



## UBCR2

Preliminary

TRIACS

### 2A TRIAC

#### DESCRIPTION

The UTC **UBCR2** is a 2A standard triac,

The UTC **UBCR2** is suitable for use in electric pot, electric rice cooker and controller for other heater.

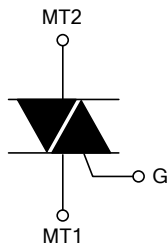
#### FEATURES

\*  $I_{T(RMS)}$ : 2A

\*  $V_{DRM}$ : 800V ( $T_J=125^{\circ}C$ )

\*  $I_{GT\ I-II-III}$ : 10mA

#### SYMBOL



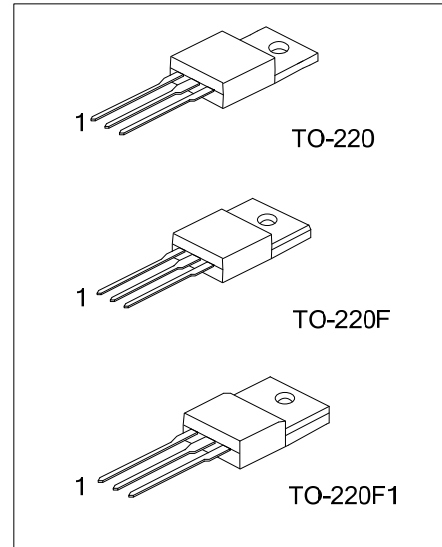
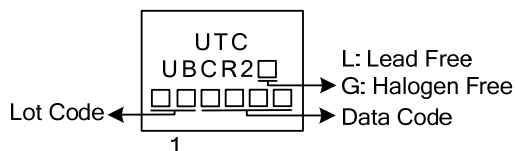
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UBCR2L-x-TA3-T	UBCR2G-x-TA3-T	TO-220	MT1	MT2	G	Tube
UBCR2L-x-TF1-T	UBCR2G-x-TF1-T	TO-220F1	MT1	MT2	G	Tube
UBCR2L-x-TF3-T	UBCR2G-x-TF3-T	TO-220F	MT1	MT2	G	Tube

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

	<p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1</p> <p>(3) 7: 700V, 8: 800V</p> <p>(4) L: Lead Free, G: Halogen Free and Lead Free</p>
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#### MARKING



## ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltage (Note 1)	$V_{DRM}$	800	V
		700	V
Non-Repetitive Peak Off-State Voltage (Note 1)	$V_{DSM}$	840	V
On-State RMS Current (Commercial Frequency, Sine Full Wave 360° Conduction)	$I_{T(RMS)}$	2	A
Surge On-State Current (60Hz Sinewave 1 Full Cycle, Peak Value, Non-Repetitive)	$I_{TSM}$	10	A
$I^2t$ for Fusing (Value Corresponding to 1 Cycle of Half Wave 60Hz, Surge On-State Current)	$I^2t$	0.41	A <sup>2</sup> s
Peak Gate Current	$I_{GM}$	1	A
Peak Gate Power Dissipation	$P_{GM}$	1	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.1	W
Peak Gate Voltage	$V_{GM}$	6	V
Operating Junction Temperature	$T_J$	-40 ~ +150	°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	$\theta_{JA}$		°C/W
			°C/W
		45	°C/W

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Gate Trigger Current (Note 2)	$I_{GT}$	$T_J=25^\circ\text{C}$ , $V_D=6\text{V}$ , $R_L=6\Omega$ , $R_G=330\Omega$	I		10	mA
			II		10	mA
			III		10	mA
Gate Trigger Voltage (Note 2)	$V_{GT}$	$T_J=25^\circ\text{C}$ , $V_D=6\text{V}$ , $R_L=6\Omega$ , $R_G=330\Omega$	I		2.0	V
			II		2.0	V
			III		2.0	V
Gate Non-Trigger Voltage	$V_{GD}$	$T_J=150^\circ\text{C}$ , $V_D=1/2 V_{DRM}$	0.1			V
Holding Current (Note 2)	$I_H$	$I_T=300\text{mA}$		2.98		mA
Latching Current	$I_L$	$I_G=1.2I_{GT}$	I-II	5		mA
			II	10		mA
Critical Rate of Rise of Off-State commutation Voltage (Note 3)	$(dv/dt)_c$	$T_J=125^\circ\text{C}$	0.5			V/ $\mu\text{s}$

## ■ STATIC CHARACTERISTICS

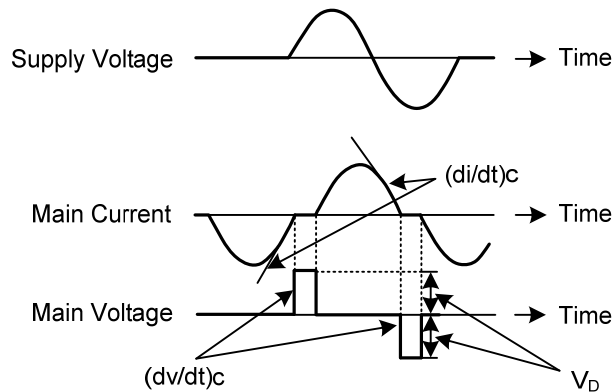
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
On-State Voltage	$V_{TM}$	$T_J=25^\circ\text{C}$ , $I_{TM}=3\text{A}$ , Instantaneous Measurement			2.1	V
Repetitive Peak Off-State Current	$I_{DRM}$	$T_J=150^\circ\text{C}$ , $V_{DRM}$ Applied			1.0	mA

Notes: 1. Gate open.

2. Measurement using the gate trigger characteristics measurement circuit.

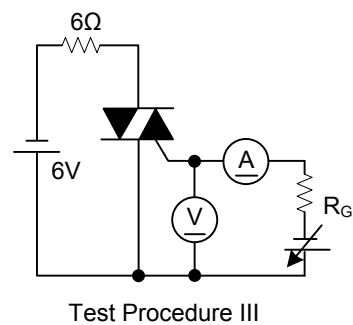
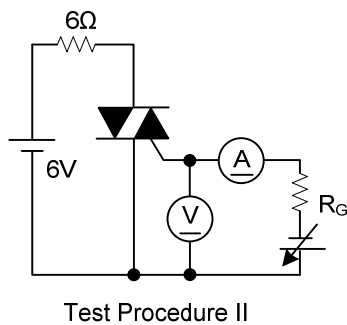
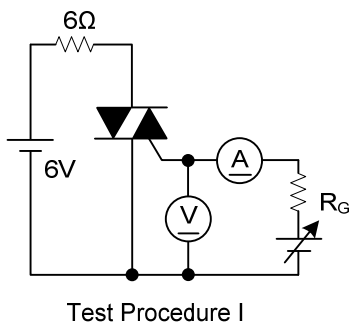
3. Test conditions of the critical-rate of rise of off-state commutation voltage is shown in the table below.

## ■ COMMUTATING VOLTAGE AND CURRENT WAVEFORMS (INDUCTIVE LOAD)



Note: Test Conditions: 1. Junction temperature:  $T_J=125^\circ\text{C}$   
 2. Rate of decay of on-state commutating current:  $(di/dt)_c=-1.0\text{A/ms}$   
 3. Peak off-state voltage:  $V_D=400\text{V}$

## ■ TEST CIRCUITS



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