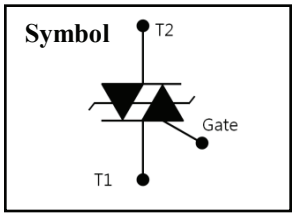
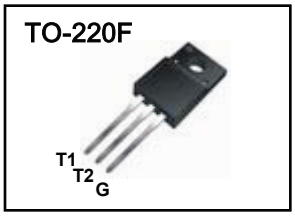
SemiHow
Know-How for Semiconductor

HTS6A80AS
6A TRIAC

V_{DRM} = 800 V
$I_{T(RMS)}$ = 6 A
I_{TSM} = 63 A
I_{GT} = 35 mA





FEATURES

- Repetitive Peak Off-State Voltage : 800V
- R.M.S On–State Current ($I_{T(RMS)}$ = 6A)
- Gate Trigger Current : 35mA
- dV/dt ≥ 1200V/us

General Description

Especially designed to operate in high power density or universal motor applications such as vacuum cleaner and washing machine drum motor, these 6A triacs provide a very high switching capability up to junction temperatures of 150℃.
The heat sink can be reduced, compared to traditional triacs, according to the high performance at given junction temperatures.

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

Symbol	Parameter	Conditions	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage	Sine wave, 50/60Hz, Gate open	800	V
V_{RRM}	Repetitive Peak Reverse Voltage		800	V
V_{DSM}	Non-Repetitive Surge Peak Off-State Voltage		900	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage		900	V
$I_{T(RMS)}$	R.M.S. On-State Current	½ cycle, T_C = 95°C	6	A
I_{TSM}	Non-Repetitive Surge Peak On-State Current	½ cycle, 50Hz/60Hz	60/63	A
I^2t	Fusing Current	t = 10ms	32	A^2S
P_{GM}	Forward Peak Gate Power Dissipation	T_J = 150 °C	5	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	T_J = 150 °C	0.5	W
I_{GM}	Peak Gate Current	tp=20us, T_J = 150 °C	2	A
T_J	Operating Junction Temperature		-40~+150	°C
T_{STG}	Storage Temperature		-40~+150	°C

Electrical Characteristics (T_J=25℃ unless otherwise specified)

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
I_{DRM}	Repetitive Peak Off-State Current	$V_D = V_{DRM}$	T_J=25°C	-	-	10	uA
			T_J=150°C	-	-	3	mA
I_{RRM}	Repetitive Peak Reverse Current	$V_R = V_{RRM}$	T_J=25°C	-	-	10	uA
			T_J=150°C	-	-	3	mA
I_{GT}	Gate Trigger Current	V_D = 12V, R_L=33Ω	1+, 1-, 3-	-	-	35	mA
V_{GT}	Gate Trigger Voltage	V_D = 12V, R_L=33Ω	1+, 1-, 3-	-	-	1.3	V
V_{GD}	Non-Trigger Gate Voltage	V_D = 2/3V_{DRM}, R_L=3.3KΩ, T_J=150°C		0.2	-	-	V
I_L	Latching Current	I_G= 1.2I_{GT}	1+, 3-	-	-	50	mA
			1-	-	-	80	mA
I_H	Holding Current	I_T= 500mA		-	-	40	mA
V_{TM}	Peak On-State Voltage	I_T = 8.5A, tp = 380uS		-	-	1.5	V
dv/dt	Critical Rate of Rise of Off-State Voltage	V_D = 2/3 V_{DRM}, Gate open, T_J=150°C		1200	-	-	V/us

Thermal Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{\theta JC}$	Thermal Resistance	Junction to Case			3.9	°C/W

