



**BTA08**

Preliminary

**TRIAC**

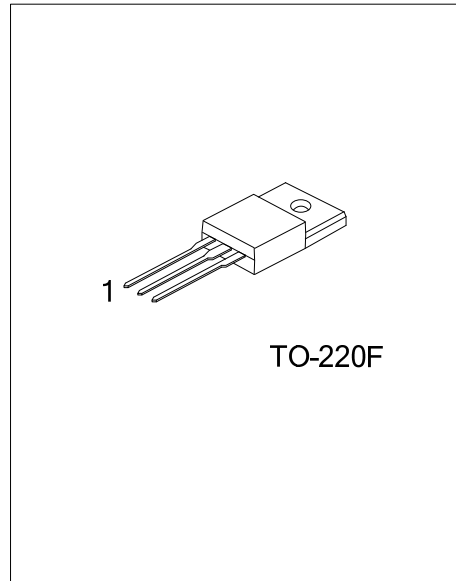
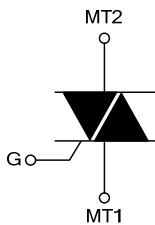
**8A TRIACS**

■ DESCRIPTION

The UTC **BTA08** is a 8A triacs which can be operated in 4 quadrants, it uses UTC's advanced technology to provide customers with high commutation performances, etc.

The UTC **BTA08** 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	
BTA08L-x-x-TF3-T	BTA08G-x-x-TF3-T	TO-220F	MT1	MT2	G	Tube

<p><b>BTA08L-x-x-TF3-T</b></p>	<p>(1) T: Tube                  (2) TF3: TO-220F                  (3) refer to SENSITIVITY AND TYPE                  (4) 6: 600V, 8: 800V                  (5) L: Lead Free, G: Halogen Free</p>
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■ SENSITIVITY AND TYPE

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

⊙: Available

■ MARKING INFORMATION

PACKAGE	MARKING
TO-220F	<p>UTC                  BTA08                  Lot Code                  L: Lead Free                  G: Halogen Free                  Data Code</p>

■ 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=50Hz	$t=20\text{ms}$	$I_{TSM}$	80	A
	F=60Hz	$t=16.7\text{ms}$		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: $I_G=2xI_{GT}$ , $t_r \leq 100\text{ns}$	F=120Hz	$T_J=125^{\circ}\text{C}$	$di/dt$	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~+125	$^{\circ}\text{C}$
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	$\theta_{JA}$	60	$^{\circ}\text{C}/\text{W}$
Junction to Case (AC)	$\theta_{JC}$	2.5	$^{\circ}\text{C}/\text{W}$

■ 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)	$(dV/dt)_C$	$(di/dt)_C=5.3\text{A}/\text{ms}$ , $T_J=125^{\circ}\text{C}$		5			10			$\text{V}/\mu\text{s}$

■ STATIC CHARACTERISTICS

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