

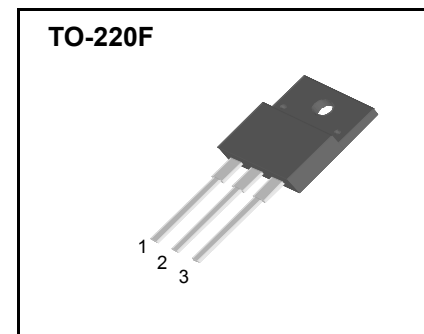
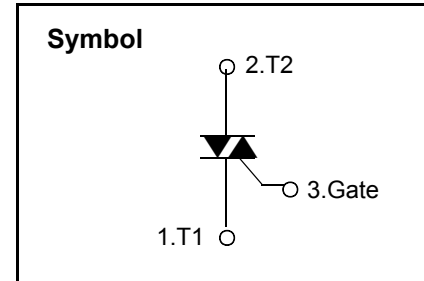
Standard Triac

Features

- ◆ Repetitive Peak Off-State Voltage : 600V
- ◆ R.M.S On-State Current ($I_{T(RMS)}$) = 4 A)

General Description

This device is 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 ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Condition	Ratings	Units
V_{DRM}	Repetitive Peak Off-State Voltage	Since wave, 50 to 60Hz	600	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_j = 125^\circ\text{C}$, Full Sine wave	4.0	A
I_{TSM}	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	25/27	A
I^2_t	I^2_t	$t_p = 10\text{ms}$	3.1	A^2s
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125^\circ\text{C}$	0.5	W
I_{GM}	Peak Gate Current	$T_j = 125^\circ\text{C}$	2	A
T_j	Operating Junction Temperature		- 40 ~ 125	$^\circ\text{C}$
T_{STG}	Storage Temperature		- 40 ~ 150	$^\circ\text{C}$

- ◆ 당사는 어셈블리 테스트 과정에서 $V_{DRM}=600\text{V}, 800\text{V}$ 두 종류로 분류하여 마킹하는 바 사용자는 TF4A60(600V), TF4A80(800V) 두 가지 다 승인해 주십시오.



Electrical Characteristics (T_j=25 °C unless otherwise specified)

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 °C	---	---	1.0	mA
V _{TM}	Peak On-State Voltage		I _{TM} = 5.5A, t _p =380μs	--	--	1.55	V
I ⁺ _{GT1}	I	Gate Trigger Current	V _D = 12V, R _L =30 Ω	—	—	10	mA
I ⁻ _{GT1}	II			—	-	10	
I ⁻ _{GT3}	III			—	-	10	
I ⁺ _{GT4}	⊖			!!!	!!	25	
V ⁺ _{GT1}	I	Gate Trigger Voltage	V _D = 12 V, R _L =30 Ω	---	---	1.5	V
V ⁻ _{GT1}	II			---	---	1.5	
V ⁻ _{GT3}	III			—	—	1.5	
V ⁺ _{GT4}	IV			---	---	1.5	
V _{GD}	Non-Trigger Gate Voltage		T _j = 125 °C, V _D =V _{DRM} R _L =3.3kΩ	0.2	---	—	V
dv/dt	Critical Rate of Rise Off-State Voltage		T _j = 125 °C, V _D =2/3 V _{DRM}	50	—	—	V/μs
I _H	Holding Current		I _T =0.2A	---	---	15	mA



