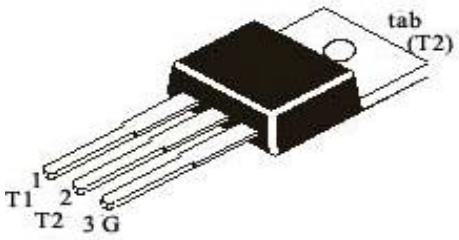
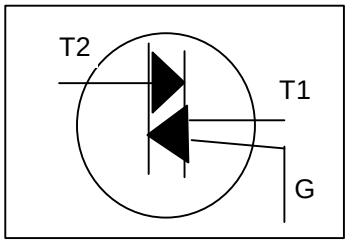
TRIAC

BTB06

TO-220
Plastic Package





Used as an ON/OFF Function in Application Such as Static Relays, Heating Regulation, Induction Motor Starting Circuits or for Phase Control in Light Dimmers, Motor Speed Controllers---

ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER			VALUE	UNIT
V_{DRM}, V_{RRM}	Repetitive Peak Off State Voltage			600	V
$I_{T\ (RMS)}$	RMS on state current (full sine wave)		T_c=110ºC	6.0	A
I_{TSM}	Non repetitive surge peak on state current (full cycle, T_J initial=25ºC)	F=50Hz	t=20ms	60	A
		F=60Hz	t=16.7ms	63	A
I^2t	I^2t Value for fusing	t_p=10ms		21	A^2s
dI/dt	Critical rate of rise of on state current I_G=2 x I_{GT}, tr ≤ 100ns	F=120Hz	T_J=125ºC	50	A/µs
I_{GM}	Peak gate current	tp=20µs	T_J=125ºC	4.0	A
$P_{G\ (AV)}$	Average gate power dissipation		T_J=125ºC	1.0	W
T_{stg}	Storage junction temperature range			- 40 to +150	ºC
T_j	Operating junction temperature range			- 40 to +125	ºC

ELECTRICAL CHARACTERISTICS (T_j=25ºC specified otherwise)

SNUBBERLESS ™ and LOGIC LEVEL (3 Quadrants)

SYMBOL	TEST CONDITION	Quadrant		BTB06 TW	BTB06 SW	BTB06 CW	BTB06 BW	UNIT
I_{GT} (1)	V_D=12V, R_L=30Ω	I - II - III	MAX	5	10	35	50	mA
V_{GT}		I - II - III	MAX	1.3				V
V_{GD}	V_D=V_{DRM}, R_L=3.3kΩ, T_j=125ºC	I - II - III	MIN	0.2				V
I_H (2)	I_T=100mA		MAX	10	15	35	50	mA
I_L	I_G=1.2 I_{GT}	I - III	MAX	10	25	50	70	mA
		II	MAX	15	30	60	80	mA
dV/dt (2)	V_D=67% V_{DRM} gate open T_j=125ºC		MIN	20	40	400	1000	V/µs
(dI/dt)c (2)	(dV/dt)c=0.1 V/µs T_j=125ºC		MIN	2.7	3.5	-	-	A/ms
	(dV/dt)c=10 V/µs T_j=125ºC		MIN	1.2	2.4	-	-	A/ms
	Without snubber T_j=125ºC		MIN	-	-	3.5	5.3	A/ms

THERMAL RESISTANCE

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ (j-c)}$	Junction to case (AC)	1.8	ºC/W
$R_{th\ (j-a)}$	Junction to ambient	60	ºC/W

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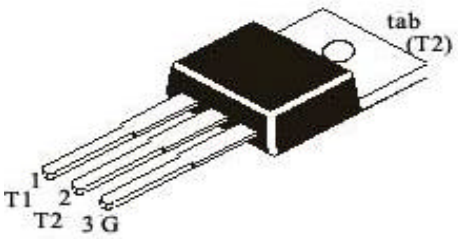

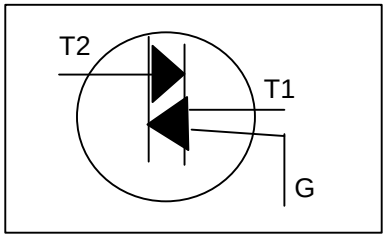

ELECTRICAL CHARACTERISTICS (T_j=25ºC specified otherwise)

STANDARD (4 Quadrants) **BTB06**

SYMBOL	TEST CONDITION	Quadrant		C	B	UNIT
I_G (1)	V_D=12V, R_L=30Ω	I - II - III	MAX	25	50	mA
		IV		50	100	mA
V_{GT}		ALL	MAX	1.3		V
V_{GD}	V_D=V_{DRM}, R_L=3.3kΩ, T_j=125ºC	ALL	MIN	0.2		V
I_H (2)	I_T=500mA		MAX	25	50	mA
I_L	I_G=1.2 I_{GT}	I - III - IV	MAX	40	50	mA
		II	MAX	80	100	mA
dV/dt (2)	V_D=67% V_{DRM} gate open T_j=125ºC		MIN	200	400	V/µs
(dI/dt)c (2)	(dI/dt)c=2.7 A/ms T_j=125ºC		MIN	5	10	V/µs

