

UNISONIC TECHNOLOGIES CO., LTD

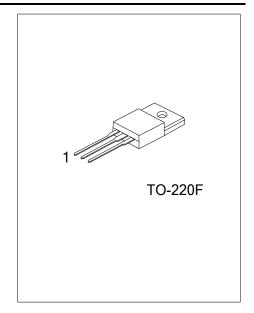
BTA304A TRIAC

4A TRIACS

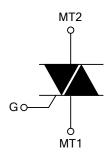
■ DESCRIPTION

The UTC **BTA304A** is a 4A triacs which can be operated in 3 quadrants only, it uses UTC's advanced technology to provide customers with high commutation performances, etc.

The UTC **BTA304A** is suitable for inductive load switching operations, also can be used in ON/OFF function applications such as induction motor starting circuits, heating regulation, static relays etc.



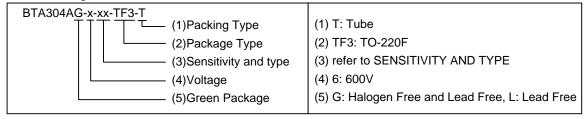
■ SYMBOL



ORDERING INFORMATION

Ordering Number		Dookogo	Pin Assignment			Deelsing	
Lead Free	Halogen Free	Package	1	2	3	Packing	
BTA304AL-x-xx-TF3-T	BTA304AG-x-xx-TF3-T	TO-220F	MT1	MT2	G	Tube	

Note: Pin Assignment: MT1: MT1 MT2: MT2 G: Gate

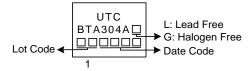


■ SENSITIVITY AND TYPE

	VOLTAGE		CENCITIV/ITV	TVDE	
PART NUMBER	600V	800V	SENSITIVITY	TYPE	
CW	0	0	35mA	SNUBBERLESS	
SW	0	0	10mA	LOGIC LEVEL	

①: Available

■ MARKING



www.unisonic.com.tw 1 of 4

BTA304A TRIAC

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
RMS On-State Current (360° Conduction Angle)	T _C =90°C	I _{T(RMS)}	4	Α
Non Repetitive Surge Peak On-State	t _p =8.3ms	I _{TSM}	42	Α
Current (T _J initial=25°C)	t _p =10ms	· 13W	40	Α
I ² t Value	t _p =10ms	l ² t	8	A^2s
Critical Rate of Rise of On-State Current:	Repetitive F=50Hz	all/alk	10	A/µs
I _G =50mA, dI _G /dt=0.1A/μs	Non Repetitive	dI/dt	50	A/µs
Repetitive Peak Off-State Voltage (T _J =125°C)		V_{DRM}/V_{RRM}	600	V
Peak Gate Current	t _p =20µs	I_{GM}	4	Α
Peak Positive Gate Voltage	t _p =20µs	V_{GM}	16	V
Peak Positive Gate Power Dissipation t _p =20µs		$P_{GM)}$	40	W
Average Gate Power Dissipation		$P_{G(AV)}$	1	W
Operating Junction Temperature		T_J	-40 ~ +125	°C
Storage Junction Temperature		T_{STG}	-40 ~ + 150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL RESISTANCES

PARAMETER	SYMBOL	RATINGS	UNIT		
Junction to Ambient	θ_{JA}	60	°C/W		
Junction to Case (AC)	θ_{JC}	2.7	°C/W		

■ **ELECTRICAL CHARACTERISTICS** (T_J= 25°C, unless otherwise specified)

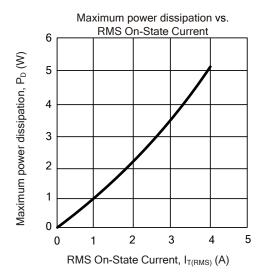
FOR SNUBBERLESS AND LOGIC LEVEL (3 QUADRANTS)

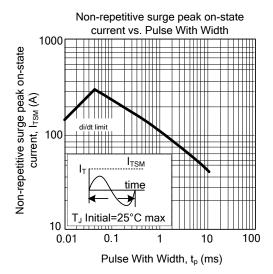
PARAMETER	CVMDOL	MBOL TEST CONDITIONS		SW			CW			UNIT
PARAMETER	SYMBOL			MIN	TYP	MAX	MIN	TYP	MAX	UNIT
Gate Trigger Current	I_{GT}	V _D =12V (DC)	1-11-111			10			35	mA
Gate Trigger Voltage	V_{GT}	R_L =33 Ω T_J =25 $^{\circ}$ C	1-11-111			1.5			1.3	V
Gate Non-Trigger Voltage	$V_{\sf GD}$	$V_D=V_{DRM},$ $R_L=3.3k\Omega,$ $T_J=125^{\circ}C$	1-11-111	0.2			0.2			V
Time Gate Trigger	t _{GT}	$\begin{split} &V_D{=}V_{DRM},\\ &I_G{=}40\text{mA},\\ &dI_G/dt{=}0.5\text{A}/\mu\text{s},\\ &T_J{=}25^{\circ}\text{C} \end{split}$	1-11-111		2			2		μs
Holding Current (Note 1)	I _H	I _T =100mA, Gate Open, T _J =25°C				15			35	mA
Latching Current	I∟	I _G =1.2I _{GT} , T _J =25°C			10 20				50 60	mA mA
Peak On-State Voltage (Note 1)	V_{TM}	I _{TM} =5.5A, t _p =380μs, T _J =25°C				1.65			1.65	V
Repetitive Peak Off-State	I _{DRM}	V _{DRM} Rated, T _J =25°C				0.01			0.01	mA
Current	I _{RRM}	V _{RRM} Rated, T _J =12	25°C			0.75			0.75	mA
Critical Rate of Rise of Off-State Voltage (Note 1)	dV/dt	Linear Slope up to V _D =67%V _{DRM} , Gat T _J =125°C		10			10			V/µs
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	(dV/dt)c	(dl/dt)c=1.8A/ms,	Г _Ј =125°С		1			1		V/µs

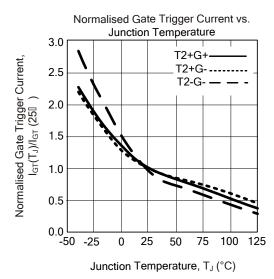
Note: For either polarity of electrode MT2 voltage with reference to electrode MT1.

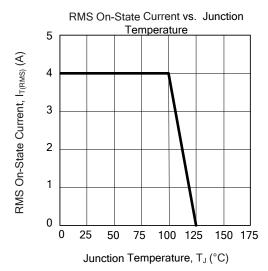
BTA304A TRIAC

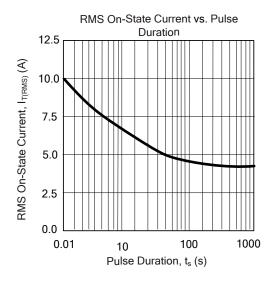
■ TYPICAL CHARACTERISTICS

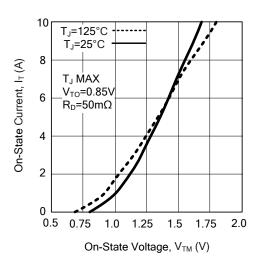






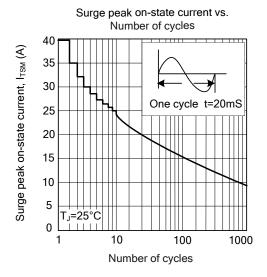






BTA304A

■ TYPICAL CHARACTERISTICS (Cont.)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.