

# DT6T10I-BH

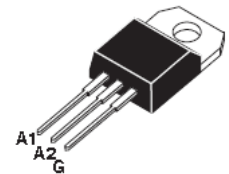
## DT6T10I-BH TRIAC SILICON BIDIRECTIONAL THYRISTORS

### General description

This product TRIAC is a package for third quadrant used in ITO-220, DT6T10I-BH is a high commutation performance without snubber circuit. It can be controlled by phase angle trigger or on/off trigger.

### FEATURES

- Passivated die for reliability and uniformity
- Three-quadrant triggering, Over 800V  $V_{DRM}/V_{RRM}$
- 150 Degree C operation temperature.
- Without snubber circuit.
- “Green” molding compound,  
UL flammability classification 94V-0, (No Br. Sb. Cl)
- Lead free in RoHS II 2015/863/EU compliant
- Moisture sensitivity meets industry standard IPC/JEDEC J-STD-020



### APPLICATIONS

- General purpose AC switch control
- Control loads in Motor, Fan, and Pump.
- Solenoid drivers
- LED Dimming
- Inrush current limiting circuits

#### PIN ASSIGNMENT

	PIN ASSIGNMENT
1	Main Terminal 1 ( A1 )
2	Main Terminal 2 ( A2 )
3	Gate

## DT6T10I-BH ELECTRICAL CHARACTERISTICS (T<sub>j</sub> = 25°C, unless otherwise specified.)

### Absolute Ratings

PARAMETER	SYMBOL	VALUE	UNIT
Peak repetitive off-state voltage ( T <sub>j</sub> = -40 to 150°C, Full sine wave, 50 to 60 Hz; Gate open) (Note 1)	$V_{DRM}$ $V_{RRM}$	800	V
On-stage RMS current (Full sine wave, T <sub>c</sub> = 100°C )	$I_{T(RMS)}$	6	A
Peak non-repetitive surge current ( one full cycle 60 Hz, T <sub>j</sub> = 25°C)	$I_{TSM}$	55	A
Circuit fusing consideration ( t = 8.3ms)	$I^2T$	12	A <sup>2</sup> S
Operating junction temperature range	T <sub>j</sub>	-40 to +150	°C
Storage temperature range	T <sub>STG</sub>	-40 to +150	°C

#### Note :

- (1)  $V_{DRM}$  and  $V_{RRM}$  for all types can be applied on a continuous basis.  
Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

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# DT6T10I-BH

CHARACTERISTIC & CURVES ( $T_j = 25^\circ\text{C}$ , unless otherwise specified.)



## Thermal Characteristics

PARAMETER	SYMBOL	VALUE		UNIT
Thermal resistance from junction to case, without heatsink, (1)	$R_{th(j-c)}$	Max	7.3	$^\circ\text{C/W}$
Junction to Lead, without heatsink, (1)	$R_{th(j-L)}$	Typ	6.5	
Maximum lead temperature for soldering purposes (1/8" form case for 10 seconds)	$T_L$	Max	260	$^\circ\text{C}$

Note1: unidirectional, continuous & full cycle.

## Static Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Threshold Voltage ( $T_j = 150^\circ\text{C}$ )	$V_{to}$	--	--	0.96	V
Dynamic resistors ( $T_j = 150^\circ\text{C}$ )	$R_d$	--	--	90	$\text{m}\Omega$
Peak repetitive forward or reverse blocking current ( $V_{AK} = V_{DRM}$ and $V_{RRM}$ , gate open)	$T_j = 25^\circ\text{C}$	--	--	5	$\mu\text{A}$
	$T_j = 125^\circ\text{C}$	--	--	700	$\mu\text{A}$
	$T_j = 150^\circ\text{C}$	--	--	1.9	mA

