

# HTD2A80AS

## 3 Quadrants 2A TRIAC

### FEATURES

- Repetitive Peak Off-State Voltage : 1000V
- R.M.S On-State Current ( $I_{T(RMS)} = 2A$ )
- Gate Trigger Current : 10mA
- $dV/dt \geq 500V/us$
- High Voltage Blocking Capability

### General Description

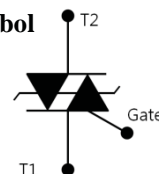
Intended for use in AC static switching and industrial control systems, driving low power highly inductive load like solenoid, pump, fan ad micro-motor.

$$V_{DRM} = 1000 V$$

$$I_{T(RMS)} = 2 A$$

$$I_{TSM} = 17 A$$

$$I_{GT} = 10mA$$

**Symbol**

**D-PAK**

**1. T1 2. T2 3. G**

### Absolute Maximum Ratings ( $T_J=25^{\circ}C$ 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	Full sine wave, $T_C = 95^{\circ}C$	2	A
$I_{TSM}$	Non-Repetitive Surge Peak On-State Current	Full sine wave, 50Hz/60Hz	16/17	A
$I^2t$	Fusing Current	$t = 10ms$	1.28	A <sup>2</sup> S
$P_{GM}$	Forward Peak Gate Power Dissipation	$T_J = 80^{\circ}C$	1	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	$T_J = 80^{\circ}C$	0.2	W
$I_{GM}$	Peak Gate Current	$tp \leq 2us, T_J = 80^{\circ}C$	1	A
$T_J$	Operating Junction Temperature		-40~+125	$^{\circ}C$
$T_{STG}$	Storage Temperature		-40~+150	$^{\circ}C$

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit	
$I_{\text{DRM}}$	Repetitive Peak Off-State Current	$V_D = V_{\text{DRM}}$	$T_J=25^\circ\text{C}$	-	-	10	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	-	500	$\mu\text{A}$
$I_{\text{RRM}}$	Repetitive Peak Reverse Current	$V_R = V_{\text{RRM}}$	$T_J=25^\circ\text{C}$	-	-	10	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	-	500	$\mu\text{A}$
$I_{\text{GT}}$	Gate Trigger Current	$V_D = 12\text{V}, R_L=30\Omega$	1+	-	-	6	mA
			1-, 3-	-	-	10	mA
$V_{\text{GT}}$	Gate Trigger Voltage	$V_D = 12\text{V}, R_L=30\Omega$	1+, 1-, 3-	-	-	1.5	V
$V_{\text{GD}}$	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-	-	-	15	mA
			1-	-	-	25	mA
$I_H$	Holding Current	$I_T = 100\text{mA}$	-	-	10	mA	
$V_{\text{TM}}$	Peak On-State Voltage	$I_T = 2\text{A}, t_p = 380\mu\text{s}$	-	-	1.6	V	
dv/dt	Critical Rate of Rise of Off-State Voltage	$V_D = 2/3 V_{\text{DRM}},$ Gate open, $T_J=125^\circ\text{C}$	500	-	-	V/us	

## Thermal Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{\theta\text{JC}}$	Thermal Resistance	Junction to Case			4.5	$^\circ\text{C/W}$

