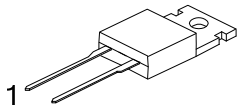
UUR1540

DIODE

SWITCHMODE ULTRAFAST POWER RECTIFIER



TO-220-2

■ 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

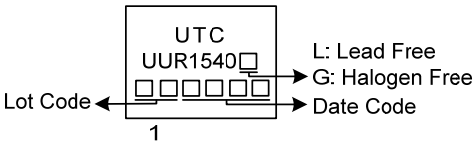
UUR1540G-TA2-T

(1)Packing Type — (1) T: Tube

(2)Package Type — (2) TA2: TO-220-2

(3)Green Package — (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_C=25°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°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	°C
Storage Temperature	T_{STG}	-55 ~ +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 CHARACTERISTICS (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	62.5	°C/W
Junction to Case	θ_{JC}	2.0	°C/W

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage (Note 1)	V_F	I_F=15A			1.25	V
		I_F=15A, T_C=150°C			1.12	V
Instantaneous Reverse Current (Note 1)	I_R	V_R=400V			100	μA
		V_R=400V, T_C=150°C			500	μA
Reverse Recovery Time, Summation of t_a + t_b.	t_{rr}	I_F=1A, dI_F/dt=100A/μs			55	ns
		I_F=15A, dI_F/dt=100A/μs			60	ns
Time to Reach Peak Reverse Current	t_a	I_F=15A, dI_F/dt=100A/μs		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=15A, dI_F/dt=100A/μs		17		ns

Notes: 1. Pulse width ≤ 300μs, duty cycle ≤ 2%.
2. Short duration test pulse used to minimize self-heating effect.

■ TEST CIRCUITS AND WAVEFORMS

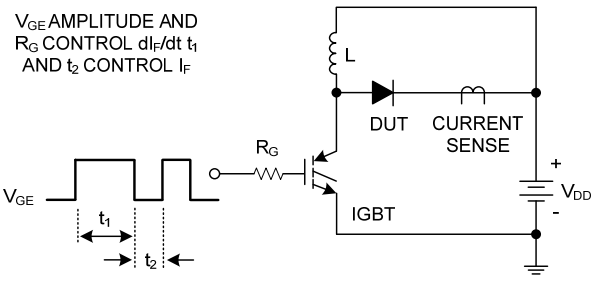


Fig 1. trr Test Circuit

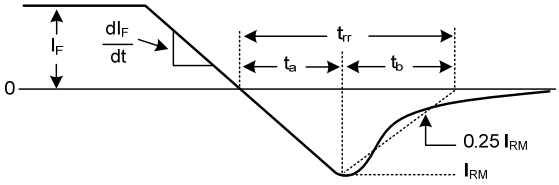


Fig 2. t_{rr} Waveforms and Definitions

■ TYPICAL CHARACTERISTICS