



BTA04A

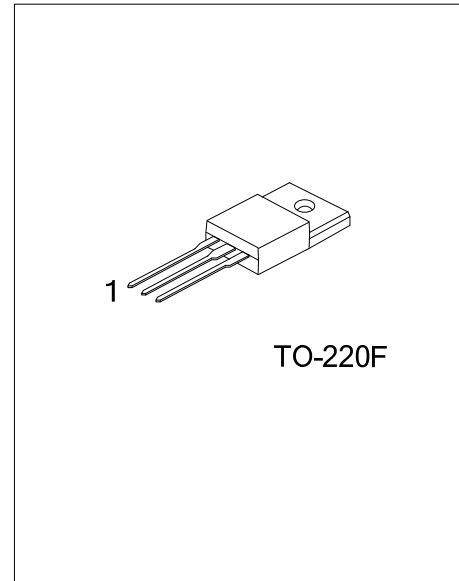
TRIAC

4A TRIACS

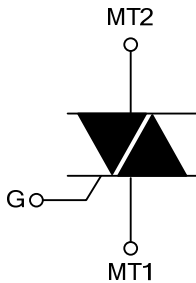
■ **DESCRIPTION**

The UTC **BTA04A** 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 **BTA04A** 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**

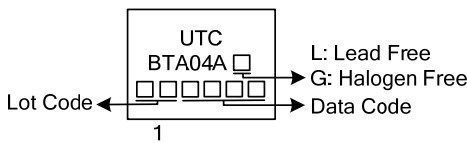
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BTA04AL-x-xx-TF3-T	BTA04AG-x-xx-TF3-T	TO-220F	MT1	MT2	G	Tube

<p>BTA04AL-x-xx-TF3-T</p> <ul style="list-style-type: none"> (1)Packing Type (2)Package Type (3)Sensitivity and type (4)Voltage (5)Lead Free 	<ul style="list-style-type: none"> (1) T: Tube (2) TF3: TO-220F (3) refer to SENSITIVITY AND TYPE (4) 6: 600V (5) L: Lead Free, G: Halogen Free
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■ **SENSITIVITY AND TYPE**

PART NUMBER	VOLTAGE	SENSITIVITY	TYPE
SW	600V	10mA	LOGIC LEVEL

■ **MARKING**



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
RMS On-State Current (360° Conduction Angle)	$T_C=90^\circ\text{C}$	$I_{T(RMS)}$	4	A
Non Repetitive Surge Peak On-State Current (T_J initial= 25°C)	$t_p=8.3\text{ms}$	I_{TSM}	42	A
	$t_p=10\text{ms}$		40	A
I^2t Value	$t_p=10\text{ms}$	I^2t	8	A^2s
Critical Rate of Rise of On-State Current: $I_G=50\text{mA}$, $dI_G/dt=0.1\text{A}/\mu\text{s}$	Repetitive $F=50\text{Hz}$	dI/dt	10	$\text{A}/\mu\text{s}$
	Non Repetitive		50	$\text{A}/\mu\text{s}$
Repetitive Peak Off-State Voltage ($T_J=110^\circ\text{C}$)		V_{DRM}/V_{RRM}	600	V
Peak Gate Current	$t_p=20\mu\text{s}$	I_{GM}	4	A
Peak Positive Gate Voltage	$t_p=20\mu\text{s}$	V_{GM}	16	V
Peak Positive Gate Power Dissipation	$t_p=20\mu\text{s}$	P_{GM}	40	W
Average Gate Power Dissipation		$P_{G(AV)}$	1	W
Operating Junction Temperature		T_J	-40~+110	$^\circ\text{C}$
Storage Junction Temperature		T_{STG}	-40~+150	$^\circ\text{C}$

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	$^\circ\text{C}/\text{W}$
Junction to Case (AC)	θ_{JC}	2.7	$^\circ\text{C}/\text{W}$

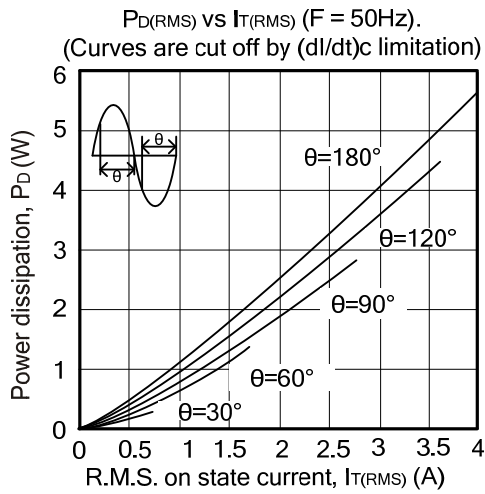
■ ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$, unless otherwise specified)

FOR SNUBBERLESS AND LOGIC LEVEL (3 QUADRANTS)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Gate Trigger Current	I_{GT}	$V_D=12\text{V}$ (DC)	I-II-III		10	mA
Gate Trigger Voltage	V_{GT}	$R_L=33\Omega$, $T_J=25^\circ\text{C}$	I-II-III		1.5	V
Gate Non-Trigger Voltage	V_{GD}	$V_D=V_{DRM}$, $R_L=3.3\text{k}\Omega$, $T_J=110^\circ\text{C}$	I-II-III	0.2		V
Time Gate Trigger	t_{GT}	$V_D=V_{DRM}$, $I_G=40\text{mA}$, $dI_G/dt=0.5\text{A}/\mu\text{s}$, $T_J=25^\circ\text{C}$	I-II-III		2	μs
Holding Current (Note 1)	I_H	$I_T=100\text{mA}$, Gate Open, $T_J=25^\circ\text{C}$			15	mA
Latching Current	I_L	$I_G=1.2I_{GT}$, $T_J=25^\circ\text{C}$	I-III		10	mA
			II		20	mA
Peak On-State Voltage (Note 1)	V_{TM}	$I_{TM}=5.5\text{A}$, $t_p=380\mu\text{s}$, $T_J=25^\circ\text{C}$			1.65	V
Repetitive Peak Off-State Current	I_{DRM}	V_{DRM} Rated, $T_J=25^\circ\text{C}$			0.01	mA
	I_{RRM}	V_{RRM} Rated, $T_J=110^\circ\text{C}$			0.75	mA
Critical Rate of Rise of Off-State Voltage (Note 1)	dV/dt	Linear Slope up to $V_D=67\%V_{DRM}$, Gate Open, $T_J=110^\circ\text{C}$		10		$\text{V}/\mu\text{s}$
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	$(dV/dt)_c$	$(dI/dt)_c=1.8\text{A}/\text{ms}$, $T_J=110^\circ\text{C}$		1		$\text{V}/\mu\text{s}$

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

■ TYPICAL CHARACTERISTICS



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