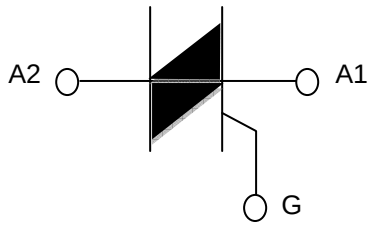
COMSET SEMICONDUCTORS

BTA04 Series
BTB04 Series

SENSITIVE GATE TRIACS

FEATURE

The BTA04-BTB04 series are high performance glass passivated triacs PNPN devices.
They are in a plastic TO220 package.
These parts are suitable for general purpose applications where gate high sensitivity is required.
Application on 4Q such as phase control and static switching.
Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value			Unit
				BTA04/BTB04			
				400 T-D-S-A	600 T-D-S-A	700 T-D-S-A	
V_{DRM}	Repetitive peak off-state voltage	T_j= 110 °C		400	600	700	V
V_{RRM}	Repetitive peak reverse voltage	T_j= 110 °C		400	600	700	V
$I_{T(RMS)}$	RMS on-state current	BTA	T_C=90°C	4			A
		BTB	T_C=95°C	4			A
I_{TSM}	Non-repetitive peak on-state current	tp= 8.3 ms		42			A
		tp= 10 ms		40			A
I^2t	I^2t value	tp= 10 ms		8			A^2s
dI/dt	Critical rate of rise of on-state current Gate supply: I_G= 50 mA dI_G/dt= 0.1 A/µs	Repetitive F= 50 Hz		10			A/µs
		No repetitive		50			A/µs
T_{stg}	Storage temperature range			-40 to +150			°C
T_j	Operating junction temperature			-40 to +110			°C
T_l	Maximum lead soldering temperature during 10s at 4.5 mm from case			260			°C

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THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
$R_{\partial j\text{-}c}$	Thermal resistance junction to case	BTA	4.4	°C/W
		BTB	3.2	
$R_{\partial j\text{-}a}$	Thermal resistance junction to ambient		60	

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Quadrant		BTA04 – BTB04				Unit
						T	D	S	A	
I_{DRM}	Repetitive peak off-state current	V_{DRM} rated	T_j=25 °C	all	Max.	0.01				mA
			T_j=110 °C			0.75				
I_{RRM}	Repetitive peak reverse current	V_{DRM} rated	T_j=25 °C	all	Max.	0.01				mA
			T_j=110 °C			0.75				
I_{GT}	Gate trigger current	V_D = 12 V R_L = 33 Ω		I – II – III	Max.	5	5	10	10	mA
				IV		5	10	10	25	
V_{GT}	Gate trigger voltage	V_D = 12 V R_L = 33 Ω		all	Max.	1.5				V
V_{GD}	T_j = 110 °C	V_D = V_{DRM} R_L = 3.3 KΩ		all	Min.	0.2				V
I_H	Holding current	I_T = 100 mA Gate open		all	Max.	15	15	25	25	mA
I_L		$I_{G=}$ 1.2I_{GT}		I – III – IV	Typ.	10	10	20	20	mA
				II		20	20	40	40	
V_{TM}	On-state voltage	I_T = 5.5 A		all	Max.	1.65				V
tgt		V_D= V_{DRM} I_G= 40 mA dI_G/dt= 0.5 A/µs		all	Typ.	2				µs
dV/dt	Linear slope	V_D= 67% V_{DRM} Gate open T_j=110 °C		all	Typ.	10	10	-	-	V/µs
					Min.	-	-	10	10	
(dI/dt)c		(dI/dt)c =1.8 A/ms T_j=110 °C		all	Typ.	1	1	5	5	V/µs

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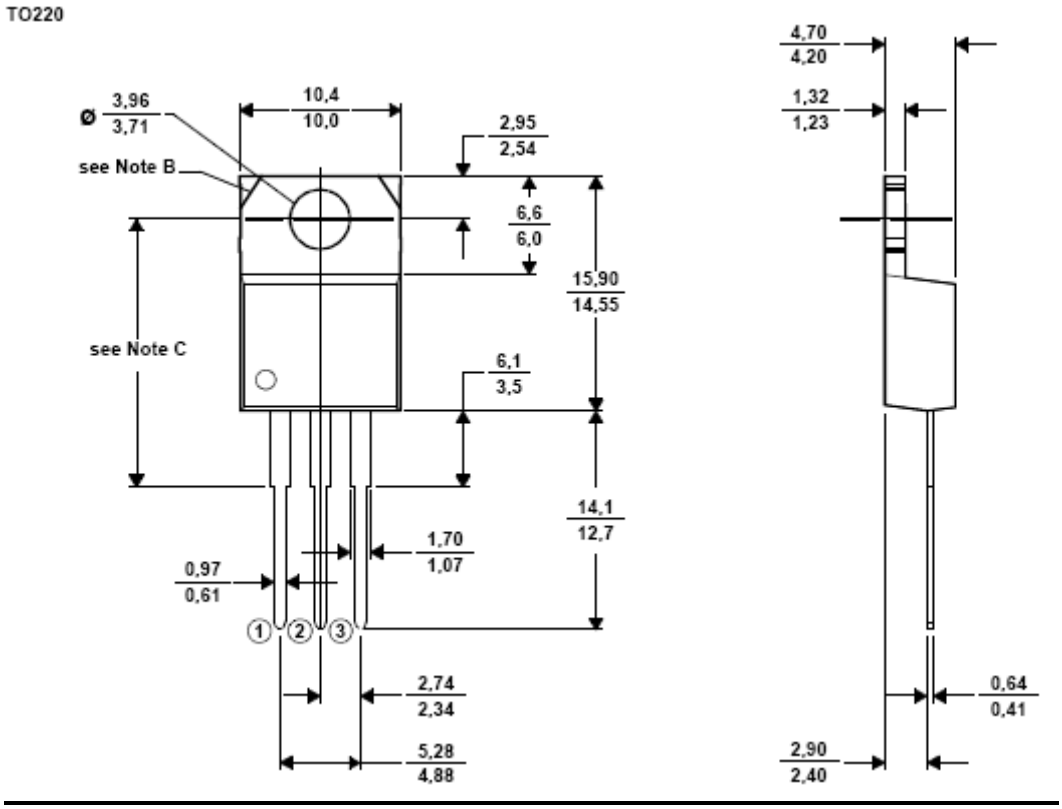
MECHANICAL DATA CASE TO-220



Pin 1 :	Anode 1
Pin 2 :	Anode 2
Pin 3 :	Gate

Revised December 2013