



UHFR30120

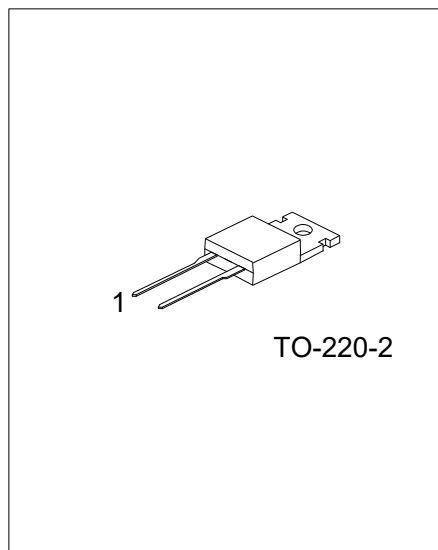
Preliminary

FAST RECOVERY EPITAXIAL DIODE

HYPERFAST RECOVERY RECTIFIER PLANAR FRED

DESCRIPTION

The UTC **UHFR30120** is a hyperfast recovery rectifier, featuring a unique combination of low conduction and switching losses, this rectifier is the right choice for high frequency converters, both soft switched / resonant. Specifically designed to improve efficiency of PFC and output rectification stages of EV / HEV battery charging stations, booster stage of solar inverters and UPS applications, these devices are perfectly matched to operate with MOSFETs or high speed IGBTs.



FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability
- * High speed switching
- * High speed switching

SYMBOL



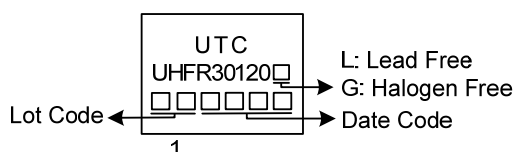
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UHFR30120L-TA2-T	UHFR30120G-TA2-T	TO-220-2	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

UHFR30120G-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 ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

PARAMETER	SYMBOL	RATINGS	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	1200	V
Average forward current, $\delta=0.5\%$	$I_{F(AV)}$	30	A
Repetitive peak forward current	I_{FRM}	60	A
Surge non repetitive forward current	I_{FSM}	180	A
Operating Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 ~ +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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	2	$^{\circ}\text{C/W}$

■ ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward voltage drop (Note 1)	V_F	$I_F=30\text{A}$	$T_J=25^{\circ}\text{C}$		2.1	V
			$T_J=150^{\circ}\text{C}$		1.7	V
Junction to Case (Note 2)	I_R	$V_R=V_{RRM}$	$T_J=25^{\circ}\text{C}$		10	μA
			$T_J=150^{\circ}\text{C}$		1	mA
Reverse recovery time	t_{rr}	$I_F=1.0\text{A}, V_R=30\text{V}, dI_F/dt=-50\text{A}/\mu\text{s}, T_J=25^{\circ}\text{C}$		56		ns
		$I_F=30\text{A}, V_R=30\text{V}, dI_F/dt=-100\text{A}/\mu\text{s}, T_J=25^{\circ}\text{C}$		70		ns

Notes: 1. Pulse test: $t_p = 380\text{ ms}$, $\delta = 2\%$.

2. Pulse test: $t_p = 5\text{ ms}$, $\delta = 2\%$.

3. To evaluate the conduction losses use the following equation: $P=1.6 \times I_{F(AV)} + 0.012 I_F^2 (\text{RMS})$.

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.