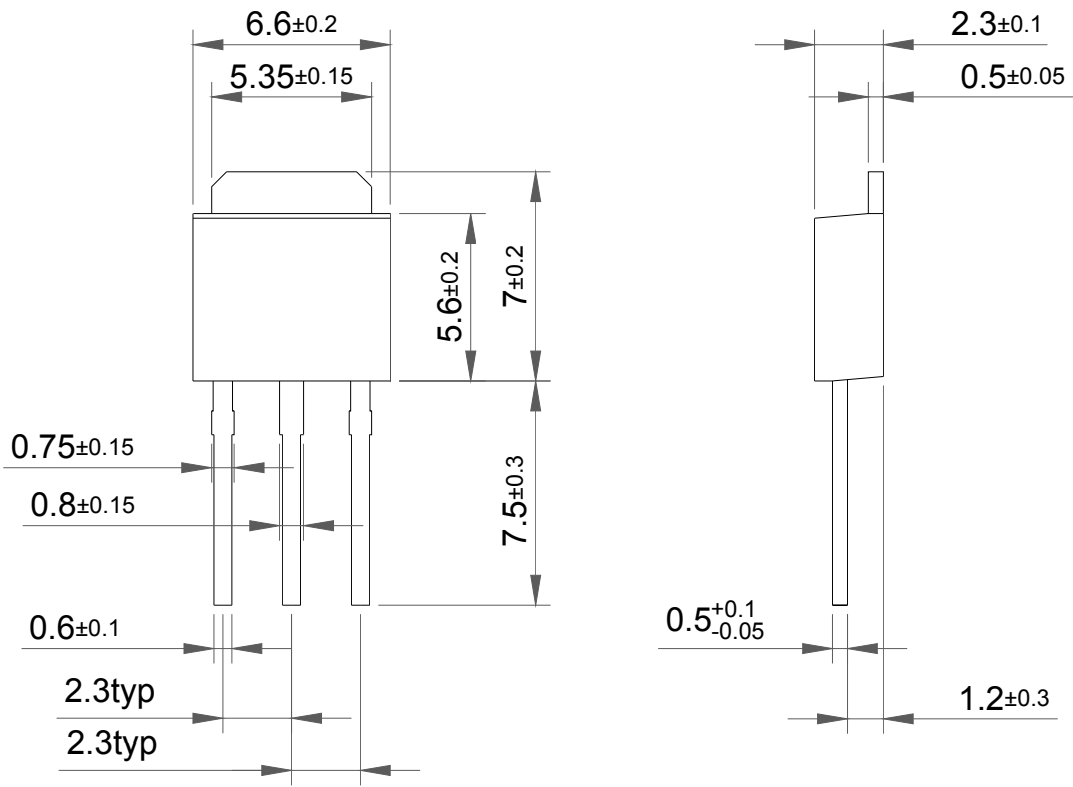
Test Procedure III



Test Procedure IV

Package Dimension

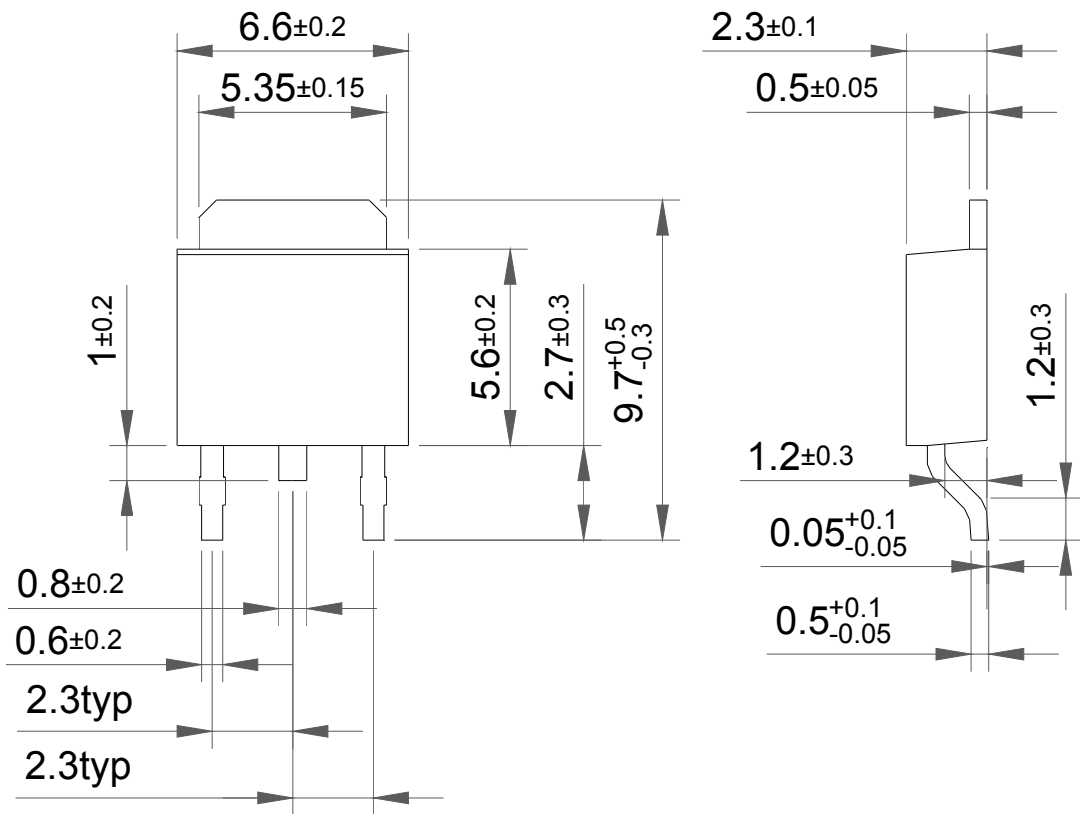
TO-251



HTD4-600/HTU4-600

Package Dimension

TO-252



HTD4-600/HTU4-600