



UHFR30120

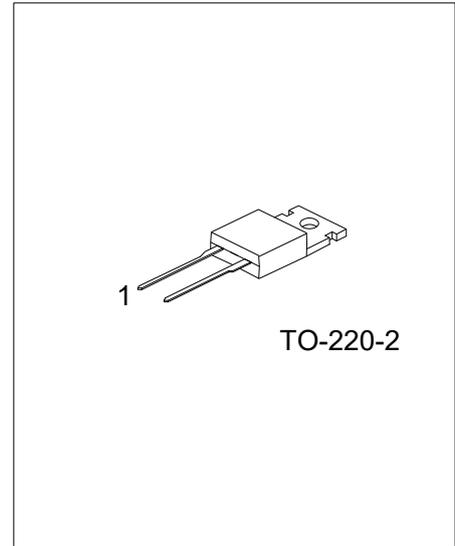
Preliminary

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



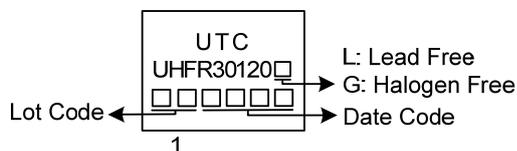
ORDERING INFORMATION

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

<p>UHFR30120G-TA2-T</p>	<p>(1) T: Tube</p> <p>(2) TA2: TO-220-2</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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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	$^\circ\text{C}/\text{W}$

■ 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	

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: $P=1.6 \times I_{F(AV)} + 0.012 I_F^2$ (RMS).

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