

HTS10A80AS

3 Quadrants 10A TRIAC

FEATURES

- ❑ Repetitive Peak Off-State Voltage : 1000V
- ❑ R.M.S On-State Current ($I_{T(RMS)} = 10A$)
- ❑ Gate Trigger Current : 35mA
- ❑ $dV/dt \geq 1500V/us$

General Description

The HTS10A80AS suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits or for phase control operation in light dimmers, motor speed controllers. The snubberless versions are specially recommended for use on inductive loads, thanks to their high commutation performances.

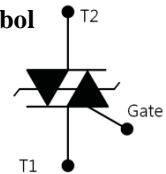
$$V_{DRM} = 1000 \text{ V}$$

$$I_{T(RMS)} = 10 \text{ A}$$

$$I_{TSM} = 105 \text{ A}$$

$$I_{GT} = 35 \text{ mA}$$

Symbol



TO-220F



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

Symbol	Parameter	Conditions	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage	Sine wave, 50/60Hz, Gate open	1000	V
V_{RRM}	Repetitive Peak Reverse Voltage		1000	V
V_{DSM}	Non-Repetitive Surge Peak Off-State Voltage		1100	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage		1100	V
$I_{T(RMS)}$	R.M.S. On-State Current	$\frac{1}{2}$ cycle, $T_C = 84^\circ\text{C}$	10	A
I_{TSM}	Non-Repetitive Surge Peak On-State Current	$\frac{1}{2}$ cycle, 50Hz/60Hz	100/105	A
I^2t	Fusing Current	$t = 10\text{ms}$	55	A^2S
P_{GM}	Forward Peak Gate Power Dissipation	$T_J = 125^\circ\text{C}$	16	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	$T_J = 125^\circ\text{C}$	0.1	W
I_{GM}	Peak Gate Current	$t_p=20\mu\text{s}$, $T_J = 125^\circ\text{C}$	2	A
T_J	Operating Junction Temperature		-40~+125	$^\circ\text{C}$
T_{STG}	Storage Temperature		-40~+150	$^\circ\text{C}$

Electrical Characteristics ($T_J=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit	
I_{DRM}	Repetitive Peak Off-State Current	$V_D = V_{\text{DRM}}$	$T_J=25^\circ\text{C}$	-	-	10	μA
			$T_J=125^\circ\text{C}$	-	-	1.5	mA
I_{RRM}	Repetitive Peak Reverse Current	$V_R = V_{\text{RRM}}$	$T_J=25^\circ\text{C}$	-	-	10	μA
			$T_J=125^\circ\text{C}$	-	-	1.5	mA
I_{GT}	Gate Trigger Current	$V_D = 12\text{V}, R_L=33\Omega$	1+	-	-	20	mA
			1-, 3-	-	-	35	mA
V_{GT}	Gate Trigger Voltage	$V_D = 12\text{V}, R_L=33\Omega$	1+, 1-, 3-	-	-	1.4	V
V_{GD}	Non-Trigger Gate Voltage	$V_D = 2/3 V_{\text{DRM}}, R_L=3.3\text{K}\Omega,$ $T_J=125^\circ\text{C}$	0.2	-	-	V	
I_L	Latching Current	$I_G = 1.2 I_{\text{GT}}$	1+, 3-	-	-	70	mA
			1-	-	-	80	mA
I_H	Holding Current	$I_T = 100\text{mA}$	-	-	50	mA	
V_{TM}	Peak On-State Voltage	$I_T = 14\text{A}, t_p = 380\mu\text{s}$	-	-	1.55	V	
dv/dt	Critical Rate of Rise of Off-State Voltage	$V_D = 2/3 V_{\text{DRM}},$ Gate open, $T_J=125^\circ\text{C}$	1500	-	-	V/us	

Thermal Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{\theta\text{JC}}$	Thermal Resistance	Junction to Case			3.5	$^\circ\text{C/W}$