# Typical Characteristics

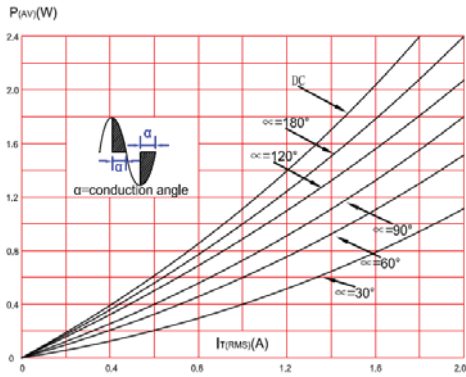


Fig 1. R.M.S. current vs. Power dissipation

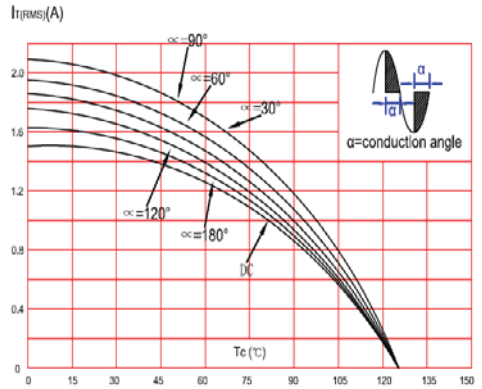


Fig 2. R.M.S. current vs. Case temperature

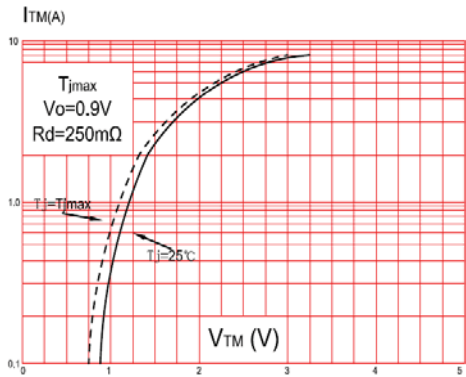


Fig 3. Surge on state characteristics

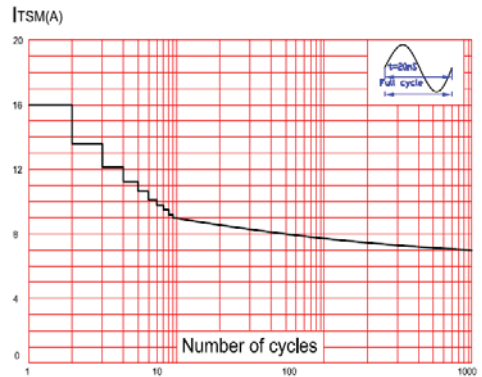


Fig 4. Surge on state current rating

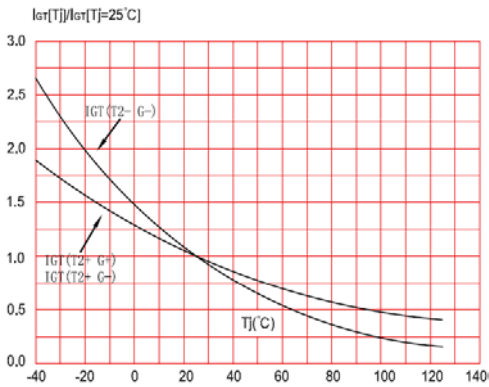


Fig 5. Gate trigger current vs. junction temperature

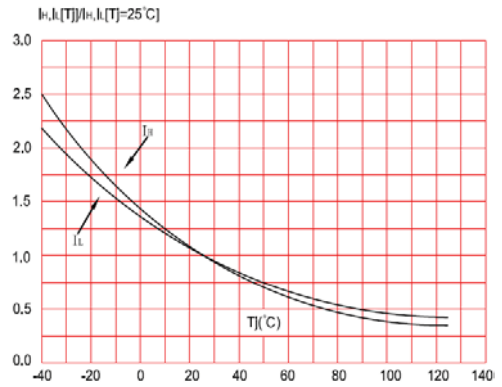
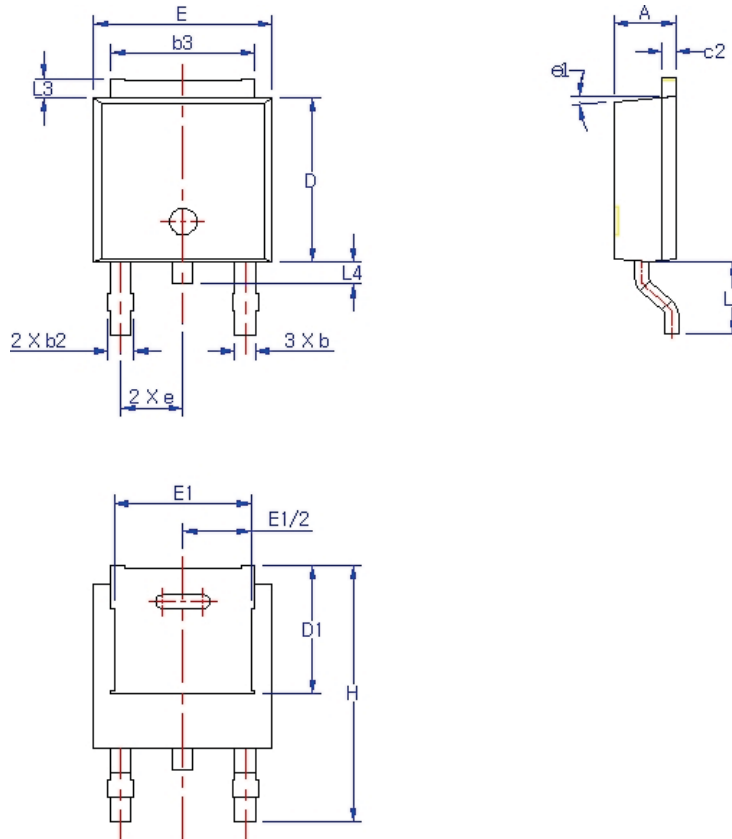


Fig 6. Holding and latching current vs. junction temperature

## Package Dimension

## TO-252



SYMBOL	MIN	NOM	MAX
A	2.20	2.30	2.40
A1 (▼)	0.00	-	0.127
b	0.66	0.76	0.86
b2	-	-	0.96
b3	5.04	5.34	5.64
c2	0.40	0.50	0.60
D	5.90	6.10	6.30
D1	(4.75)		
E	6.40	6.60	6.80
E1	(5.04)		
e	2.30 BSC		
H	9.20	9.50	9.80
L	1.27	1.47	1.67
L1	2.50	2.70	2.90
L2	0.508 BSC		
L3	0.50	0.70	0.90
L4	0.60	0.80	1.00
e	0°	-	10°
e1	(5°)		