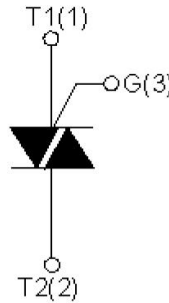
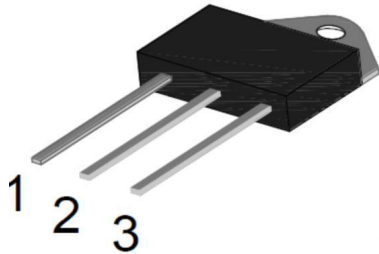


40A TRIACS



BTA41-600/800/1200/1600 TOP3 Plastic Package

BTA41 series triacs, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Storage junction temperature range	T_{stg}	-40 to 150	°C
Operating junction temperature range	T_j	-40 to 125	°C
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	600/800/1200/1600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600/800/1200/1600	V
Non repetitive surge peak Off-state voltage	V_{DSM}	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	V
RMS on-state current ($T_c=80^\circ\text{C}$)	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	400	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	880	A^2s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	50	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

3 Quadrants

PARAMETER	TEST CONDITIONS	SYMBOL	QUADRANT		VALUES	UNITS
Gate Trigger Current	$V_D = 12\text{V}$ $R_L = 33\Omega$	I_{GT}	I - II - III	MAX	50	mA
Gate Trigger Voltage		V_{GT}	I - II - III	MAX	1.3	V
Off-State Gate Voltage	$V_D = V_{DRM}$ $T_j = 125^\circ\text{C}$ $R_L = 3.3\text{K}\Omega$	V_{GD}	I - II - III	MIN	0.2	V
Latching Current	$I_G = 1.2I_{GT}$	I_L	I - III	MAX	80	mA
			II		100	
Holding Current	$I_T = 100\text{mA}$	I_H		MAX	60	mA
Critical Rate of Rise of Off-State Voltage	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ\text{C}$	dV/dt		MIN	1000	V/ μs
	Without snubber $T_j = 125^\circ\text{C}$	$(dV/dt)_c$		MIN	20	V/ μs

4 Quadrants

PARAMETER	TEST CONDITIONS	SYMBOL	QUADRANT		VALUES	UNITS
Gate Trigger Current	$V_D = 12\text{V}$ $R_L = 33\Omega$	I_{GT}	I - II - III	MAX	50	mA
			IV		70	
Gate Trigger Voltage		V_{GT}	ALL	MAX	1.5	V
Off-State Gate Voltage	$V_D = V_{DRM}$ $T_j = 125^\circ\text{C}$ $R_L = 3.3\text{K}\Omega$	V_{GD}	ALL	MIN	0.2	V
Latching Current	$I_G = 1.2I_{GT}$	I_L	I - III - IV	MAX	90	mA
			II		100	
Holding Current	$I_T = 100\text{mA}$	I_H		MAX	80	mA
Critical Rate of Rise of Off-State Voltage	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ\text{C}$	dV/dt		MIN	500	V/ μs
	Without snubber $T_j = 125^\circ\text{C}$	$(dV/dt)_c$		MIN	30	V/ μs

STATIC CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE (MAX)	UNITS
On-State Voltage	$I_{TM} = 60\text{A}$ $t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$ V_{TM}	1.55	V
Off-State Leakage Current	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$ I_{DRM}	10	μA
		$T_j = 125^\circ\text{C}$ I_{RRM}	5	mA

THERMAL RESISTANCES

PARAMETER	SYMBOL	VALUE (MAX)	UNITS
junction to case(AC)	$R_{th(j-c)}$	0.9	$^\circ\text{C/W}$

ORDERING INFORMATION

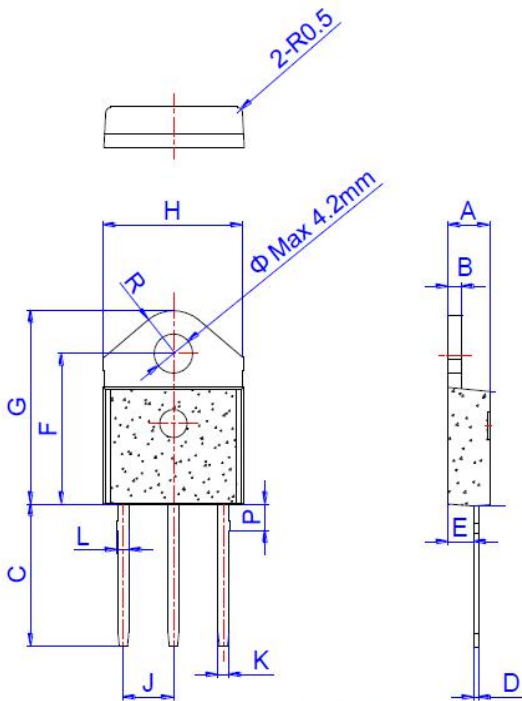
BTA 41 - 600 BW

(a) (b)

(a) = 600: VDRM/VRRM \geq 600
 = 800: VDRM/VRRM \geq 800
 = 1200: VDRM/VRRM \geq 1200
 = 1600: VDRM/VRRM \geq 1600

(b) = BW: $I_{GT3} \leq 50\text{mA}$
 = B: $I_{GT1-3} \leq 50\text{mA}$ $I_{GT4} \leq 70\text{mA}$

