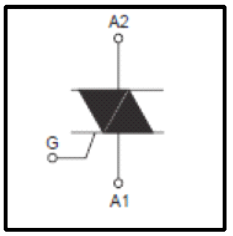
WTF16A60H

Bi-Directional Triode Thyristor

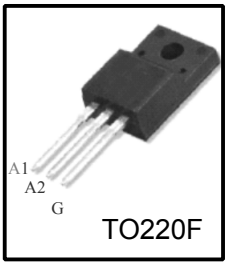
Features

- Repetitive Peak off-State Voltage: 600V
- R.M.S On-State Current($I_{T(RMS)}$=16A)
- Isolation Voltage (VISO = 1500V AC)
- High Commutation dV/dt.
- High Junction temperature(T_J=150℃)



General Description

Winsemi Triac **WTF16A60H** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation. By using an internal ceramic pad, the TO220F series provides voltage insulated tab (rated at 2500V RMS) complying with UL standards (file ref.:E347423)



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 (Tj=25℃ unless otherwise specified)

Symbol	Parameter	Condition	Ratings	Units
V_{DRM}/V_{RRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S On-State Current	T_J = 1118 °C	16	A
I_{TSM}	Surge On-State Current	50/60Hz, One cycle, Peak value, non-repetitive	155/170	A
I^2t	I^2t		120	A^2s
P_{GM}	Peak Gate Power Dissipation		5	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.5	W
I_{GM}	Peak Gate Current		2.0	A
V_{GM}	Peak Gate Voltage		7.0	V
T_J	Operating Junction Temperature		-40~+150	℃
T_{STG}	Storage Temperature		-40~+150	℃

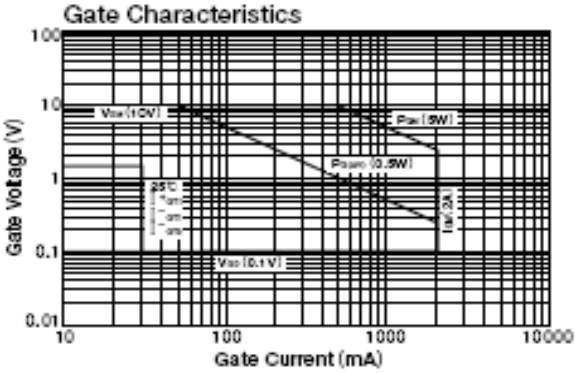
Thermal Characteristics

Symbol	Parameter	Value			Units
		Min	Typ	Max	
$R_{\theta JC}$	Thermal resistance, Junction-to-Case	-	-	3	℃/W
$R_{\theta JA}$	Thermal resistance, Junction-to-Ambient	-	-	150	℃/W

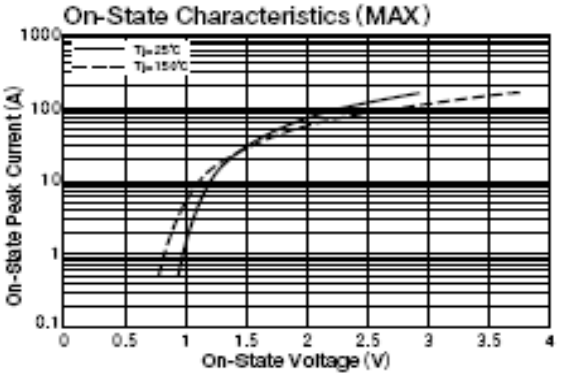
Electrical Characteristics (T_J = 25°C, R_{GK} = 1 kΩ unless otherwise specified)

Symbol	Characteristics		Min	Typ.	Max	Unit
I_{DRM}/I_{RRM}	off-state leakage current (V_{AK}= V_{DRM}/V_{RRM} Single phase, half wave)	TJ=150℃	-	-	3	mA
V_{TM}	Forward “On” voltage (I_T=25A, Inst. Measurement)		-	1.2	1.4	V
I_{GT}	Gate trigger current (continuous dc) (V_{AK} = 6 Vdc, RL = 10 Ω)	T2+,G+	-	-	10	mA
		T2+,G-	-	-	10	
		T2-,G-	-	-	10	
V_{GT}	Gate Trigger Voltage (Continuous dc)) (V_{AK} = 6 Vdc, RL = 10 Ω)	T2+,G+	-	-	1.5	V
		T2+,G-	-	-	1.5	
		T2-,G-	-	-	1.5	
V_{GD}	Gate threshold Voltage V_D=1/2V_{DRM},	T_J=150℃	0.1	-	-	V
(dv/dt)C	Critical Rate of Rise of Off-State Voltage at Commutation (V_D=0.67V_{DRM} ;(di/dt)c=-8A/ms)	T_J=150℃	5	-	-	V/μs
I_H	Holding Current		-	25	-	mA
I_L	latching current		-	25	-	mA

