



## BTB08

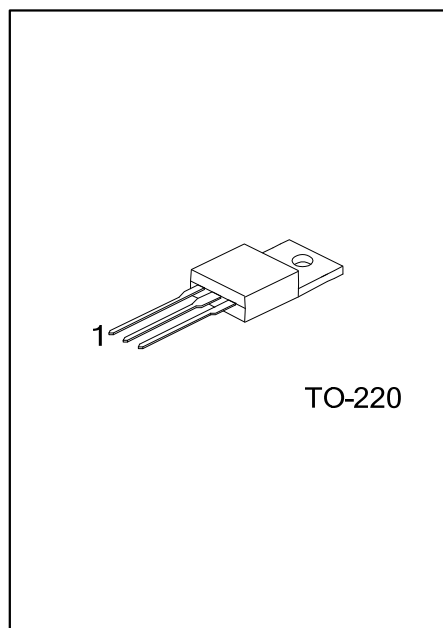
TRIAC

### 8A TRIACS

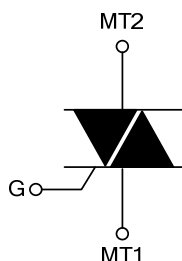
#### DESCRIPTION

The UTC **BTB08** is a 8A triacs which can be operated in 4 quadrants, it uses UTC's advanced technology to provide customers with high commutation performances.

The UTC **BTB08** 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	
BTB08L-x-x-TA3-T	BTB08G-x-x-TA3-T	TO-220	MT1	MT2	G	Tube

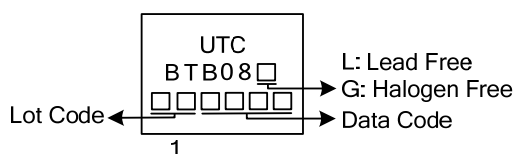
<b>BTB08L-x-x-TA3-T</b>	(1)Packing Type (2)Package Type (3)Sensitivity and type (4)Voltage (5)Lead Free	(1) T: Tube (2) TA3: TO-220 (3) refer to SENSITIVITY AND TYPE (4) 6: 600V, 8: 800V (5) L: Lead Free, G: Halogen Free
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#### SENSITIVITY AND TYPE

PART NUMBER	VOLTAGE		SENSITIVITY	TYPE
	600V	800V		
B	⊙	⊙	50mA	STANDARD
C	⊙	⊙	25mA	STANDARD

⊙: Available

#### MARKING



### ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
RMS On-State Current (Full Sine Wave)	$T_C=100^{\circ}\text{C}$ $I_{T(RMS)}$	8	A
Non Repetitive Surge Peak On-State Current (Full Cycle $T_J$ initial= $25^{\circ}\text{C}$ )	$F=50\text{Hz}$ $t=20\text{ms}$	80	A
	$F=60\text{Hz}$ $t=16.7\text{ms}$	84	A
$I^2t$ Value for Fusing	$t_p=10\text{ms}$ $I^2t$	36	$\text{A}^2\text{s}$
Critical Rate of Rise of On-State Current: $I_G=2I_{GT}$ , $t_r \leq 100\text{ns}$	$F=120\text{Hz}$ $T_J=125^{\circ}\text{C}$ $di/dt$	50	$\text{A}/\mu\text{s}$
Peak Gate Current	$t_p=20\mu\text{s}$ $T_J=125^{\circ}\text{C}$ $I_{GM}$	4	A
Average Gate Power Dissipation	$T_J=125^{\circ}\text{C}$ $P_{G(AV)}$	1	W
Operating Junction Temperature	$T_J$	$-40 \sim +125$	$^{\circ}\text{C}$
Storage Junction Temperature	$T_{STG}$	$-40 \sim +150$	$^{\circ}\text{C}$

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	$\theta_{JA}$	60	$^{\circ}\text{C}/\text{W}$
Junction to Case (AC)	$\theta_{JC}$	1.6	$^{\circ}\text{C}/\text{W}$

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

#### FOR STANDARD (4 QUADRANTS)

PARAMETER	SYMBOL	TEST CONDITIONS	C			B			UNIT
			MIN	TYP	MAX	MIN	TYP	MAX	
Gate Trigger Current (Note 1)	$I_{GT}$	$V_D=12\text{V}$ , $R_L=33\Omega$	I-II-III		25			50	mA
			IV		50			100	mA
Gate Trigger Voltage	$V_{GT}$	ALL			1.3			1.3	V
Gate Non-Trigger Voltage	$V_{GD}$	$V_D=V_{DRM}$ , $R_L=3.3\text{k}\Omega$ , $T_J=125^{\circ}\text{C}$	ALL	0.2		0.2			V
Holding Current (Note 2)	$I_H$	$I_T=500\text{mA}$			25			50	mA
Latching Current	$I_L$	$I_G=1.2I_{GT}$	I-III-IV		40			50	mA
			II		80			100	mA
Critical Rate of Rise of Off-State Voltage (Note 2)	$dV/dt$	$V_D=67\%V_{DRM}$ , Gate Open, $T_J=125^{\circ}\text{C}$	200			400			$\text{V}/\mu\text{s}$
Critical Rate of Rise of Off-State Voltage at Commutation (Note 2)	$(dV/dt)_c$	$(di/dt)_c=5.3\text{A/ms}$ , $T_J=125^{\circ}\text{C}$	5			10			$\text{V}/\mu\text{s}$

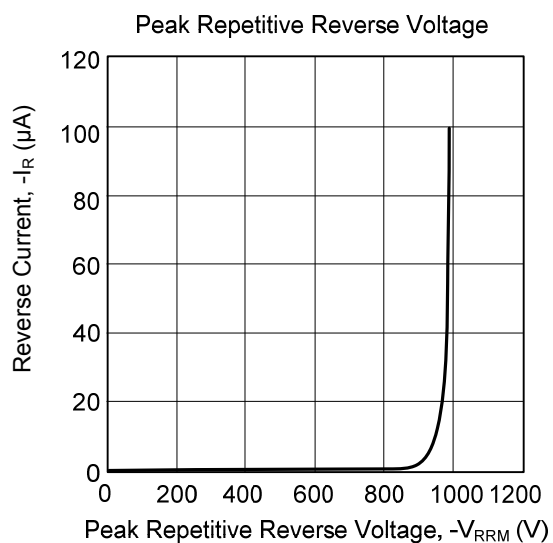
### ■ STATIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Peak On-State Voltage (Note 1)	$V_{TM}$	$I_{TM}=11\text{A}$ , $t_p=380\mu\text{s}$ $T_J=25^{\circ}\text{C}$			1.55	V
Threshold Voltage (Note 2)	$V_{TO}$	$T_J=125^{\circ}\text{C}$			0.85	V
Dynamic Resistance (Note 2)	$R_D$	$T_J=125^{\circ}\text{C}$			50	$\text{m}\Omega$
Repetitive Peak Off-State Current	$I_{DRM}$	$V_{DRM}=V_{RRM}$	$T_J=25^{\circ}\text{C}$		5	$\mu\text{A}$
	$I_{RRM}$		$T_J=125^{\circ}\text{C}$		1	mA

Notes: 1. Minimum  $I_{GT}$  is guaranteed at 5% of  $I_{GT}$  max.

2. For both polarities of MT2 referenced to MT1.

## ■ TYPICAL CHARACTERISTICS



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