Typical Characteristics

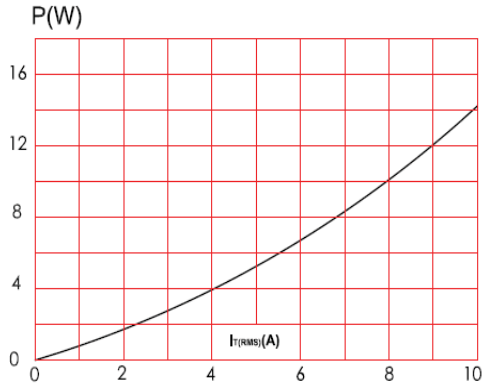


Fig 1. R.M.S. current vs. Power dissipation

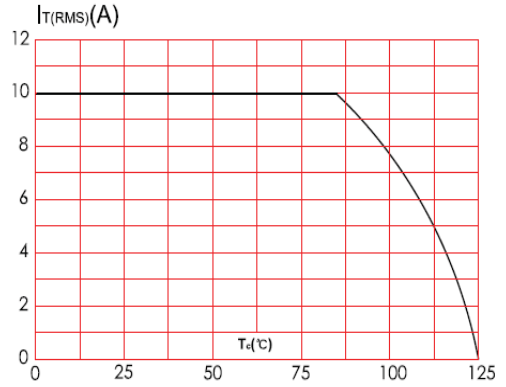


Fig 2. R.M.S. current vs. Case temperature

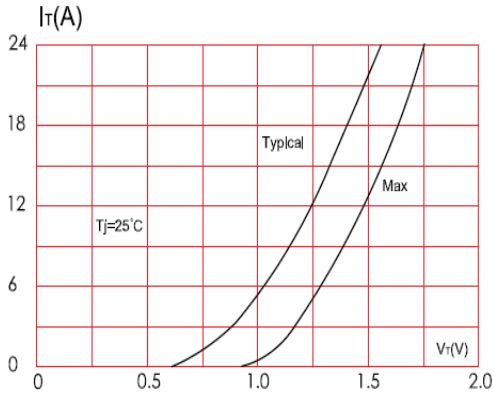


Fig 3. Surge on state characteristics

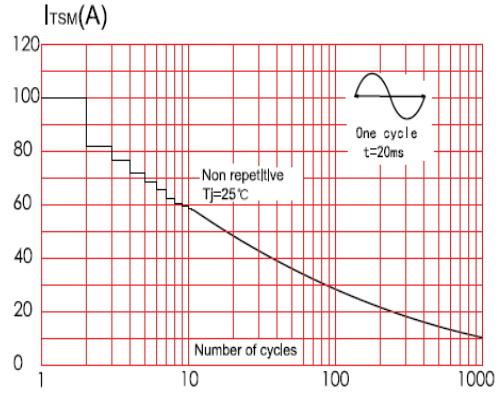


Fig 4. Surge on state current rating

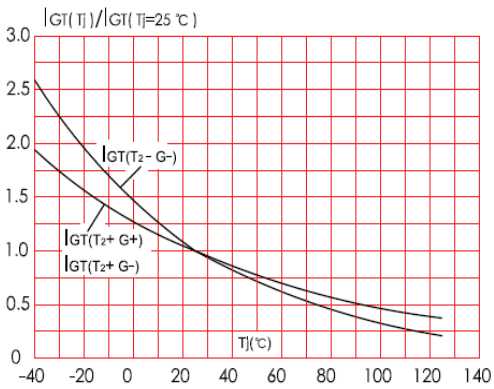


Fig 5. Gate trigger current vs. junction temperature

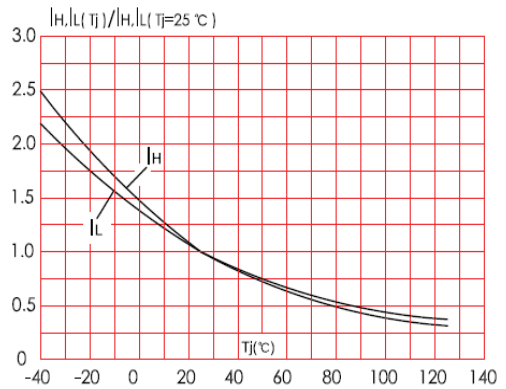


Fig 6. Holding and latching current vs. junction temperature

Package Dimension

TO-220F