Typical Characteristics

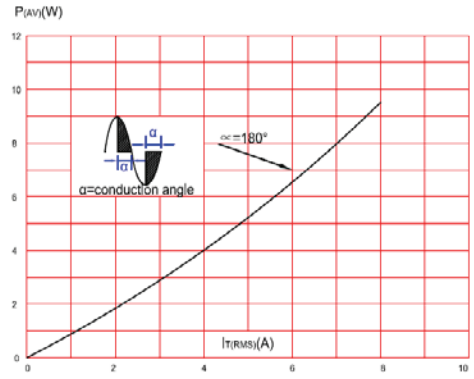


Fig 1. R.M.S. current vs. Power dissipation

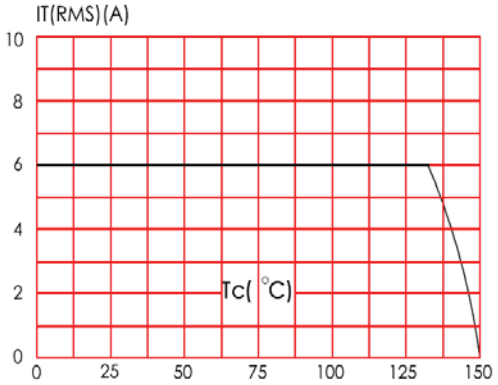


Fig 2. R.M.S. current vs. Case temperature

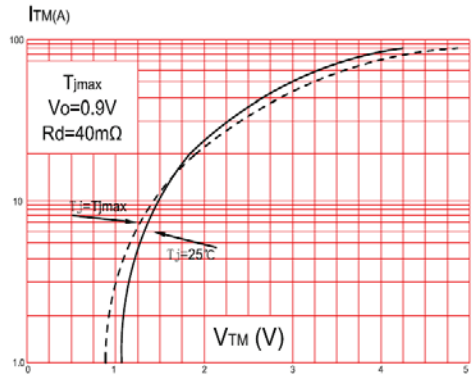


Fig 3. Surge on state characteristics

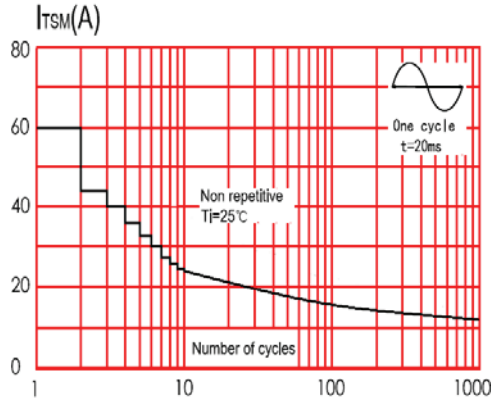


Fig 4. Surge on state current rating

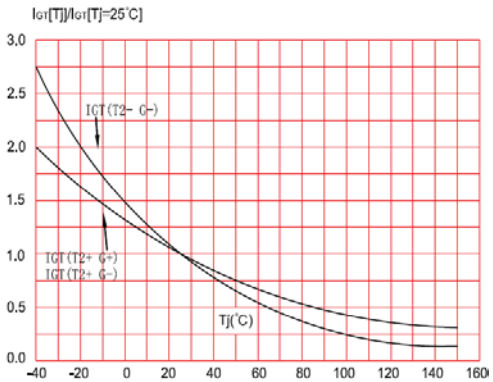


Fig 5. Gate trigger current vs. junction temperature

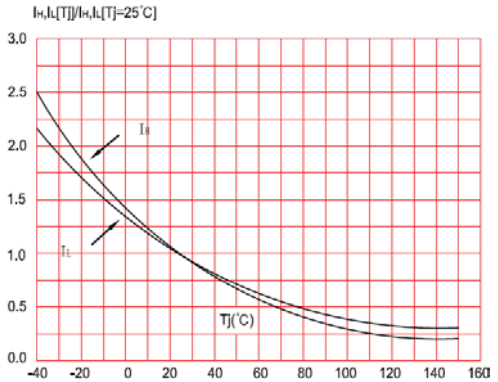


Fig 6. Holding and latching current vs. junction temperature

Package Dimension

TO-220F