TOP3 PACKAGE OUTLINE AND DIMENSION



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	

CHARACTERISTIC CURVES

FIG.1 Maximum power dissipation versus RMS on-state current

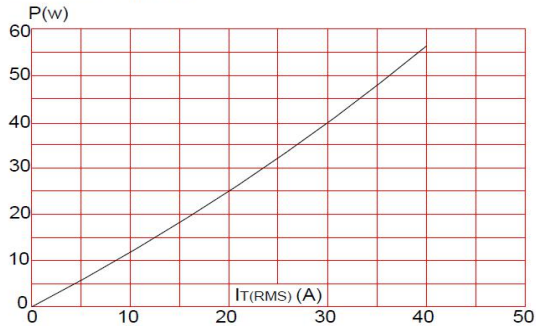


FIG.3: Surge peak on-state current versus number of cycles

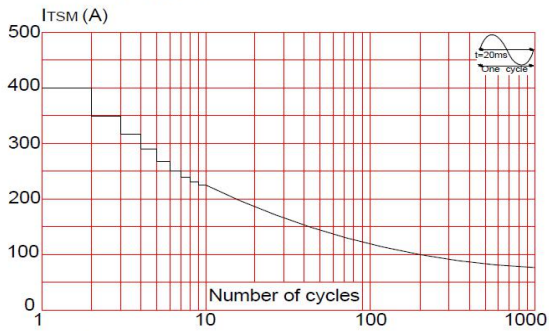


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

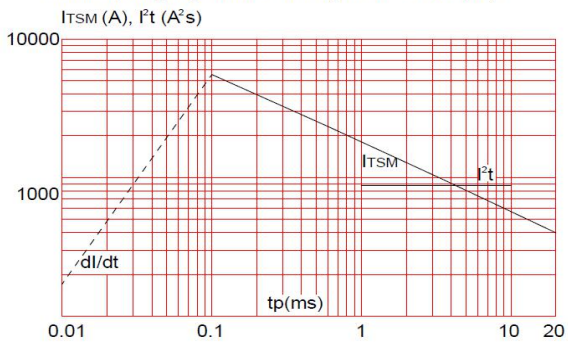


FIG.2: RMS on-state current versus case temperature

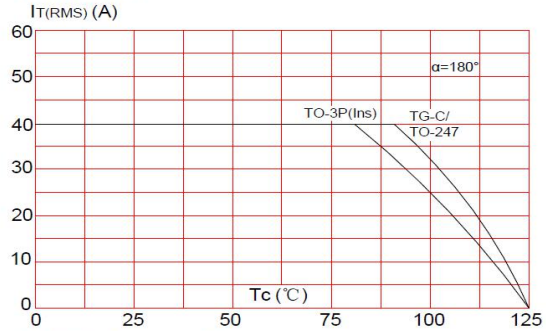


FIG.4: On-state characteristics (maximum values)

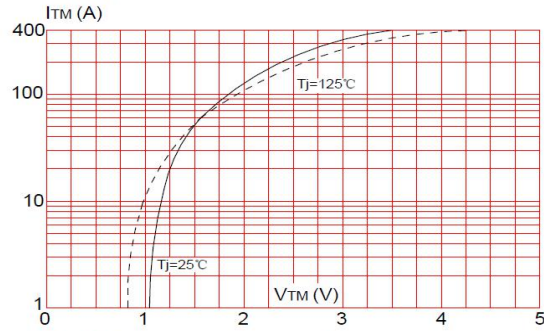
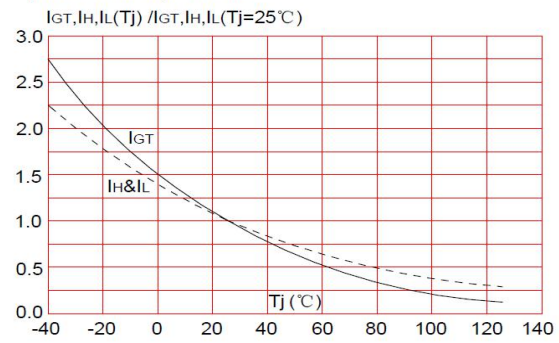


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature





Continental Device India Pvt.Limited
An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company



Customer Notes

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

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of
Continental Device India Pvt. Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119
email@cdil.com www.cdil.com
CIN No. U32109DL1964PLC004291

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Triacs](#) category:

Click to view products by [CDIL](#) manufacturer:

Other Similar products are found below :

[T2035H-6G](#) [BT137-600-0Q](#) [Z0409MF0AA2](#) [Z0109NA 2AL2](#) [ACST1635T-8FP](#) [BCR20RM-30LA#B00](#) [CMA60MT1600NHR](#) [NTE5611](#)
[NTE5612](#) [NTE5613](#) [NTE5621](#) [NTE5623](#) [NTE5629](#) [NTE5638-08](#) [NTE5688](#) [NTE5689](#) [NTE5690](#) [T1235T-8I](#) [BTA312-600CT.127](#) [T1210T-](#)
[8G-TR](#) [Z0109NN0,135](#) [T2535T-8I](#) [T2535T-8T](#) [TN4050-12WL](#) [MAC4DLM-1G](#) [BT137-600E,127](#) [BT137X-600D](#) [BT148W-600R,115](#)
[BT258-500R,127](#) [BTA08-800BW3G](#) [BTA140-800,127](#) [BTA30-600CW3G](#) [BTA30-600CW3G](#) [BTB08-800BW3G](#) [BTB16-600CW3G](#)
[BTB16-600CW3G](#) [Z0410MF0AA2](#) [Z0109MN,135](#) [T825T-6I](#) [T1635T-6I](#) [T1220T-6I](#) [NTE5638](#) [TYN612MRG](#) [TYN1225RG](#) [TPDV840RG](#)
[ACST1235-8FP](#) [ACS302-6T3-TR](#) [BT134-600D,127](#) [BT134-600G,127](#) [BT136X-600E,127](#)