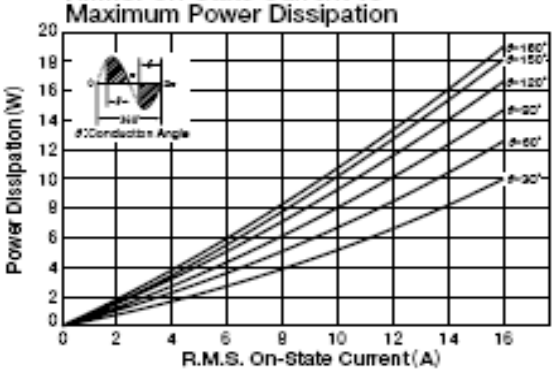
Gate Characteristics



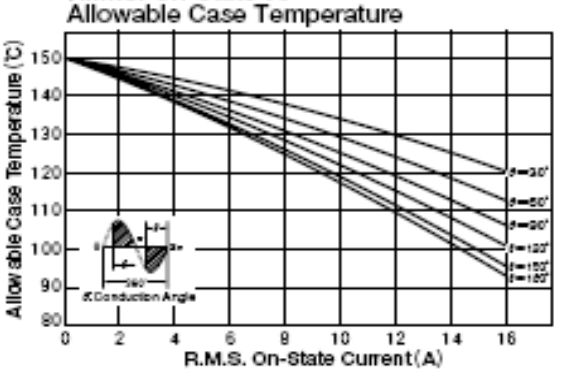
On-State Characteristics (MAX)



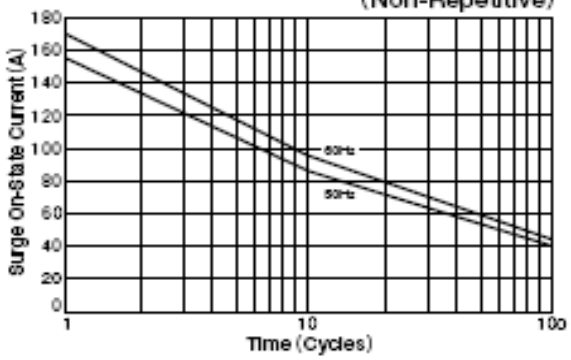
R.M.S. On-State Current vs Maximum Power Dissipation



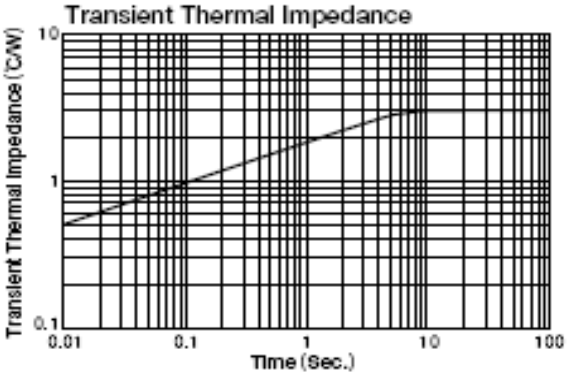
R.M.S. On-State vs Allowable Case Temperature



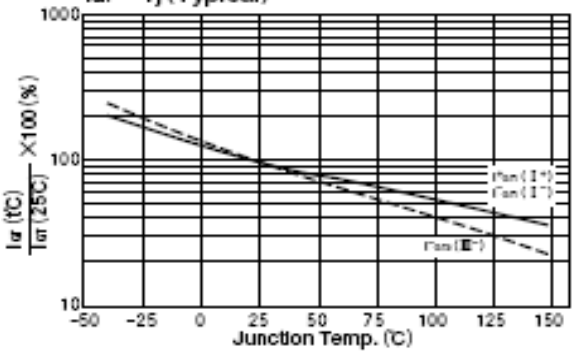
Surge On-State Current Rating (Non-Repetitive)



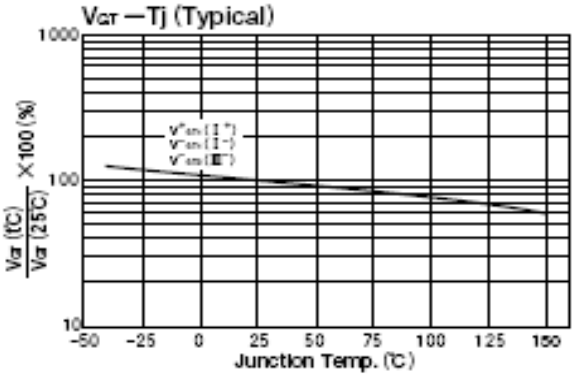
Transient Thermal Impedance



IGT —Tj (Typical)



VGT —Tj (Typical)



TO-220F Package Dimension

Unit: mm