

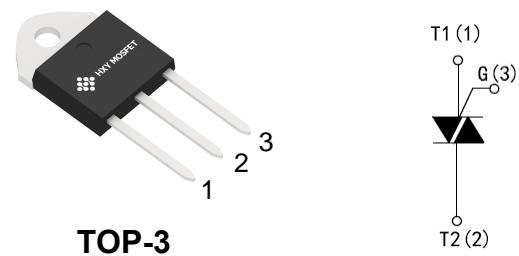


## Description

High current density due to double mess technology, SIPOS and Glass passivation.

BTA41-600BRG series triacs is suitable for general purpose AC switching. They can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits or phase control operation light dimmers, motor speed controllers.

BTA41-600BRG series are 3 Quadrants triacs, They are specially recommended for use on inductive loads.



## Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ unless otherwise noted )

Symbol	Parameter	Test condition	Value	Unit
$V_{DRM}/ V_{RRM}$	Repetitive peak off-state voltage	$T_j=25^\circ\text{C}$	600	V
$V_{DSM}$	Non repetitive surge peak off-state voltage	$T_p=10\text{ms}, T_j=25^\circ\text{C}$	700	V
$V_{RSM}$	Non repetitive peak reverse voltage	$T_p=10\text{ms}, T_j=25^\circ\text{C}$	700	V
$I_{T(RMS)}$	RMS on-state current	$T_c=90^\circ\text{C}$ $T_c=70^\circ\text{C}$	41	A
$I_{TSM}$	Non repetitive surge peak on-state current	$F=60\text{Hz}, t=16.7\text{ms}$	430	A
		$F=50\text{Hz}, t=20\text{ms}$	410	
$I^2t$	$I^2t$ value	$t_p=10\text{ms}$	410	$\text{A}^2\text{s}$
$dl/dt$	Critical rate of rise of on-state current	$I_G=2*I_{GT}, t_r \leq 100\text{ns},$ $F=120\text{Hz}, T_j=125^\circ\text{C}$	100	$\text{A}/\mu\text{s}$
$I_{GM}$	Peak gate current	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	4	A
$P_{GM}$	Peak gate power dissipation	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	10	W
$P_{G(AV)}$	Average gate power	$T_j=125^\circ\text{C}$	1	W
$T_{STG}$	Storage temperature		-40~+150	$^\circ\text{C}$
$T_j$	Operating junction temperature		-40~+125	



**Electrical Characteristics ( $T_j = 25^\circ\text{C}$  unless otherwise specified)**

Symbol	Parameter	Test condition			Value	Unit
$I_{GT}$	Gate trigger current	$V_D = 12\text{V}$ , $R_L = 33\Omega$ ,	I - II - III	Max	50	mA
$V_{GT}$	Gate trigger voltage		I - II - III	Max	1.5	V
$V_{GD}$	Non-triggering gate voltage	$V_D = V_{DRW}$ , $T_j = 125^\circ\text{C}$ $R_L = 3.3\text{K}$		Min	0.2	V
$I_H$	Holding current	$I_T = 100\text{mA}$ ,		Max	60	mA
$I_L$	Latching current	$I_G = 1.2I_{GT}$ ,	I - III	Max	70	
			II	Max	80	
$D_{V/dt}$	Critical rate of rise of off-state	$V_D = 67\%V_{DRM}$ , Gate Open $T_j = 125^\circ\text{C}$		Min	500	V/ $\mu\text{s}$
$(D_{V/dt})c$	Critical rate of rise of off-state	$(dI/dt)c = 8.8\text{A/ms}$ $T_j = 125^\circ\text{C}$		Min	12.5	V/ $\mu\text{s}$
$V_{TM}$	On-state Voltage	$I_{TM} = 28\text{ A}$ , $t_{p} = 380\mu\text{s}$ , $T_j = 25^\circ\text{C}$			1.55	V
$I_{DRM} / I_{RRM}$	Repetitive peak off-state current	$V_D = V_{DRM}/V_{RRM}$ , $T_j = 25^\circ\text{C}$			5	$\mu\text{A}$
		$V_D = V_{DRM}/V_{RRM}$ , $T_j = 125^\circ\text{C}$			2.5	mA

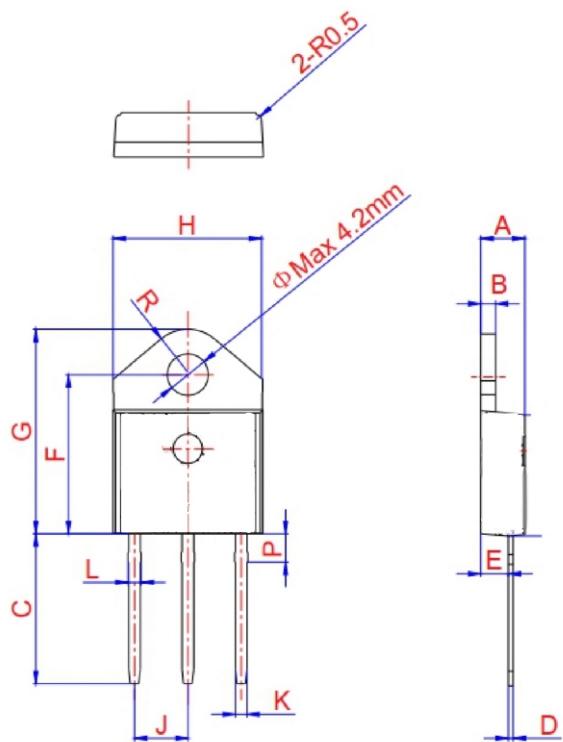
**Static Characteristics**

Symbol	Parameter	Value	Unit
$R_{th} (j-c)$	Junction to case (AC)	2.1	°C/W



## Package Information

### TOP-3



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.171	



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