

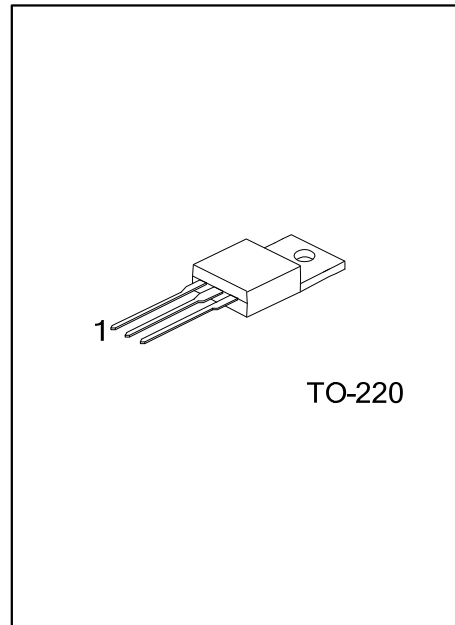
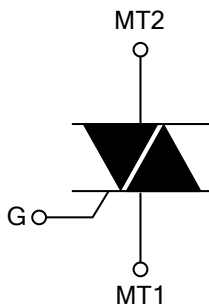
**BTB24**

Preliminary

TRIAC**25A TRIACS****DESCRIPTION**

The UTC **BTB24** is a 25A triacs which can be operated in 4 quadrants, it uses UTC's advanced technology to provide customers with high commutation performances.

The UTC **BTB24** is suitable for AC switching application and phase control application such as fan speed and temperature modulation control, lighting control and static switching relay, either in through-hole or surface-mount packages.

**SYMBOL****ORDERING INFORMATION**

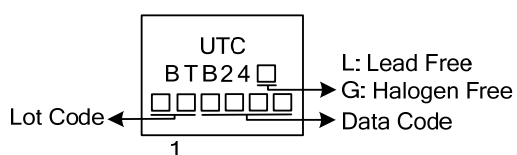
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BTB24L-x-x-TA3-T	BTB24G-x-x-TA3-T	TO-220	MT1	MT2	G	Tube

BTB24L-x-x-TA3-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) TA3: TO-220
	(3)Sensitivity and type	(3) refer to SENSITIVITY AND TYPE
	(4)Voltage	(4) 6: 600V, 8: 800V
	(5)Lead Free	(5) L: Lead Free, G: Halogen Free

SENSITIVITY AND TYPE

PART NUMBER	VOLTAGE		SENSITIVITY	TYPE
	600V	800V		
B	⊙	⊙	50mA	STANDARD

⊙: Available

MARKING

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER			SYMBOL	RATINGS	UNIT
RMS On-State Current (Full Sine Wave)		T _C =75°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 =2xI _{GT} , tr≤100ns	F=120 Hz	T _J =125°C	di/dt	50	A/μs
Non Repetitive Surge Peak Off-State Voltage	t _p =10ms	T _J =25°C	V _{DSM} /V _{RSM}	V _{DRM} /V _{RRM} +100	V
Peak Gate Current	t _p =20μs	T _J =125°C	I _{GM}	4	A
Average Gate Power Dissipation		T _J =125°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 RESISTANCES

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	60	°C/W
Junction to Case (AC)	θ_{JC}	0.8	°C/W

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

FOR STANDARD TYPE (4 QUADRANTS)

PARAMETER	SYMBOL	TEST CONDITIONS	B			UNIT
			MIN	TYP	MAX	
Gate Trigger Current (Note 1)	I_{GT}	$V_D=12V$, $R_L=33\Omega$			50	mA
					100	mA
Gate Trigger Voltage	V_{GT}	ALL			1.3	V
Gate Non-Trigger Voltage	V_{GD}	$V_D=V_{DRM}$, $R_L=3.3k\Omega$, $T_J=125^\circ C$	ALL	0.2		V
Holding Current (Note 2)	I_H	$I_T=500mA$			80	mA
Latching Current	I_L	$I_G=1.2 I_{GT}$			70	mA
					160	mA
Critical Rate of Rise of Off-State Voltage (Note 2)	dV/dt	$V_D=67\%V_{DRM}$, Gate Open, $T_J=125^\circ C$	500			V/ μs
Critical Rate of Rise of Off-State Voltage at Commutation (Note 2)	(dV/dt) _c	(dl/dt) _c =13.3A/ms, $T_J=125^\circ C$	10			V/ μs

■ STATIC CHARACTERISTICS

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

Notes: 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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