

## Bi-Directional Triode Thyristor

### Features

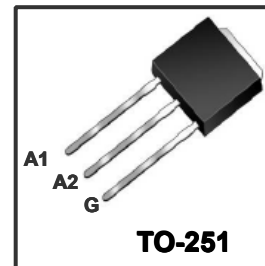
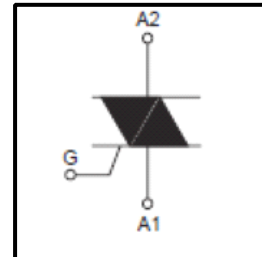
- ◆ Repetitive Peak Off-State Voltage : 600V
- ◆ R.M.S On-State Current (  $I_T(\text{RMS})= 4 \text{ A}$  )
- ◆ Low On-State Voltage (1.6V(Typ.) @  $I_{\text{TM}}$ )
- ◆ High Commutation  $dv/dt$
- ◆ High Junction temperature( $T_J=150^\circ\text{C}$ )

### General Description

Winsemi Triac **STF4A60H** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

### Typical Application

- Home Appliances : Washing Machines, Vacuum Cleaners, Rice Cookers, Micro Wave Ovens, Hair Dryers, other control applications
- Industrial Use : SMPS, Copier Machines, Motor Controls, Dimmer, SSR, Heater Controls, Vending Machines, other control applications



### Absolute Maximum Ratings ( $T_J= 25^\circ\text{C}$ unless otherwise specified)

Symbol	Para	Condition	Ratings	Units
$V_{\text{DRM}}/V_{\text{RRM}}$	Repetitive Peak Off-State Voltage		600	V
$I_{\text{T(RMS)}}$	R.M.S On-State Current	$T_J = 1118^\circ\text{C}$	4.0	A
$I_{\text{TSM}}$	Surge On-State Current	50/60Hz, One cycle, Peak value, non-repetitive	27/30	A
$I_t^2$	$I_t^2 t$		3.7	$\text{A}^2\text{s}$
$P_{\text{GM}}$	Peak Gate Power Dissipation		1.5	W
$P_{\text{G(AV)}}$	Average Gate Power Dissipation		0.1	W
$I_{\text{GM}}$	Peak Gate Current		1.0	A
$V_{\text{GM}}$	Peak Gate Voltage		7.0	V
$T_J$	Operating Junction Temperature		-40~+150	$^\circ\text{C}$
$T_{\text{STG}}$	Storage Temperature		-40~+150	$^\circ\text{C}$

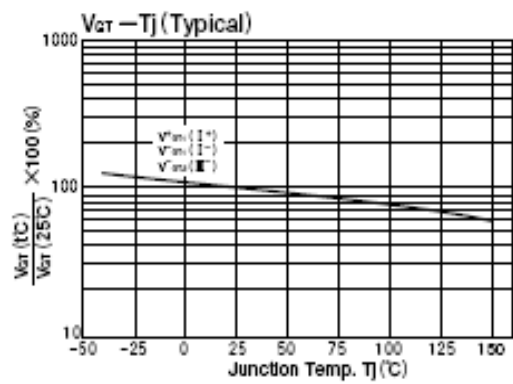
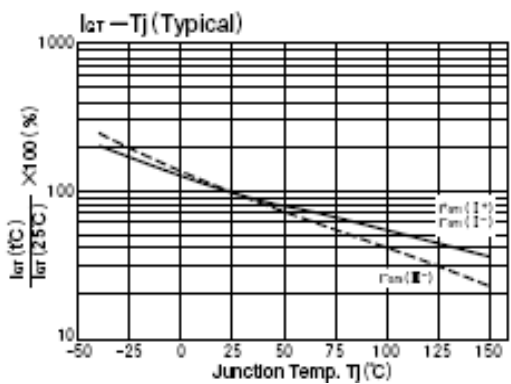
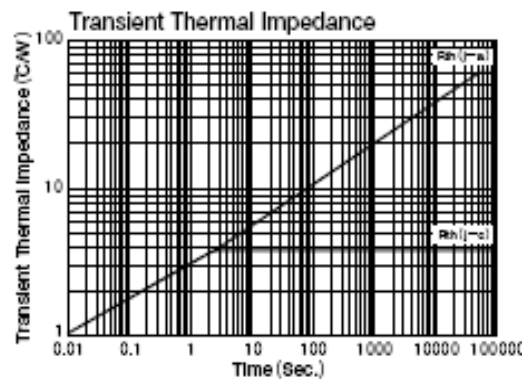
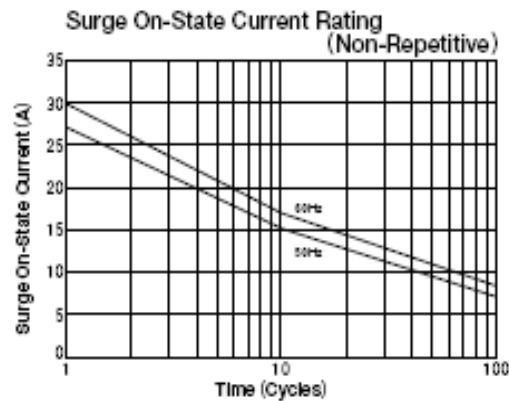
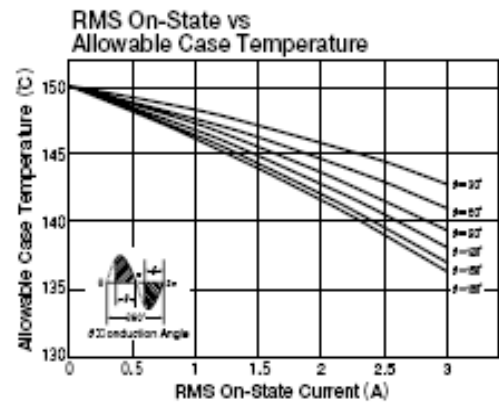
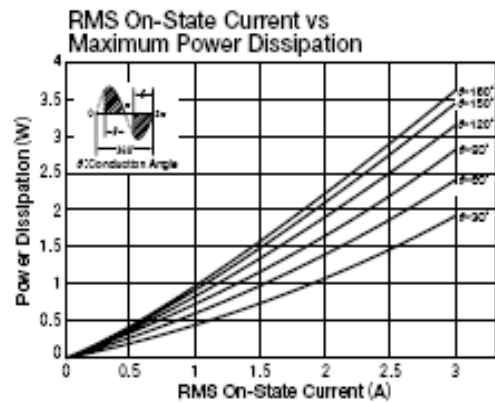
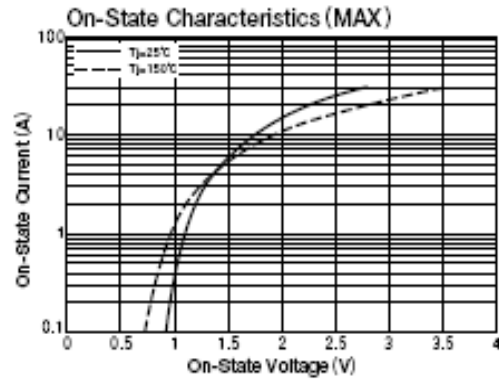
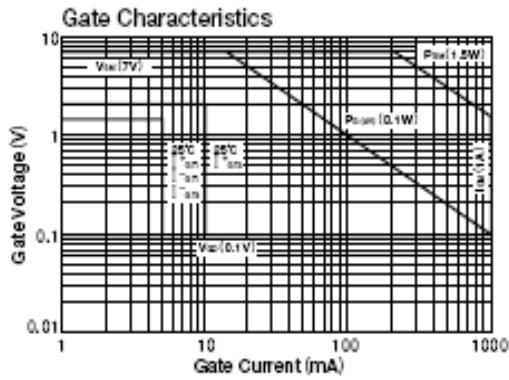
### Thermal Characteristics

