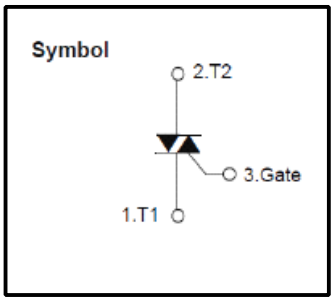
WTD4A60S

Sensitive Gate Triac

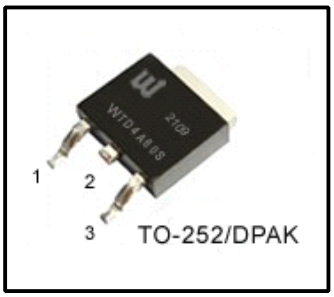
Features

- Repetitive Peak off -State Voltage:600V
- R.M.S On-State Current(IT(RMS)=4A)
- Low On-State Voltage (1.6V(Max.)@I_{TM}
- High Commutation dv/dt
- Sensitive Gate Triggering 4 Mode



General Description

Sensitive gate triggering Triac is suitable for direct couplingto TTL , CMOS and application such as various logic Functions, low power AC switching applications,such as fanspeed,small light controllers and home appliance equipment.



Absolute Maximum Ratings (T_J=25℃ unless otherwise specified)

symbol	Parameter	condition	Ratings	Units
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S On-State Current	Tc=109℃	4.0	A
I_{TSM}	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak,Non-Repetitive	30/33	A
I^2t	I^2t		4.5	A^2s
P_{GM}	Peak Gate Power Dissipation		1.5	W
$P_{G(AV)}$	Average Gate Power dissipation		0.1	W
I_{GM}	Peak Gate Current		1.0	A
V_{GM}	Peak Gate Voltage		7.0	V
T_J	Operating Junction Temperature		-40~125	℃
T_{STG}	Storage Temperature		-40~150	℃

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\Theta JC}$	Thermal Resistance Junction to case(DC)	2.6	℃/W
$R_{\Theta JA}$	Thermal resistance Junction to Ambient(DC)	100	℃/W

Electrical Characteristics(Tc=25℃ unless otherwise noted)

Symbol	Items		conditions	Ratin			Unit
				Min	Typ	Max	
I_{DRM}	Repetitive Peak Off-State Current		$V_D=V_{DRM}$,Single Phase, Half Wave T_J=125℃	-	-	1.0	mA
V_{TM}	Peak On-State Voltage		I_T=6A,Inst.Measurement	-	-	1.6	V
I^+_{GT1}	I	Gate Trigger Current	V_D=6V,R_L=10Ω	-	-	5	mA
I^-	II			-	-	5	
I^-	III			-	-	5	
I^+_{GT3}	IV			-	8	12	
V^+_{GT1}	I	Gate Trigger Voltage	V_D=6V,R_L=10Ω	-	-	1.4	V
V^-_{GT1}	II			-	-	1.4	
V^-_{GT3}	III			-	-	1.4	
V^+_{GT3}	IV			-	1.6	2.0	
V_{GD}	Non-Trigger Gate Voltage		T_J=125℃,V_D=1/2V_{DRM}	0.2	-	-	V
(dv/dt)c	Critical Rate of Rise Off-State Voltage at Commutation		T_J=125℃,[di/dt]c=-2.0A/ms, V_D=2/3V_{DRM}	5	-	-	V/μs
I_H	Holding Current			-	-	10	mA

