

## BTB04-600SL

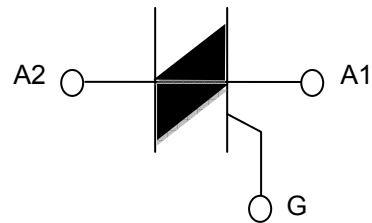
### STANDARD TRIACS

#### FEATURE

The BTB04-600SL 4Q TRIAC is intended for general purpose applications where high surge current capability is required, such as lighting, corded power tools, industrial.

This TRIAC features a gate current capability sensitivity of 10 mA.

Compliance to RoHS.



#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
$V_{DRM}$	Repetitive peak off-state voltage		600	V	
$V_{RRM}$	Repetitive peak reverse voltage		600		
$I_{T(RMS)}$	RMS on-state current		$T_C = 105^\circ\text{C}$	A	
$I_{TSM}$	Non-repetitive peak on-state current	F = 50 Hz	t = 20 ms	35	A
		F = 60 Hz	t = 16.7 ms	38	
$I^2t$	$I^2t$ value for fusing		tp = 10 ms	6	$\text{A}^2\text{s}$
$di/dt$	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$ ; tr ≤ 100 ns		Repetitive F = 100 Hz	50	$\text{A}/\mu\text{s}$
$I_{GM}$	Peak gate	tp = 20 μs	$T_j = 125^\circ\text{C}$	4	A
$P_{G(AV)}$	Average gate power dissipation		$T_j = 125^\circ\text{C}$	0.5	W
$T_{stg}$	Storage temperature range			-40 to +150	$^\circ\text{C}$
$T_j$	Operating junction temperature range			-40 to +125	$^\circ\text{C}$

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### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{\theta j-c}$	Thermal resistance junction to case	3	°C/W
$R_{\theta j-a}$	Thermal resistance junction to ambient	60	

### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Quadrant			Unit
$I_{DRM}$	Repetitive peak off-state current	$V_{DRM}$ rated	all	Max.	$T_j=25\text{ }^\circ\text{C}$	5 $\mu\text{A}$
					$T_j=125\text{ }^\circ\text{C}$	1 mA
$I_{RRM}$	Repetitive peak reverse current	$V_{DRM}$ rated	all	Max.	$T_j=25\text{ }^\circ\text{C}$	5 $\mu\text{A}$
					$T_j=125\text{ }^\circ\text{C}$	1 mA
$I_{GT}^{(1)}$	Gate trigger current	$V_D = 12\text{ V}$ $R_L = 30\ \Omega$	I – II – III	Max.		10 mA
			IV			25 mA
$V_{GT}$	Gate trigger voltage	$V_D = 12\text{ V}$ $R_L = 30\ \Omega$	all	Max.		1.3 V
$V_{GD}$	$T_j = 125\text{ }^\circ\text{C}$	$V_D = V_{DRM}$ $R_L = 3.3\text{ K}\Omega$	all	Min.		0.2 V
$I_H^{(2)}$	Holding current	$I_T = 100\text{ mA}$	all	Max.		15 mA
$I_L$		$I_G = 1.2I_{GT}$	I – III – IV	Typ.		15 mA
			II			25 mA
$V_{TM}^{(2)}$	On-state voltage	$I_T = 5\text{ A}$ ; $t_p = 380\ \mu\text{s}$	all	Max.		1.5 V
$V_{TO}^{(2)}$	Threshold voltage	$T_j = 125\text{ }^\circ\text{C}$	all	Max.		0.85 V
$R_D^{(2)}$	Dynamic resistance	$T_j = 125\text{ }^\circ\text{C}$	all	Max.		100 m $\Omega$
$dV/dt^{(2)}$	Linear slope	$V_D = 67\% V_{DRM}$ Gate open $T_j = 125\text{ }^\circ\text{C}$	all	Min.		75 V/ $\mu\text{s}$
$(dI/dt)_c^{(2)}$		$(dI/dt)_c = 1.8\text{ A/ms}$ $T_j = 125\text{ }^\circ\text{C}$	all	Typ.		10 V/ $\mu\text{s}$

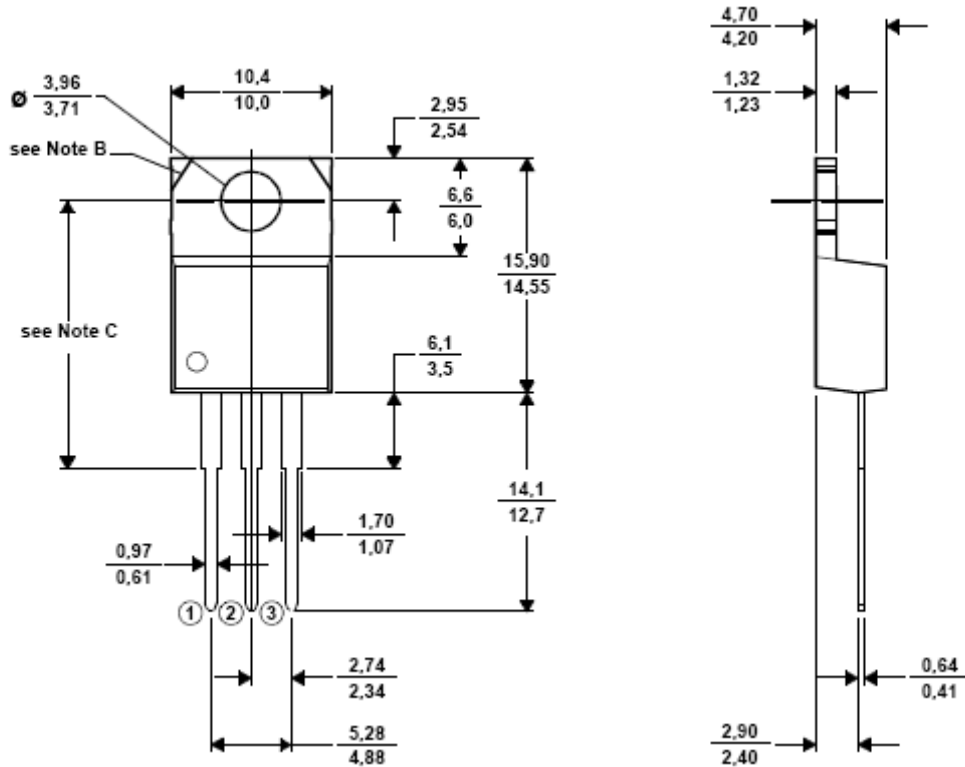
**Note 1:** minimum IGT is guaranteed at 5% of IGT max.

**Note 2:** for both polarities of A2 referenced to A1.

# BTB04-600SL

## MECHANICAL DATA CASE TO-220

TO220



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

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