

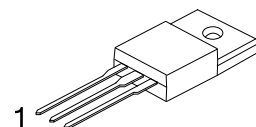
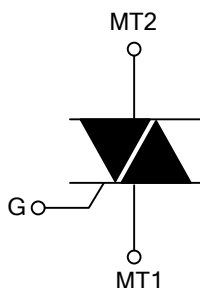
**BTA24**

Preliminary

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

The UTC **BTA24** is a 25A triacs, it uses UTC's advanced technology to provide customers with high commutation performances and voltage insulated tab, etc.

The UTC **BTA24** is suitable for general purpose AC power switching, inductive loads, and an ON/OFF function in applications such as soft start circuits, static relays, water heaters and for phase control operation in high power, etc.

SYMBOL

TO-220F

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BTA24L-x-xx-TF3-T	BTA24G-x-xx-TF3-T	TO-220F	MT1	MT2	G	Tube

BTA24L-x-xx-TF3-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) TF3: TO-220F
	(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		
BW	◎	◎	50mA	SNUBBERLESS
CW	◎	◎	35mA	SNUBBERLESS

◎: Available

■ 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	dl/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	$^{\circ}\text{C}/\text{W}$
Junction to Case (AC)	θ_{JC}	1.7	$^{\circ}\text{C}/\text{W}$

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

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 =12V,	I-II-III			35			50	mA
Gate Trigger Voltage	V _{GT}	R _L =33Ω	I-II-III			1.3			1.3	V
Gate Non-Trigger Voltage	V _{GD}	V _D =V _{DRM} , R _L =3.3kΩ, T _J =125°C	I-II-III	0.2			0.2			V
Holding Current (Note 2)	I _H	I _T =500mA				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°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°C		13			22			A/ms

■ STATIC CHARACTERISTICS

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