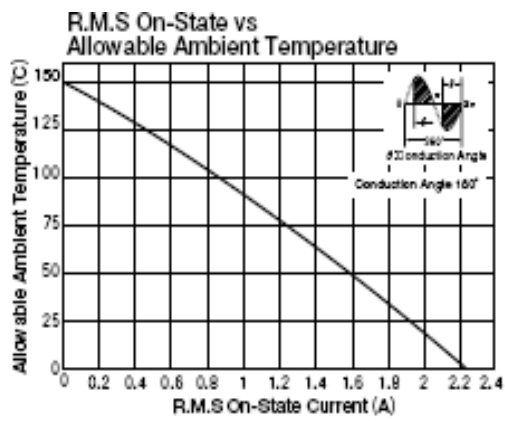
Symbol	Parameter	Value	Units
$R_{\theta\text{JC}}$	Thermal Resistance Junction to Case(DC)	3	$^\circ\text{C}/\text{W}$
$R_{\theta\text{JA}}$	Thermal Resistance Junction to Ambient(DC)	75	$^\circ\text{C}/\text{W}$

# STU4A60H

## Electrical Characteristics (T<sub>c</sub>=25°C unless otherwise noted)

Symbol	Characteristics	Min	Typ.	Max	Unit	
I <sub>DRM</sub> /I <sub>RRM</sub>	off-state leakage current (V <sub>AK</sub> = V <sub>DRM</sub> /V <sub>RRM</sub> Single phase, half wave)	T <sub>J</sub> =50°C	-	-	1	mA
V <sub>TM</sub>	Forward "On" voltage (I <sub>T</sub> =4.5A, Inst. Measurement)	-	1.2	1.7	V	
I <sub>GT</sub>	Gate trigger current (continuous dc) (V <sub>AK</sub> = 6 Vdc, RL = 10 Ω)	T2+,G+	-	-	5	mA
		T2+,G-	-	-	5	
		T2-,G-	-	-	5	
V <sub>GT</sub>	Gate Trigger Voltage (Continuous dc) ) (V <sub>AK</sub> = 6 Vdc, RL = 10 Ω)	T2+,G+	-	-	1.5	V
		T2+,G-	-	-	1.5	
		T2-,G-	-	-	1.5	
V <sub>GD</sub>	Gate threshold Voltage V <sub>D</sub> =1/2V <sub>DRM</sub>	T <sub>J</sub> =150°C	0.2	-	-	V
(dv/dt) <sub>c</sub>	Critical Rate of Rise of Off-State Voltage at Commutation (V <sub>D</sub> =0.67V <sub>DRM</sub> ;(di/dt) <sub>C</sub> =-1.5A/ms)	T <sub>J</sub> =150°C	3	-	-	V/μs
I <sub>H</sub>	Holding Current	-	2	-	mA	
I <sub>L</sub>	latching current	-	2	6	mA	





## TO-251 Package Dimension

Unit: mm

