DT6T10T-BH

DT6T10T-BH TRIAC
SILICON BIDIRECTIONAL THYRISTORS

General description

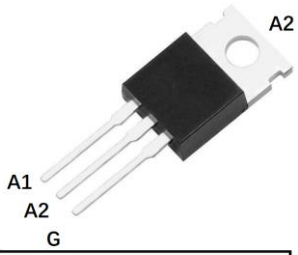
This product TRAIC is a package for third quadrant used in TO-220C, DT6T10T-BH is a high commutation performance without snubber circuit. It can be controlled by phase angle trigger or on/off trigger.

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 (Tj = 25°C, unless otherwise specified.)

Absolute Ratings

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

PARAMETER	SYMBOL	VALUE		UNIT
Thermal resistance from junction to case, without heatsink, (1)	Rth(j-c)	Max	7.3	°C/W
Junction to Lead, without heatsink, (1)	Rth(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.

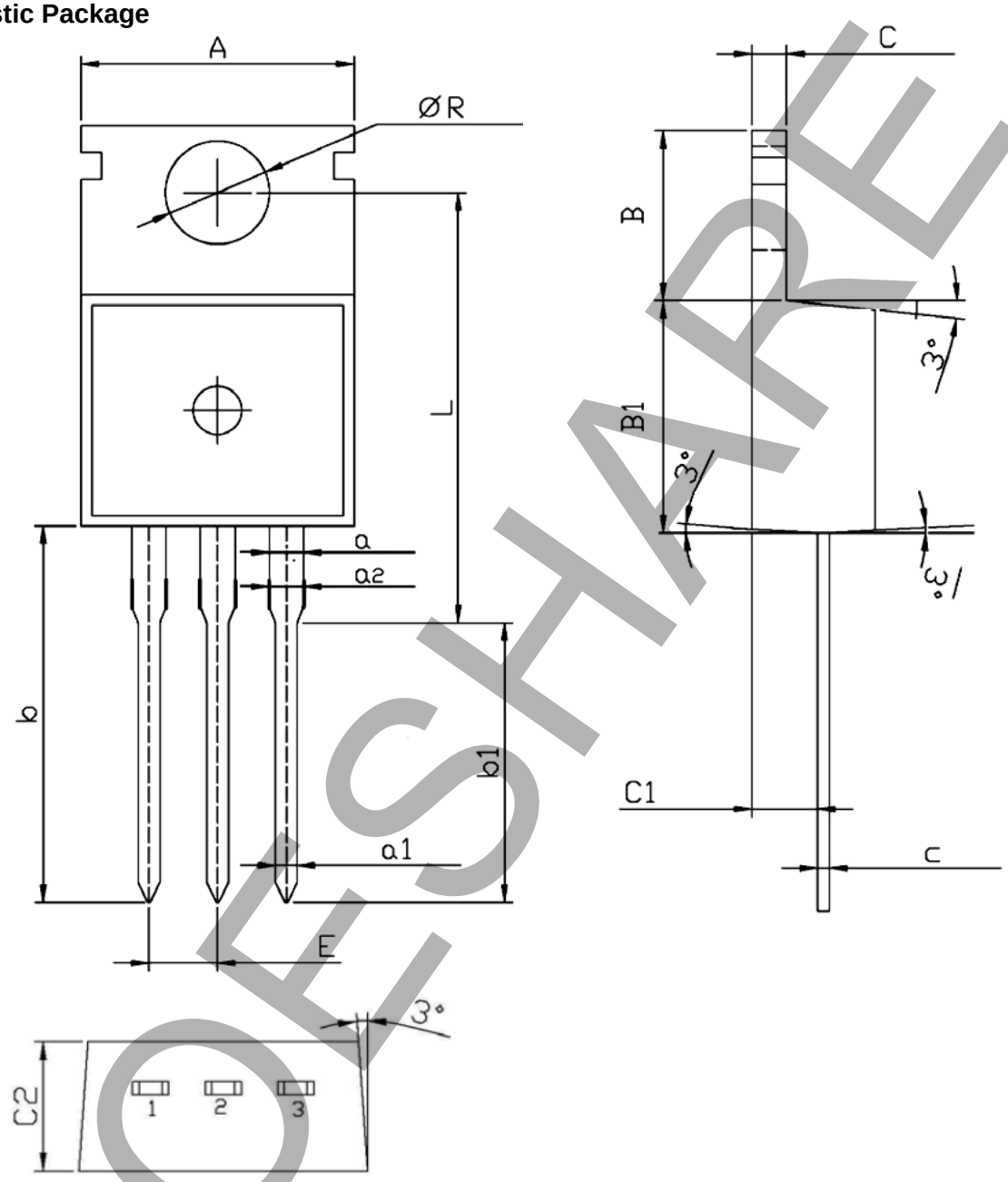
Static Characteristics

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

ON Characteristics

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

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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