



## UUR1540

DIODE

### SWITCHMODE ULTRAFAST POWER RECTIFIER

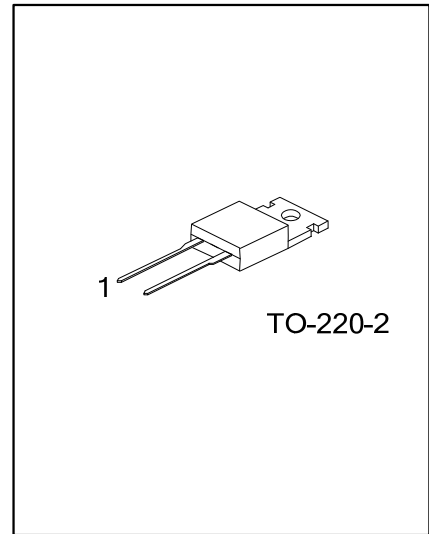
#### DESCRIPTION

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.

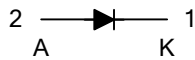
The UTC **UUR1540** is suitable for instrumentation and power management, etc

#### FEATURES

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



#### SYMBOL



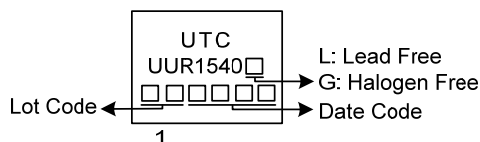
#### ORDERING INFORMATION

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>UUR1540G-TA2-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube (2) TA2: TO-220-2 (3) G: Halogen Free and Lead Free, L: 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 ~ +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +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 CHARACTERISTICS (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	62.5	$^{\circ}\text{C/W}$
Junction to Case	$\theta_{JC}$	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	$\mu\text{A}$
		$V_R=400\text{V}, T_C=150^{\circ}\text{C}$			500	$\mu\text{A}$
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

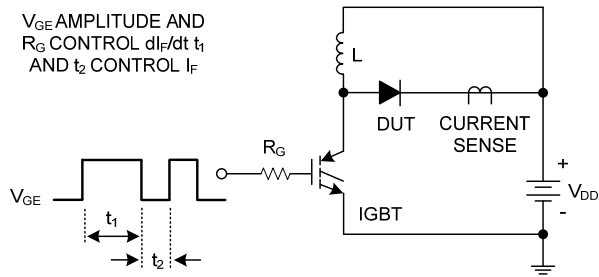


Fig 1. trr Test Circuit

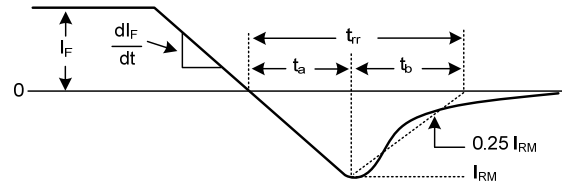
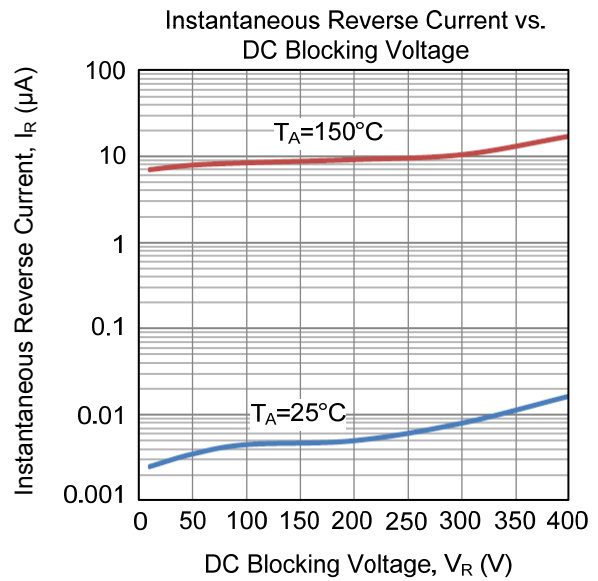
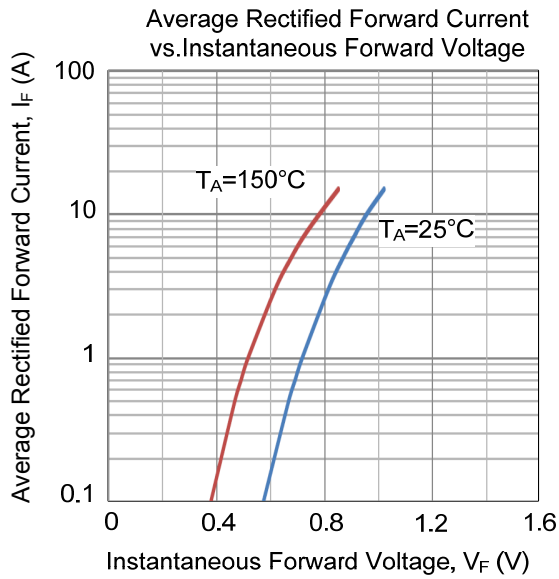


Fig 2.  $t_{rr}$  Waveforms and Definitions

■ TYPICAL CHARACTERISTICS



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. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.