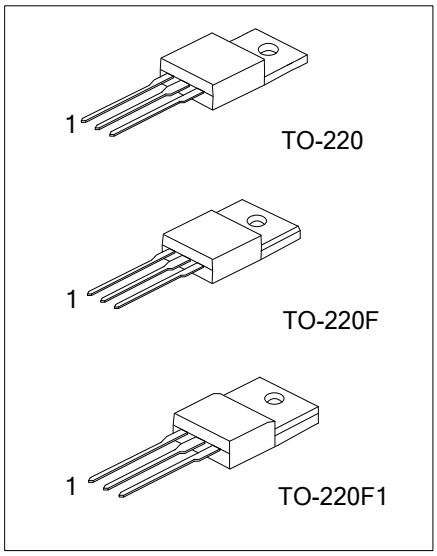
UBCR308

TRIAC

8A TRIAC



■ DESCRIPTION

The UTC **UBCR308** is an 8A standard triac.

The UTC **UBCR308** is suitable for use in inversion operation of capacitor motor, washing machine and other general controlling devices.

■ FEATURES

* $I_{T(RMS)}$: 8A
* V_{DRM}: 700V
* I_{FGTI}, I_{RGTI}, I_{RGTIII}: 30mA

■ SYMBOL

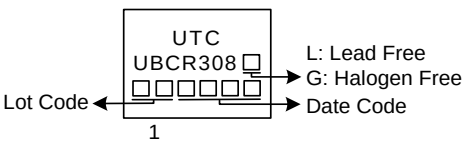
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UBCR308L-x-TA3-T	UBCR308G-x-TA3-T	TO-220	MT1	MT2	G	Tube
UBCR308L-x-TF1-T	UBCR308G-x-TF1-T	TO-220F1	MT1	MT2	G	Tube
UBCR308L-x-TF3-T	UBCR308G-x-TF3-T	TO-220F	MT1	MT2	G	Tube

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

UBCR308G-x-TA3-T (1)Packing Type (2)Package Type (3)V_{DRM} (4)Green Package	(1) T: Tube (2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1 (3) 7: 700V (4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltage (Note)	V_{DRM} / V_{RRM}	700	V
On-State RMS Current (Commercial Frequency, Sine Full Wave 360° Conduction, T_C=88°C)	$I_{T(RMS)}$	8	A
Surge On-State Current (60Hz Sinewave 1 Full Cycle, Peak Value, Non-Repetitive)	I_{TSM}	80	A
I^2t for Fusing (Value Corresponding to 1 Cycle of Half Wave 60Hz, Surge On-State Current)	I^2t	26	A^2s
Peak Gate Current	I_{GM}	2	A
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.5	W
Peak Gate Voltage	V_{GM}	10	V
Isolation Voltage (Note)	V_{ISO}	2000	V
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 DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Case	TO-220	θ_{JC}	2.0	°C/W
	TO-220F/TO-220F1		3.7	°C/W

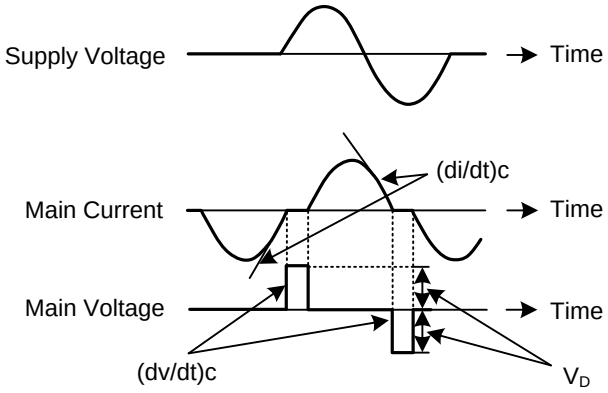
The contact thermal resistance θ_{CF} in case of greasing is 0.5°C/W.

■ ELECTRICAL CHARACTERISTICS (T_J=25 °C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Repetitive Peak Off-State Current	I_{DRM}	T_J=125°C, V_{DRM} Applied				2.0	mA
On-State Voltage	V_{TM}	T_C=25°C, I_{TM}=12A, Instantaneous Measurement				1.6	V
Gate Trigger Voltage (Note 2)	V_{GT}	T_J=25°C, V_D=6V, R_L= 6Ω, R_G=330Ω	T2+G+			1.5	V
			T2+G-			1.5	V
			T2-G-			1.5	V
Gate Trigger Current (Note 2)	I_{GT}	T_J=25°C, V_D=6V, R_L= 6Ω, R_G=330Ω	T2+G+			30 (Note 4)	mA
			T2+G-			30 (Note 4)	mA
			T2-G-			30 (Note 4)	mA
Gate Non-Trigger Voltage	V_{GD}	T_J=125°C, V_D=1/2 V_{DRM}		0.2			V
Critical Rate of Rise of Off-State commutation Voltage (Note 3)	(dv/dt)c	T_J=125°C		10			V/μs

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.
4. High sensitivity (I_{GT}≤20mA) is also available. (I_{GT} item: 1)

■ COMMUTATING VOLTAGE AND CURRENT WAVEFORMS (INDUCTIVE LOAD)



Test conditions: 1. Junction temperature: T_J=125°C
2. Rate of decay of on-state commutating current: (di/dt)c=-4.0A/ms
3. Peak off-state voltage: V_D=400V

■ TEST CIRCUITS