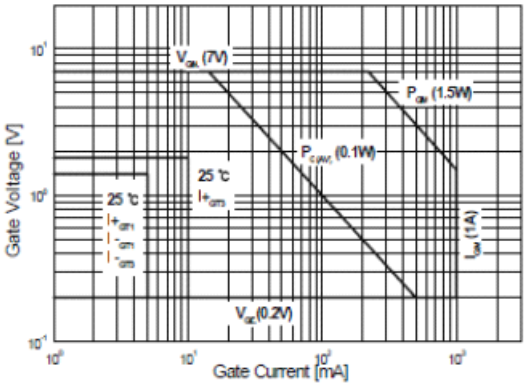


Fig1.Gate Characteristics

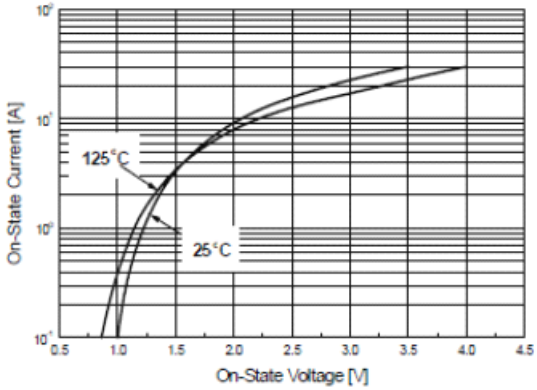


Fig.2 On-State Voltage

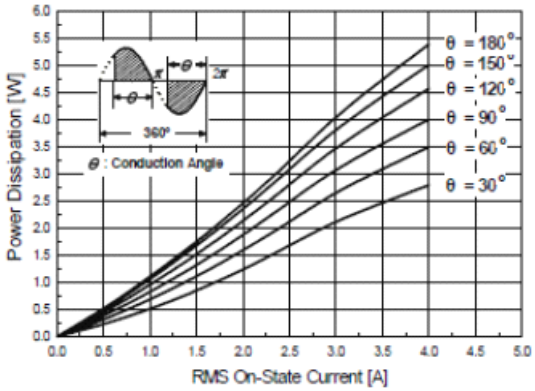


Fig.3 On State Current vs.Maximum Power Dissipation

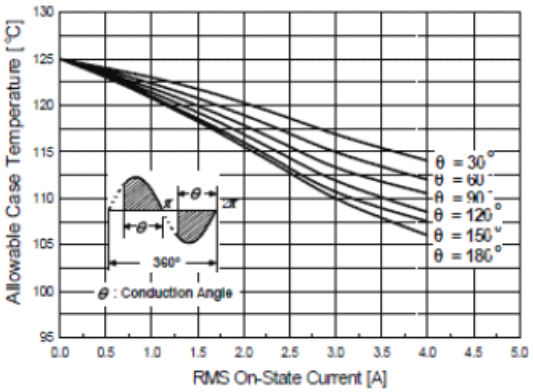


Fig.4 On State Current vs.Allowable Case Temperature

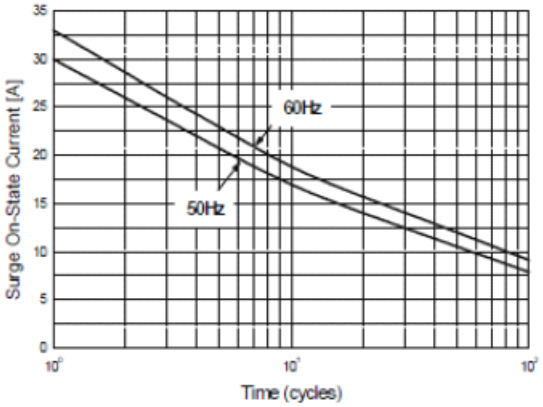


Fig.5 surge On-State Current Rating (Non-Repetitive)

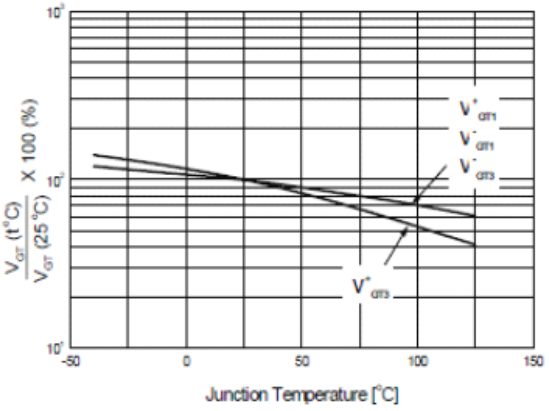


Fig.6 Gate Trigger Voltage vs. Junction Temperature

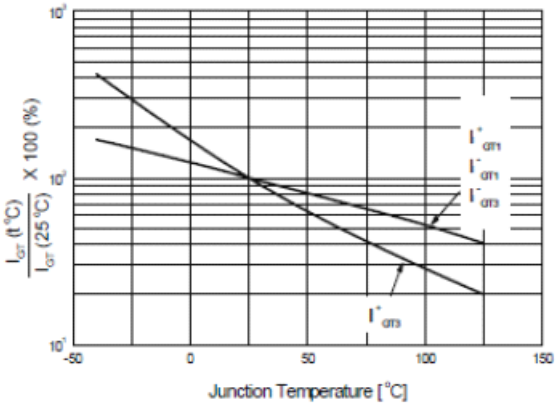


Fig.7 Gate Trigger Current vs. Junction Temperature

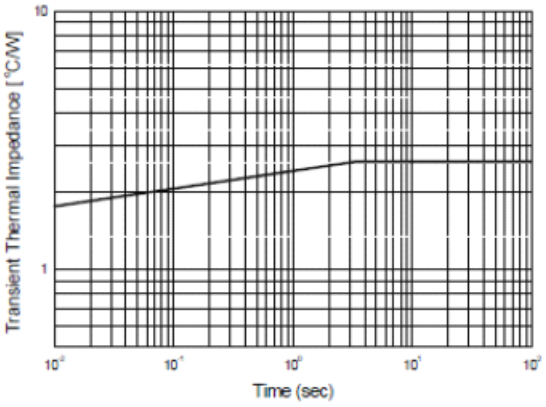


Fig.8 Transient Thermal Impedance

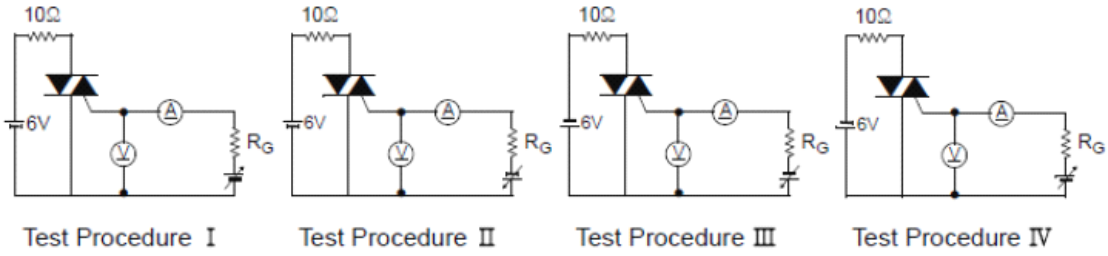


Fig.9 Gate Trigger Characteristics Test Circuit

TO-252 Package Dimension

Unit:mm