Fig 1. Gate Characteristics

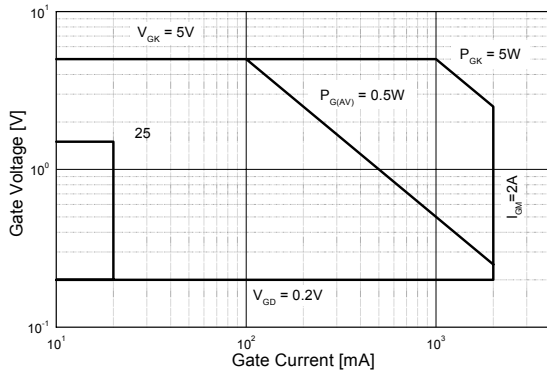


Fig 2. On-State Voltage

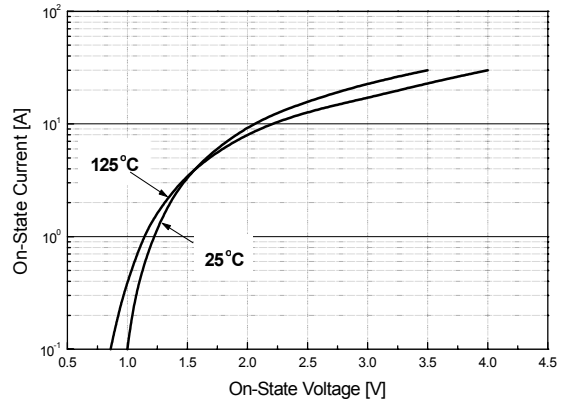


Fig 3. On State Current vs. Maximum Power Dissipation

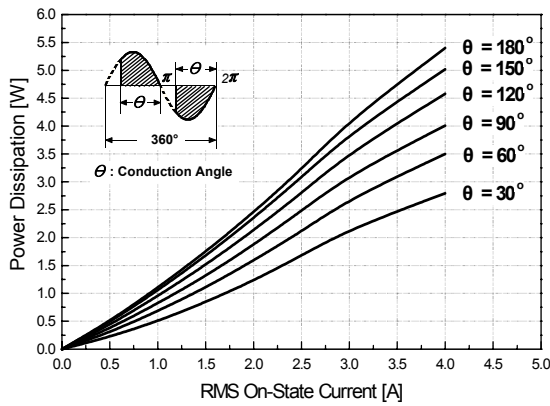


Fig 4. On State Current vs. Allowable Case Temperature

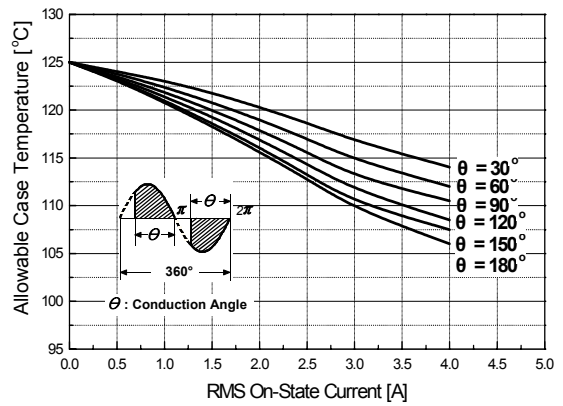


Fig 5. Surge On-State Current Rating (Non-Repetitive)

