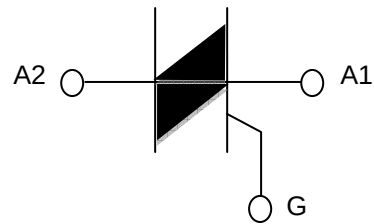


BTA04 Series BTB04 Series

SENSITIVE GATE TRIACS

FEATURE

The BTA04-BTB04 series are high performance glass passivated triacs PNP 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	$T_j = 110\text{ }^{\circ}\text{C}$	400	600	700	V
V_{RRM}	Repetitive peak reverse voltage		400	600	700	
$I_{\text{T(RMS)}}$	RMS on-state current	BTA BTB	$T_C = 90^{\circ}\text{C}$ $T_C = 95^{\circ}\text{C}$	4		A
I_{TSM}	Non-repetitive peak on-state current	tp= 8.3 ms		42		A
		tp= 10 ms		40		
I^2t	I^2t value	tp= 10 ms		8		A^2s
di/dt	Critical rate of rise of on-state current Gate supply: $I_G = 50\text{ mA}$ $di_G/dt = 0.1\text{ A}/\mu\text{s}$	Repetitive $F = 50\text{ Hz}$		10		$\text{A}/\mu\text{s}$
		No repetitive		50		
T_{stg}	Storage temperature range		-40 to +150			$^{\circ}\text{C}$
T_j	Operating junction temperature		-40 to +110			$^{\circ}\text{C}$
T_l	Maximum lead soldering temperature during 10s at 4.5 mm from case		260			$^{\circ}\text{C}$

BTA04 Series BTB04 Series

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

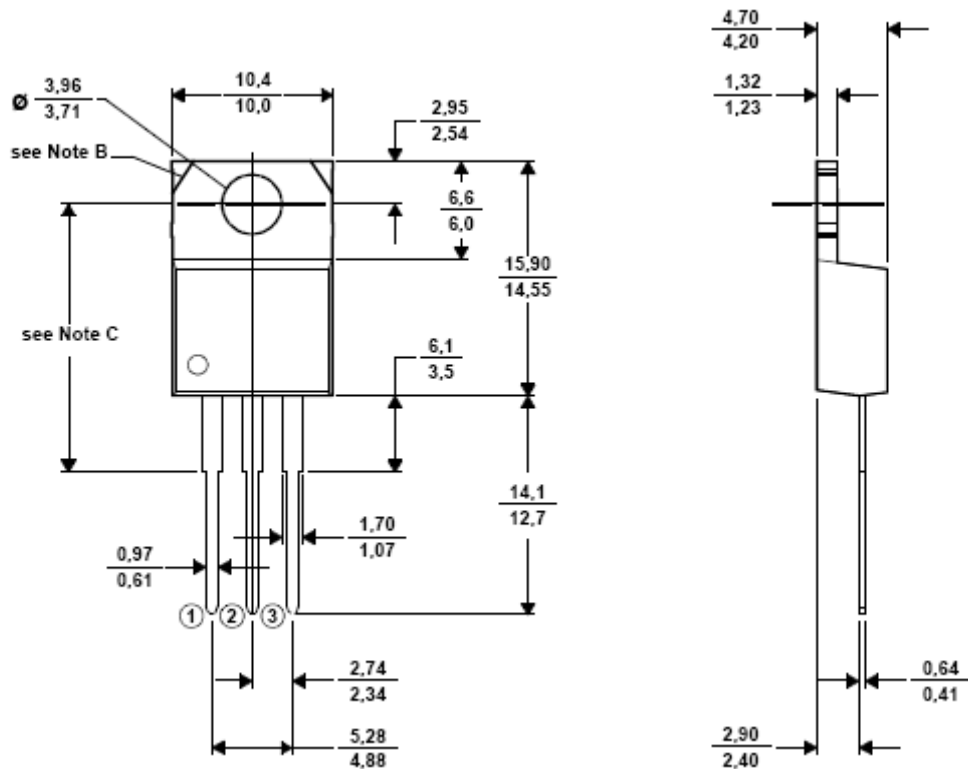
Symbol	Ratings	Test Condition(s)		Quadrant		BTA04 – BTB04				Unit
						T	D	S	A	
I_{DRM}	Repetitive peak off-state current	V_{DRM} rated	$T_{\text{J}}=25\text{ }^{\circ}\text{C}$	all	Max.	0.01				mA
			$T_{\text{J}}=110\text{ }^{\circ}\text{C}$			0.75				
I_{RRM}	Repetitive peak reverse current	V_{DRM} rated	$T_{\text{J}}=25\text{ }^{\circ}\text{C}$	all	Max.	0.01				mA
			$T_{\text{J}}=110\text{ }^{\circ}\text{C}$			0.75				
I_{GT}	Gate trigger current	$V_{\text{D}} = 12\text{ V}$ $R_{\text{L}} = 33\text{ }\Omega$		I – II – III	Max.	5	5	10	10	mA
				IV		5	10	10	25	
V_{GT}	Gate trigger voltage	$V_{\text{D}} = 12\text{ V}$ $R_{\text{L}} = 33\text{ }\Omega$		all	Max.	1.5				V
V_{GD}	$T_{\text{J}} = 110\text{ }^{\circ}\text{C}$	$V_{\text{D}} = V_{\text{DRM}}$ $R_{\text{L}} = 3.3\text{ K}\Omega$		all	Min.	0.2				V
I_{H}	Holding current	$I_{\text{T}} = 100\text{ mA}$ Gate open		all	Max.	15	15	25	25	mA
I_{L}		$I_{\text{G}}= 1.2I_{\text{GT}}$		I – III – IV	Typ.	10	10	20	20	mA
				II		20	20	40	40	
V_{TM}	On-state voltage	$I_{\text{T}} = 5.5\text{ A}$		all	Max.	1.65				V
t_{gt}		$V_{\text{D}}= V_{\text{DRM}}$ $I_{\text{G}}= 40\text{ mA}$ $dI_{\text{G}}/dt= 0.5\text{ A}/\mu\text{s}$		all	Typ.	2				μs
dV/dt	Linear slope	$V_{\text{D}}= 67\% V_{\text{DRM}}$ Gate open $T_{\text{J}}=110\text{ }^{\circ}\text{C}$		all	Typ.	10	10	-	-	V/ μs
					Min.	-	-	10	10	
$(dI/dt)_{\text{c}}$		$(dI/dt)_{\text{c}} = 1.8\text{ A/ms}$ $T_{\text{J}}=110\text{ }^{\circ}\text{C}$		all	Typ.	1	1	5	5	V/ μs

BTA04 Series

BTB04 Series

MECHANICAL DATA CASE TO-220

TO220



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

Revised December 2013

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