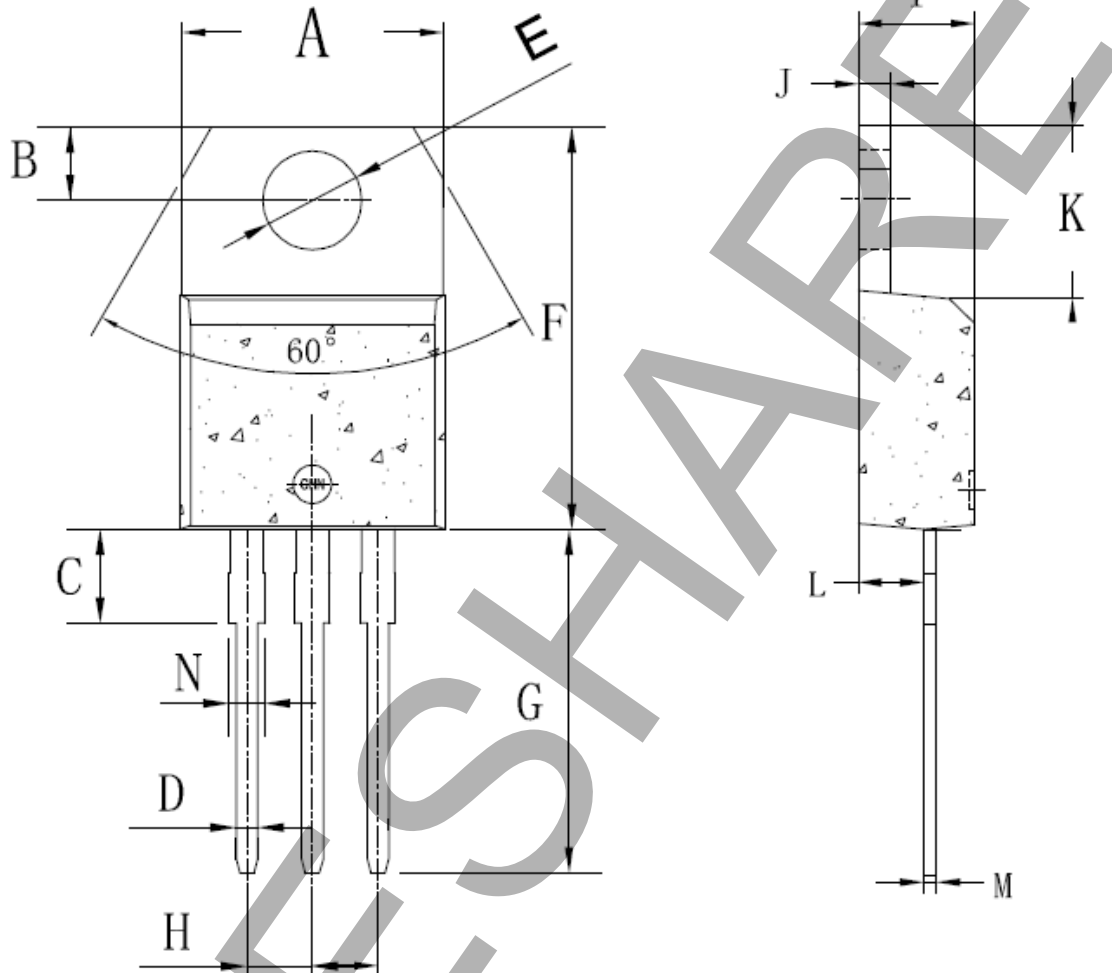
## ON Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Peak forward on-state voltage ( $I_{TM} = 6\text{ A @ } T_j = 25^\circ\text{C}$ )	$V_{TM}$	--	--	1.5	V
$V_D = V_{DRM}$ , $R_L = 100\Omega$ , $T_j = 150^\circ\text{C}$	$V_{GD}$	0.3	--	--	V
Gate trigger current ( $V_{AK} = 12\text{V}$ , $R_L = 100\Omega$ )	$I_{GT1}$	--	--	10	mA
	$I_{GT2}$	--	--	10	
	$I_{GT3}$	--	--	10	
Gate trigger voltage ( $V_{AK} = 12\text{V}$ , $R_L = 100\Omega$ )	$V_{GT1}$	--	--	1	V
	$V_{GT2}$	--	--		
	$V_{GT3}$	--	--		
Holding current ( $V_{AK} = 12\text{V}$ , $R_L = 100\Omega$ )	$I_{H1}$ $I_{H3}$	--	--	10	mA
Latching current ( $V_{AK} = 12\text{V}$ , $R_L = 100\Omega$ )	$I_{L1}$	--	--	30	mA
	$I_{L2}$	--	--	30	
	$I_{L3}$	--	--	30	

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## ITO-220 Plastic Package



DIM	Millimeters		DIM	Millimeters		DIM	Millimeters	
	Min	Max		Min	Max		Min	Max
A	9.8	10.4	E	3.75	3.95	I	4.38	4.61
B	2.65	3.1	F	14.8	16.1	J	1.15	1.36
C	2.8	4.2	G	13.05	13.6	K	5.85	6.82
D	0.7	0.92	H	2.4	2.7	L	2.35	2.75
M	0.35	0.65	N	1.18	1.42			

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