



UCR8PM

Preliminary

TRIAC

8A TRIAC

DESCRIPTION

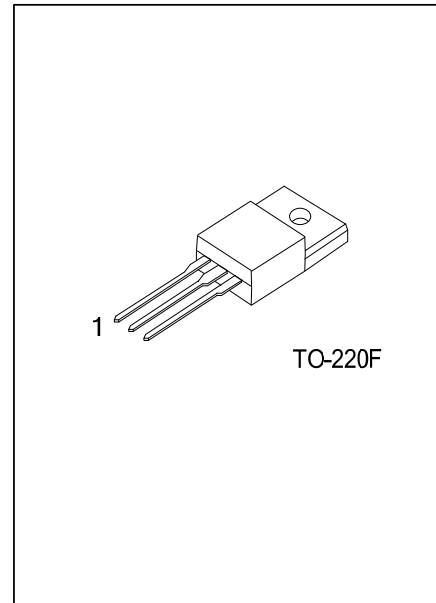
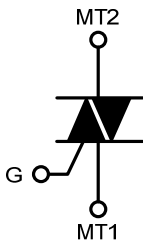
The UTC **UCR8PM** is an 8A standard triac.

The UTC **UCR8PM** 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_{FGT} , I_{RGT} , $I_{RGT(III)}$: 30mA

SYMBOL



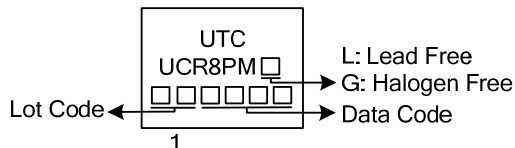
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UCR8PML-TF3-T	UCR8PMG-TF3-T	TO-220F	MT1	MT2	G	Tube

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

<p>UCR8PMG-TF3-T</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) T: Tube (2) TF3: TO-220F (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltage (Note)	V_{DRM}	700	V
Non-Repetitive Peak Off-State Voltage (Note)	V_{DSM}	840	V
On-State RMS Current (Commercial Frequency, Sine Full Wave 360° Conduction, $T_C=88^{\circ}\text{C}$)	$I_{\text{T(RMS)}}$	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	$P_{\text{G(AV)}}$	0.5	W
Peak Gate Voltage	V_{GM}	10	V
Isolation Voltage (Note)	V_{ISO}	2000	V
Operating Junction Temperature	T_{J}	-40~+125	$^{\circ}\text{C}$
Storage Junction Temperature	T_{STG}	-40~+125	$^{\circ}\text{C}$

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 Case	θ_{JC}	3.7	$^{\circ}\text{C/W}$

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

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Repetitive Peak Off-State Current	I_{DRM}	$T_{\text{J}}=125^{\circ}\text{C}$, V_{DRM} Applied			2.0	mA
On-State Voltage	V_{TM}	$T_{\text{C}}=25^{\circ}\text{C}$, $I_{\text{TM}}=12\text{A}$, Instantaneous Measurement			1.6	V
Gate Trigger Voltage (Note 2)	V_{GT}	$T_{\text{J}}=25^{\circ}\text{C}$, $V_{\text{D}}=6\text{V}$, $R_{\text{L}}=6\Omega$, $R_{\text{G}}=330\Omega$	T2+G+		1.5	V
			T2+G-		1.5	V
			T2-G-		1.5	V
Gate Trigger Current (Note 2)	I_{GT}	$T_{\text{J}}=25^{\circ}\text{C}$, $V_{\text{D}}=6\text{V}$, $R_{\text{L}}=6\Omega$, $R_{\text{G}}=330\Omega$	T2+G+		30 (Note 4)	mA
			T2+G-		30 (Note 4)	mA
			T2-G-		30 (Note 4)	mA
Gate Non-Trigger Voltage	V_{GD}	$T_{\text{J}}=125^{\circ}\text{C}$, $V_{\text{D}}=1/2 V_{\text{DRM}}$	0.2			V
Critical Rate of Rise of Off-State commutation Voltage (Note 3)	$(dv/dt)_{\text{c}}$	$T_{\text{J}}=125^{\circ}\text{C}$	10			$\text{V}/\mu\text{s}$

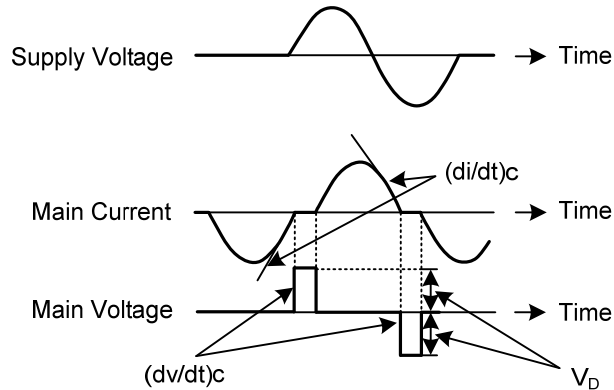
Notes: 1. Gate open.

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.

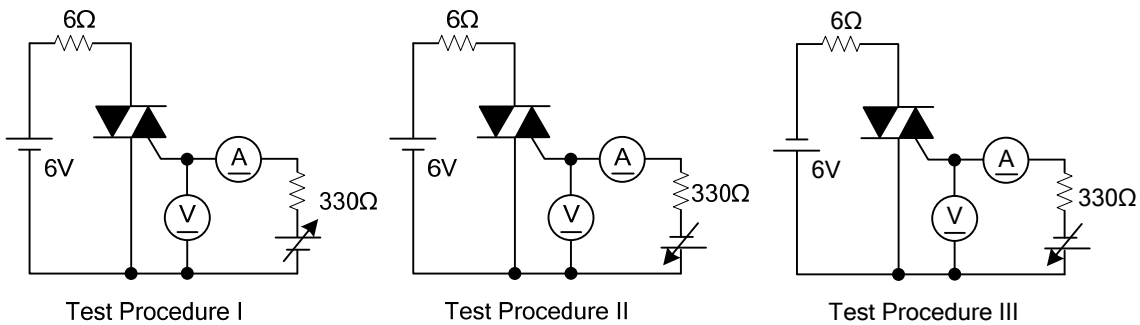
4. High sensitivity ($I_{\text{GT}} \leq 20\text{mA}$) is also available. (I_{GT} item: 1)

■ COMMUTATING VOLTAGE AND CURRENT WAVEFORMS (INDUCTIVE LOAD)



- Test conditions:
1. Junction temperature: $T_J=125^{\circ}\text{C}$
 2. Rate of decay of on-state commutating current: $(di/dt)_c=-4.0\text{A/ms}$
 3. Peak off-state voltage: $V_D=400\text{V}$

■ TEST CIRCUITS



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