



UUR1540

Preliminary

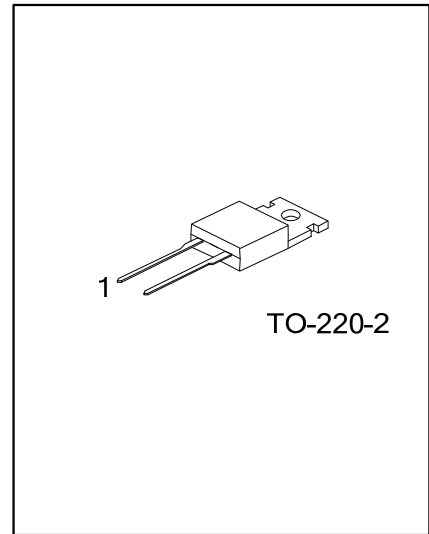
DIODE

SWITCHMODE ULTRAFAST POWER RECTIFIER

DESCRIPTION

The UTC **UUR1540** is a switchmode ultrafast power rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high surge capacity, etc.

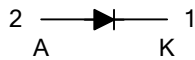
The UTC **UUR1540** is suitable for instrumentation and power management, etc



FEATURES

- * Ultra-fast switching
- * Low forward voltage drop
- * High efficiency and low power loss
- * High surge capacity

SYMBOL



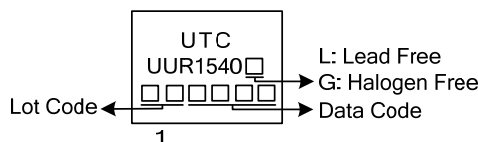
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UUR1540L-TA2-T	UUR1540G-TA2-T	TO-220-2	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>UUR1540L-TA2-T</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) T: Tube (2) TA2: TO-220-2 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
---	--

MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	400	V
Working Peak Reverse Voltage	V_{RWM}	400	V
DC Blocking Voltage	V_R	400	V
Average Rectified Forward Current ($T_C=145^\circ\text{C}$)	$I_{F(AV)}$	15	A
Non-Repetitive Peak Surge Current (Half wave 1 Phase 60Hz)	I_{FSM}	200	A
Junction Temperature	T_J	-55 ~ +175	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +175	$^\circ\text{C}$

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 CHARACTERISTICS (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	62.5	$^\circ\text{C/W}$
Junction to Case	θ_{JC}	2.0	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage (Note 1)	V_F	$I_F=15\text{A}$			1.25	V
		$I_F=15\text{A}, T_C=150^\circ\text{C}$			1.12	V
Instantaneous Reverse Current (Note 1)	I_R	$V_R=400\text{V}$			100	μA
		$V_R=400\text{V}, T_C=150^\circ\text{C}$			500	μA
Reverse Recovery Time, Summation of $t_a + t_b$.	t_{rr}	$I_F=1\text{A}, dI_F/dt=100\text{A}/\mu\text{s}$			55	ns
		$I_F=15\text{A}, dI_F/dt=100\text{A}/\mu\text{s}$			60	ns
Time to Reach Peak Reverse Current	t_a	$I_F=15\text{A}, dI_F/dt=100\text{A}/\mu\text{s}$		30		ns
Time from Peak I_{RM} to Projected Zero Crossing of I_{RM} Based on a Straight Line from Peak I_{RM} Through 25% of I_{RM}	t_b	$I_F=15\text{A}, dI_F/dt=100\text{A}/\mu\text{s}$		17		ns

Notes: 1. Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

2. Short duration test pulse used to minimize self-heating effect.

■ TEST CIRCUITS AND WAVEFORMS

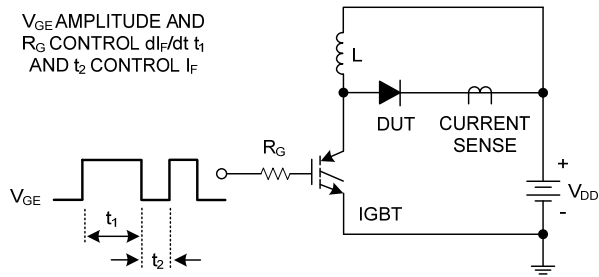


Fig 1. trr Test Circuit

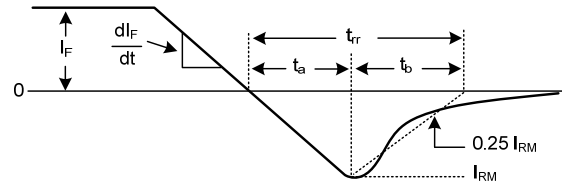


Fig 2. t_{rr} Waveforms and Definitions

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.