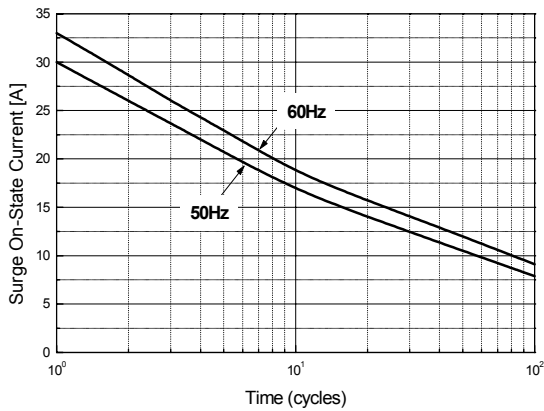


Fig 6. Gate Trigger Voltage vs. Junction Temperature

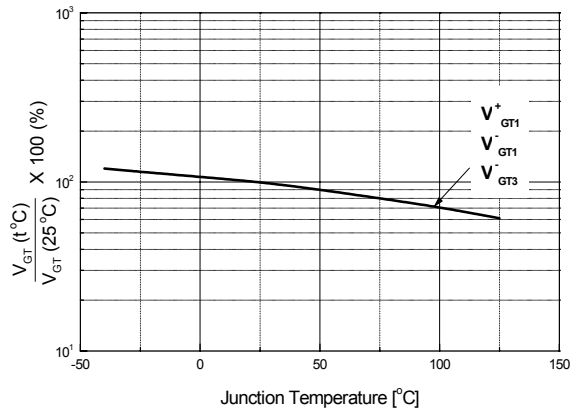




Fig 7. Gate Trigger Current vs. Junction Temperature

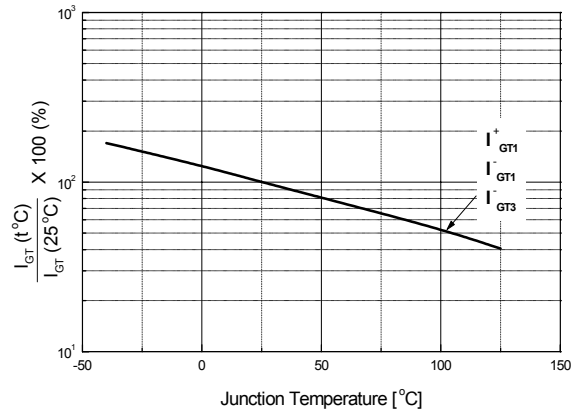


Fig 8. Transient Thermal Impedance

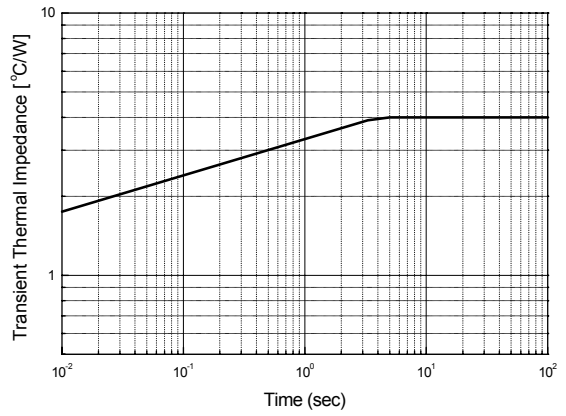
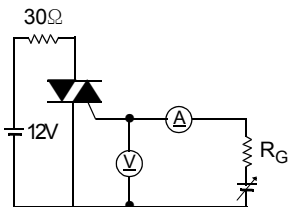
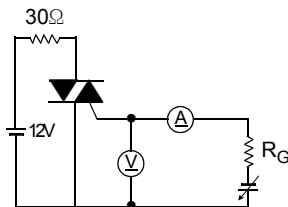


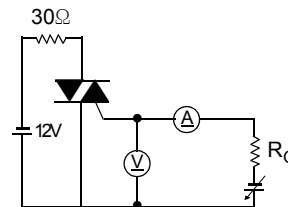
Fig 9. Gate Trigger Characteristics Test Circuit



Test Procedure I



Test Procedure II



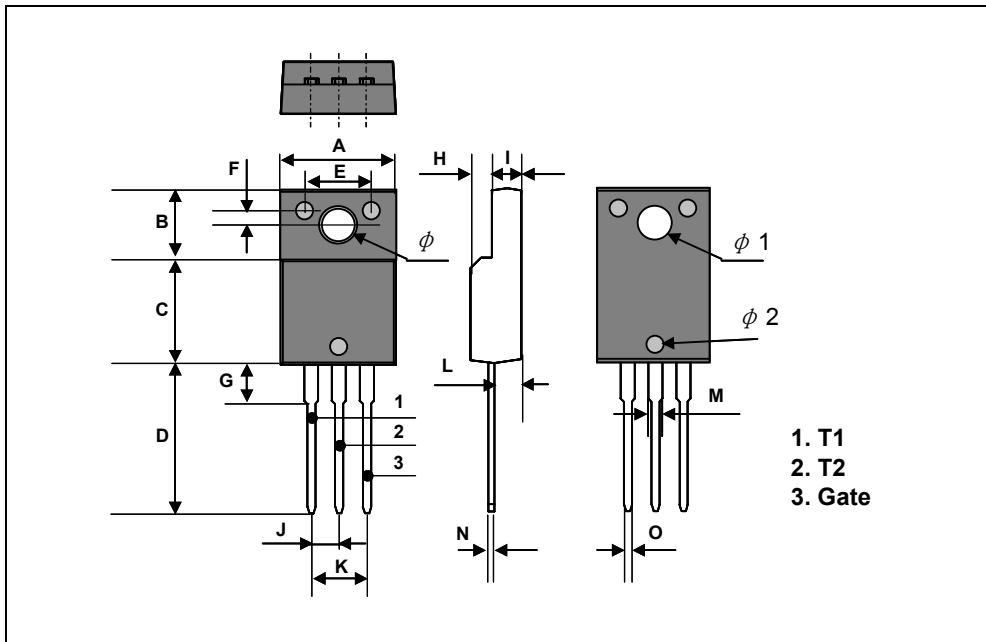
Test Procedure III



TF4A60

TO-220F Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	10.4		10.6	0.409		0.417
B	6.18		6.44	0.243		0.254
C	9.55		9.81	0.376		0.386
D	13.47		13.73	0.530		0.540
E	6.05		6.15	0.238		0.242
F	1.26		1.36	0.050		0.054
G	3.17		3.43	0.125		0.135
H	1.87		2.13	0.074		0.084
I	2.57		2.83	0.101		0.111
J		2.54			0.100	
K		5.08			0.200	
L	2.51		2.62	0.099		0.103
M	1.23		1.36	0.048		0.054
N	0.45		0.63	0.018		0.025
O	0.6		1.0	0.023		0.039
ϕ		3.7			0.146	
$\phi 1$		3.2			0.126	
$\phi 2$		1.5			0.059	





TO-220F Package Dimension, Forming

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	10.4		10.6	0.409		0.417
B	6.18		6.44	0.243		0.254
C	9.55		9.81	0.376		0.386
D	8.4		8.66	0.331		0.341
E	6.05		6.15	0.238		0.242
F	1.26		1.36	0.050		0.054
G	3.17		3.43	0.125		0.135
H	1.87		2.13	0.074		0.084
I	2.57		2.83	0.101		0.111
J		2.54			0.100	
K		5.08			0.200	
L	2.51		2.62	0.099		0.103
M	1.23		1.36	0.048		0.054
N	0.45		0.63	0.018		0.025
O	0.65		0.78	0.0025		0.031
P		5.0			0.197	
ϕ		3.7			0.146	
$\phi 1$		3.2			0.126	
$\phi 2$		1.5			0.059	

