

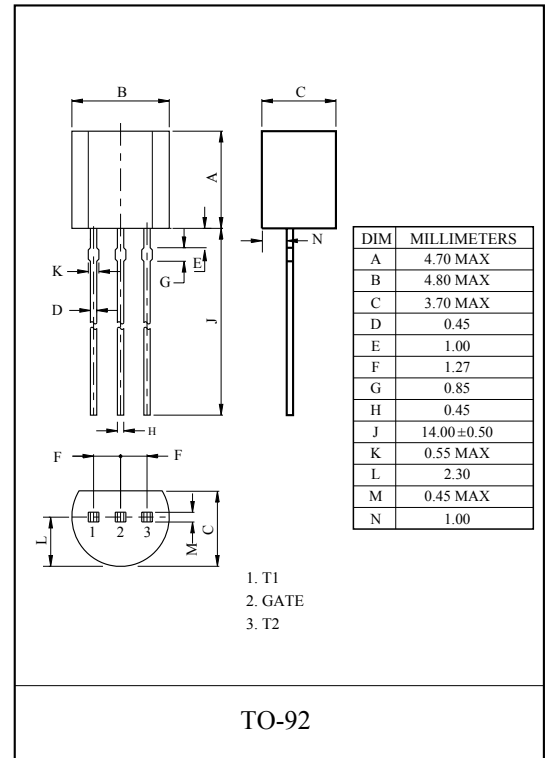
### AC POWER CONTROL APPLICATION.

### FEATURES

- Repetitive Peak Off-state Voltage :  $V_{DRM}=600V$ .
- R.M.S on-State Current :  $I_{T(RMS)}=1A$ .
- High Commutation (dv/dt)

### APPLICATIONS

- Switching Mode Power Supply
- Speed Control of Small Motors
- Solid State Relay
- Light Dimmer
- Washing Machine
- Temperature Control of Heater



### MAXIMUM RATINGS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Non-Repetitive Peak Off-state Voltage	$V_{DSM}$	700	V
Repetitive Peak Off-state Voltage	$V_{DRM}$	600	V
R.M.S On-state Current (Full Sine Waveform Tc=56 °C)	$I_{T(RMS)}$	1	A
Peak One Cycle Surge On-state Current (Non-Repetitive)	$I_{TSM}$	9 (50Hz 1 Cycle) 10 (60Hz 1 Cycle)	A
Pt Limit Value (1mS ≤ t ≤ 10mS)	Pt	0.4	A°S
Peak Gate Power Dissipation	$P_{GM}$	1	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.1	W
Peak Gate Voltage	$V_{GM}$	6	V
Peak Gate Current	$I_{GM}$	0.5	A
Junction Temperature	$T_j$	-40 ~ 125	°C

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## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Repetitive Peak Off-state Current		$I_{DRM}$	$V_{DRM}=\text{Rated}$	-	-	10	$\mu\text{A}$	
Gate Trigger Voltage	I	$V_{GT}$	$V_D=12\text{V},$ $R_L=20\ \Omega$	$T_2(+), \text{Gate}(+)$	-	-	2.0	V
	II			$T_2(+), \text{Gate}(-)$	-	-	2.0	
	III			$T_2(-), \text{Gate}(-)$	-	-	2.0	
	IV			$T_2(-), \text{Gate}(+)$	-	-	2.0	
Gate Trigger Current	I	$I_{GT}$	$V_D=12\text{V},$ $R_L=20\ \Omega$	$T_2(+), \text{Gate}(+)$	-	-	5.0	mA
	II			$T_2(+), \text{Gate}(-)$	-	-	5.0	
	III			$T_2(-), \text{Gate}(-)$	-	-	5.0	
	IV			$T_2(-), \text{Gate}(+)$	-	-	10	
Peak On-State Voltage		$V_{TM}$	$I_{TM}=1.5\text{A}$	-	-	1.6	V	
Gate Non-Trigger Voltage		$V_{GD}$	$V_D=\text{Rated}, T_c=125^\circ\text{C}$	0.2	-	-	V	
Holding Current		$I_H$	$V_D=12\text{V}, I_{TM}=1\text{A}$	-	-	10	mA	
Critical Rate of Rise of Off-state Voltage at Commutation		$(d_v/d_t)C$	$T_j=125^\circ\text{C},$ $(d_i/d_t)C=-0.5\text{A/mS}, V_D=2/3V_{DRM}$	2.0	-	-	$\text{V}/\mu\text{S}$	
Thermal Resistance		$R_{th(j-c)}$	Junction to Case, AC	-	-	40	$^\circ\text{C}/\text{W}$	
		$R_{th(j-a)}$	Junction to Ambient, AC	-	-	180		

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