STATIC CHARACTERISTICS

SYMBOL	TEST CONDITION			VALUE	UNIT
V_T (2)	I_{TM}=5.5A, t_p=380µs	T_J=25ºC	MAX	1.55	V
V_{to} (2)	Threshold Voltage	T_J=125ºC	MAX	0.85	V
R_d (2)	Dynamic Resistance	T_J=125ºC	MAX	60	mΩ
I_{DRM}	V_{DRM}=V_{RRM}	T_J=25ºC	MAX	5	µA
I_{RRM}		T_J=125ºC	MAX	1	mA

NOTE:- (1) Minimum I_{GT} is guaranted at 5% of I_{GT} max
(2) For both polarities of A2 referenced to A1

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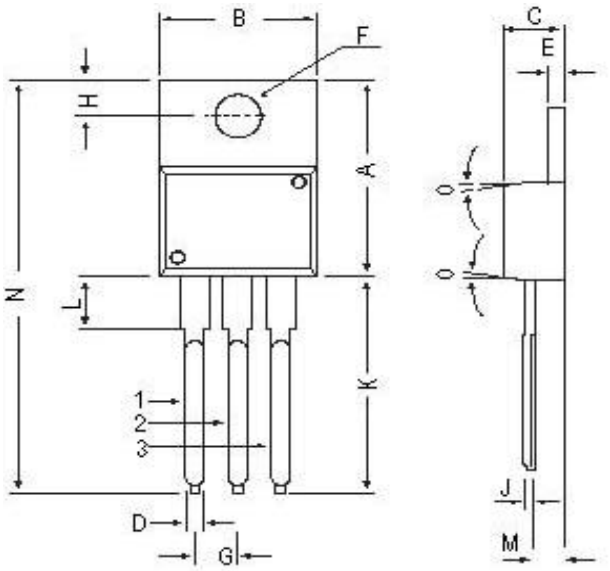
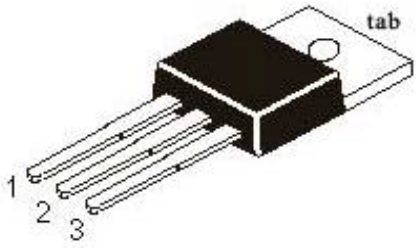
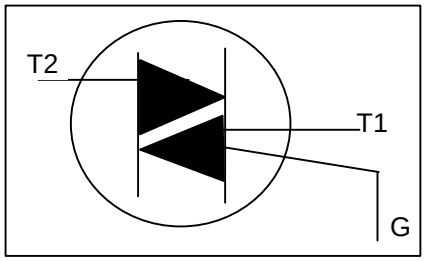


DIM	MIN	MAX
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	—	0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	—	0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N	—	31.24
O	7 DEG	

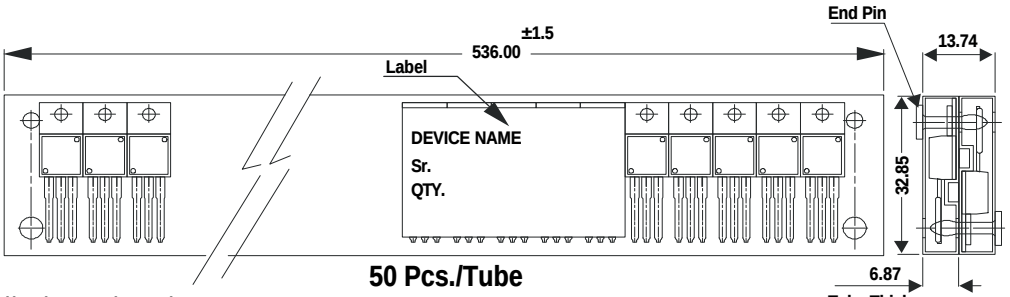
All diminsions in mm.



Pin Configuration
1. Main Terminal 1
2. Main Terminal 2
3. Gate
tab Main Terminal 2



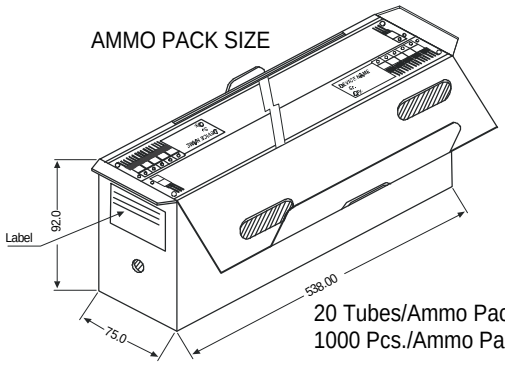
TO-220 Tube Packing



50 Pcs./Tube

All Dimensions in mm

AMMO PACK SIZE



20 Tubes/Ammo Pack
1000 Pcs./Ammo Pack

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220	200 pcs/polybag 50 pcs/tube	396 gm/200 pcs 120 gm/50 pcs	3" x 7.5" x 7.5" 3.5" x 3.7" x 21.5"	1.0K 1.0K	17" x 15" x 13.5" 19" x 19" x 19"	16.0K 10.0K	36 kgs 29 kgs

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Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

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