

DT6T10T-BH

DT6T10T-BH TRIAC SILICON BIDIRECTIONAL THYRISTORS

General description

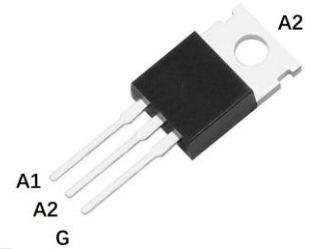
This product TRIAC is a package for third quadrant used in TO-220C, DT6T10T-BH is a high commutation performance without snubber circuit. It can be controlled by phase angle trigger or on/off trigger.

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

DT6T10T-BH ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$, unless otherwise specified.)

Absolute Ratings

PARAMETER	SYMBOL	VALUE	UNIT
Peak repetitive off-state voltage ($T_j = -40$ 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, $T_c = 100^\circ\text{C}$)	$I_{T(RMS)}$	6	A
Peak non-repetitive surge current (one full cycle 60 Hz, $T_j = 25^\circ\text{C}$)	I_{TSM}	55	A
Circuit fusing consideration ($t = 8.3\text{ms}$)	I^2T	12	A^2S
Operating junction temperature range	T_j	-40 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-40 to +150	$^\circ\text{C}$

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.

Version 0, NOV-2019

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CHARACTERISTIC & CURVES (T_j = 25°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	°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	°C

Note1: unidirectional, continuous & full cycle.

Static Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Threshold Voltage (T _j = 150°C)	V _{to}	--	--	0.96	V
Dynamic resistors (T _j = 150°C)	R _d	--	--	90	mΩ
Peak repetitive forward or reverse blocking current (V _{AK} = V _{DRM} and V _{RRM} , gate open)	T _j = 25°C	--	--	5	uA
	T _j = 125°C	--	--	700	uA
	T _j = 150°C	--	--	1.9	mA

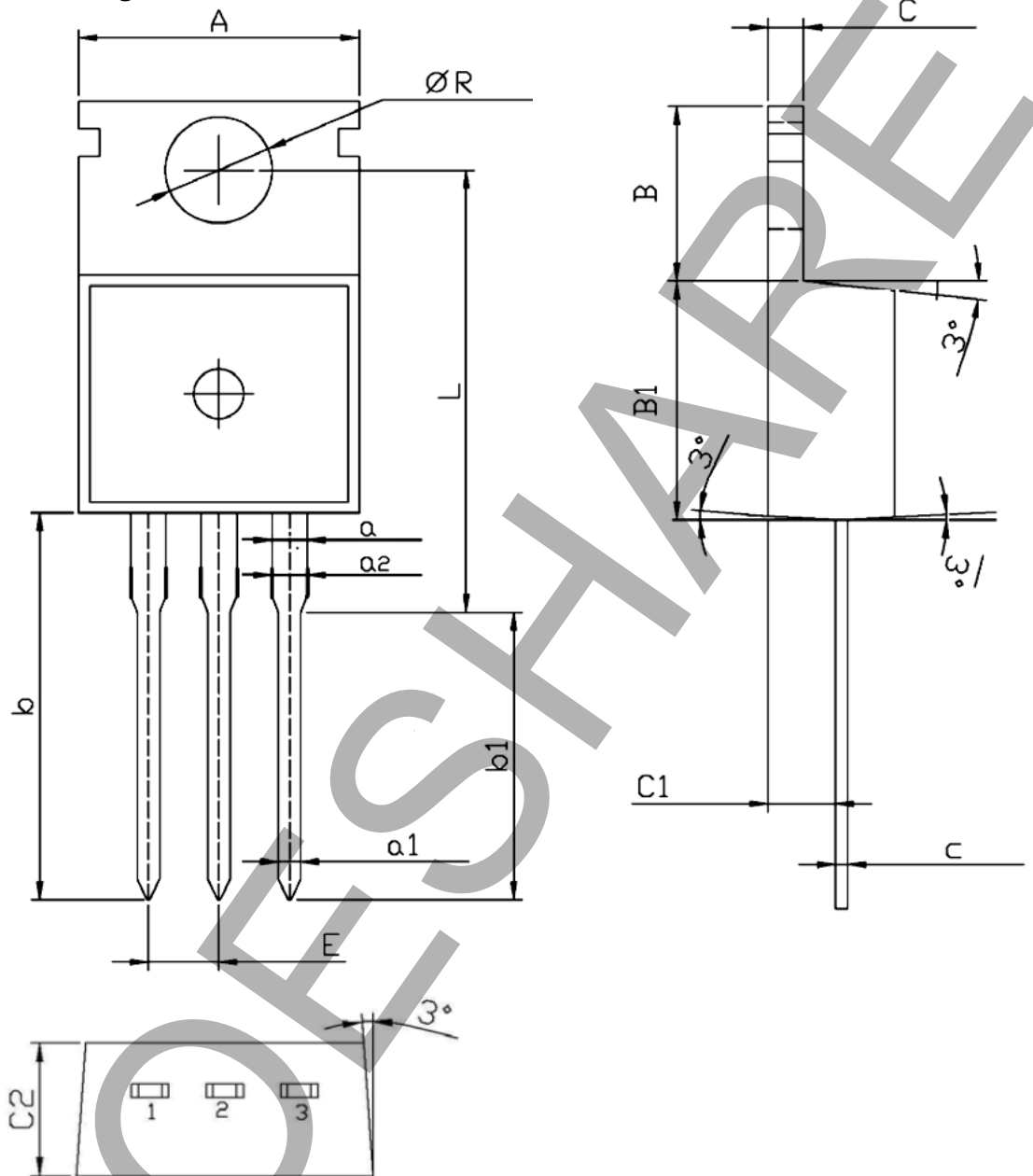
ON Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Peak forward on-state voltage (I _{TM} = 6 A @ T _j = 25°C)	V _{TM}	--	--	1.5	V
V _D = V _{DRM} , R _L = 100Ω, T _j = 150°C	V _{GD}	0.3	--	--	V
Gate trigger current (V _{AK} = 12V, R _L = 100Ω)	I _{GT1}	--	--	10	mA
	I _{GT2}	--	--	10	
	I _{GT3}	--	--	10	
Gate trigger voltage (V _{AK} = 12V, R _L = 100Ω)	V _{GT1}	--	--	1	V
	V _{GT2}	--	--		
	V _{GT3}	--	--		
Holding current (V _{AK} = 12V, R _L = 100Ω)	I _{H1} I _{H3}	--	--	10	mA
Latching current (V _{AK} = 12V, R _L = 100Ω)	I _{L1}	--	--	30	mA
	I _{L2}	--	--	30	
	I _{L3}	--	--	30	

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TO-220C Plastic Package



DIM	Millimeters		DIM	Millimeters		DIM	Millimeters	
	Min	Max		Min	Max		Min	Max
A	9.7	10.4	a	1.22	1.32	a2	1.18	1.45
B	6.13	6.82	a1	0.7	0.92	C2	4.3	4.71
C	1.2	1.42	b1	9.6	10.6	E	2.34	2.74
B1	9.0	9.4	c	0.38	0.65	R	3.55	3.78
b	12.6	13.6	C1	2.2	2.75	L	15.7	16.14

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