

## Bi-Directional Triode Thyristor

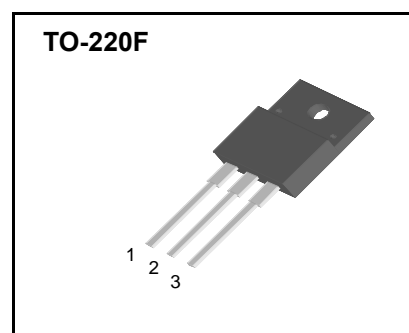
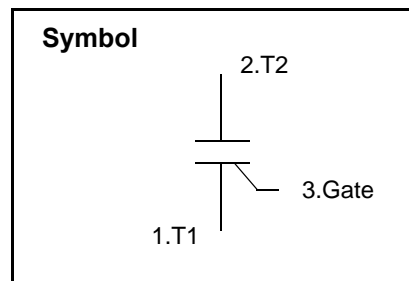
### Features

Repetitive Peak Off-State Voltage : 600V  
 R.M.S On-State Current (  $I_{T(RMS)}$  ) = 8 A )  
 High Commutation dv/dt  
 Isolation Voltage (  $V_{ISO}$  = 1500V AC )

### General Description

This device is fully isolated package suitable for AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay.

This device is approved to comply with applicable requirements by Underwriters Laboratories Inc.



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

Symbol	Parameter	Condition	Ratings	Units
$V_{DRM}$	Repetitive Peak Off-State Voltage		800	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_C = 89^{\circ}\text{C}$	8.0	A
$I_{TSM}$	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	80/88	A
$I^2t$	$I^2t$		32	$\text{A}^2\text{s}$
$P_{GM}$	Peak Gate Power Dissipation		5.0	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.5	W
$I_{GM}$	Peak Gate Current		2.0	A
$V_{GM}$	Peak Gate Voltage		10	V
$V_{ISO}$	Isolation Breakdown Voltage(R.M.S.)	A.C. 1 minute	1500	V
$T_J$	Operating Junction Temperature		- 40 ~ 125	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature		- 40 ~ 150	$^{\circ}\text{C}$
	Mass		2.0	g

# STF10A80

## Electrical Characteristics

Symbol	Items	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D = V_{DRM}$ , Single Phase, Half Wave $T_J = 125\text{ }^\circ\text{C}$			2.0	mA
$V_{TM}$	Peak On-State Voltage	$I_T = 15\text{ A}$ , Inst. Measurement			1.6	V
$I_{GT1}^+$	Gate Trigger Current	$V_D = 6\text{ V}$ , $R_L = 10$			30	mA
$I_{GT1}^-$					30	
$I_{GT3}^-$					30	
$V_{GT1}^+$	Gate Trigger Voltage	$V_D = 6\text{ V}$ , $R_L = 10$			1.5	V
$V_{GT1}^-$					1.5	
$V_{GT3}$					1.5	
$V_{GD}$	Non-Trigger Gate Voltage	$T_J = 125\text{ }^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$	0.2			V
$(dv/dt)_c$	Critical Rate of Rise Off-State Voltage at Commutation	$T_J = 125\text{ }^\circ\text{C}$ , $[di/dt]_c = -4.0\text{ A/ms}$ , $V_D = 2/3 V_{DRM}$	10			V/ $\mu\text{s}$
$I_H$	Holding Current			15		mA
$R_{th(j-c)}$	Thermal Impedance	Junction to case			3.7	$^\circ\text{C/W}$

