



BTA324A

TRIAC

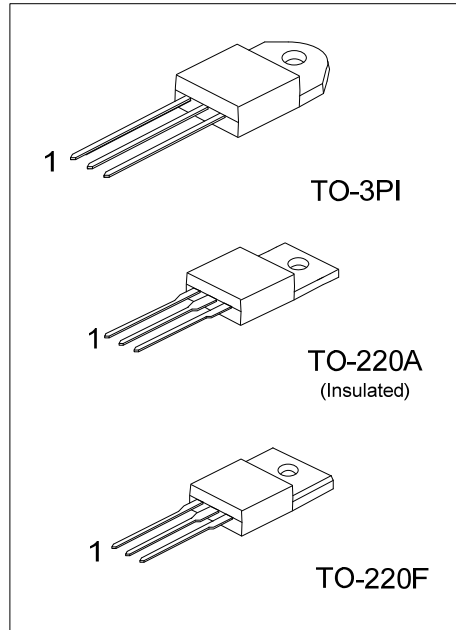
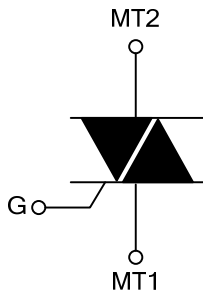
25A TRIACS

DESCRIPTION

The UTC **BTA324A** is a 25A 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 **BTA324A** 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	
BTA324AL-x-xx-TA0-T	BTA324AG-x-xx-TA0-T	TO-220A	MT1	MT2	G	Tube
BTA324AL-x-xx-TF3-T	BTA324AG-x-xx-TF3-T	TO-220F	MT1	MT2	G	Tube
BTA324AL-x-xx-T3I-T	BTA324AG-x-xx-T3I-T	TO-3PI	MT1	MT2	G	Tube

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

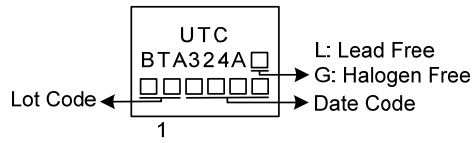
<p>BTA324AG-x-xx-TA0-T</p> <p>(1)Packing Type (2)Package Type (3)Sensitivity and type (4)Voltage (5)Green Package</p>	<p>(1) T: Tube (2) TA0: TO-220A, TF3: TO-220F, T3I: TO-3PI (3) refer to SENSITIVITY AND TYPE (4) 6: 600V, 8: 800V (5) G: Halogen Free and Lead Free, L: Lead Free</p>
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SENSITIVITY AND TYPE

PART NUMBER	VOLTAGE		SENSITIVITY	TYPE
	600V	800V		
BW	⊙	⊙	50mA	SNUBBERLESS
CW	⊙	⊙	35mA	SNUBBERLESS

⊙: Available

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER			SYMBOL	RATINGS	UNIT
RMS On-State Current (Full Sine Wave)		$T_C=75^\circ\text{C}$	$I_{T(RMS)}$	25	A
Non Repetitive Surge Peak On-State Current (Full Cycle, T_J initial= 25°C)	F=50 Hz	t=20ms	I_{TSM}	250	A
	F=60 Hz	t=16.7ms		260	A
I ² t Value for Fusing		t _p =10ms	I ² t	340	A ² s
Critical Rate of Rise of On-State Current $I_G=2I_{GT}$, tr≤100ns		F=120 Hz $T_J=125^\circ\text{C}$	dI/dt	50	A/μs
Non Repetitive Surge Peak Off-State Voltage		t _p =10ms $T_J=25^\circ\text{C}$	V_{DSM}/V_{RSM}	$V_{DRM}/V_{RRM}+100$	V
Peak Gate Current		t _p =20μs $T_J=125^\circ\text{C}$	I_{GM}	4	A
Average Gate Power Dissipation		$T_J=125^\circ\text{C}$	$P_{G(AV)}$	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 DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220A	θ_{JA}	60	°C/W
	TO-220F			
	TO-3PI			
Junction to Case (AC)	TO-220A	θ_{JC}	0.8	°C/W
	TO-220F			
	TO-3PI			

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

FOR SNUBBERLESS (3 QUADRANTS)

PARAMETER	SYMBOL	TEST CONDITIONS	CW			BW			UNIT	
			MIN	TYP	MAX	MIN	TYP	MAX		
SNUBBERLESS TYPE (3 QUADRANTS)										
Gate Trigger Current (Note 1)	I_{GT}	$V_D=12\text{V}$, $R_L=33\Omega$	I-II-III			35			50	mA
Gate Trigger Voltage	V_{GT}		I-II-III			1.3			1.3	V
Gate Non-Trigger Voltage	V_{GD}	$V_D=V_{DRM}$, $R_L=3.3\text{k}\Omega$, $T_J=125^\circ\text{C}$	I-II-III	0.2			0.2			V
Holding Current (Note 2)	I_H	$I_T=500\text{mA}$				50			75	mA
Latching Current	I_L	$I_G=1.2I_{GT}$	I-III			70			80	mA
			II			80			100	mA
Critical Rate of Rise of Off-State Voltage (Note 2)	dV/dt	$V_D=67\%V_{DRM}$, Gate Open, $T_J=125^\circ\text{C}$		500			1000			V/μs
Critical Rate of Rise of Off-State Voltage at Commutation (Note 2)	(dI/dt) _c	Without Snubber, $T_J=125^\circ\text{C}$		13			22			A/ms

■ STATIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Peak On-State Voltage (Note 2)	V_{TM}	$I_{TM}=35A, t_p=380\mu s$	$T_J=25^\circ C$			1.55	V
Threshold Voltage (Note 2)	V_{TO}		$T_J=125^\circ C$			0.85	V
Dynamic Resistance (Note 2)	R_D		$T_J=125^\circ C$			16	m Ω
Repetitive Peak Off-State Current	I_{DRM}	$V_{DRM}=V_{RRM}$	$T_J=25^\circ C$			5	μA
	I_{RRM}		$T_J=125^\circ C$			3	mA

Note: 1. Minimum I_{GT} is guaranteed at 5% of I_{GT} max.
2. For both polarities of MT2 referenced to MT1.

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