

**UFR12120**

Preliminary

FAST RECOVERY EPITAXIAL DIODE**SUPERFAST RECOVERY
RECTIFIER****DESCRIPTION**

The UTC **UFR12120** is a superfast recovery rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop, low leakage, high current capability and high surge capability etc. These characteristics make it ideal for heavy duty applications that demand long term reliability. also fit into auxiliary functions such as snubber, bootstrap, and demagnetization applications.

FEATURES

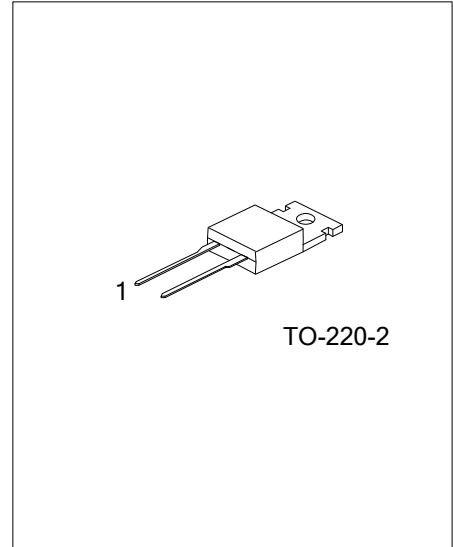
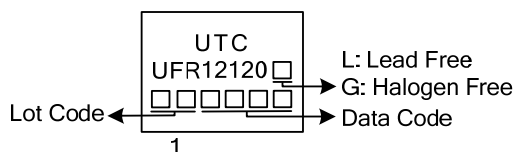
- * Ultrafast, soft recovery
- * Very low conduction and switching losses
- * High frequency and or high pulsed current operation
- * High reverse voltage capability
- * High junction temperature

SYMBOL**ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UFR12120L-TA2-T	UFR12120G-TA2-T	TO-220-2	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

UFR12120L-TA2-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) TA2: TO-220-2
	(3)Green Package	(3) L: Lead Free, G: Halogen Free and Lead Free

MARKING

TO-220-2

■ 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, $\delta=0.5\%$	$I_{F(AV)}$	12	A
Repetitive peak forward current	I_{FRM}	160	A
Surge non repetitive forward current	I_{FSM}	100	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	$I_F=12\text{A}$			2.2	V
		$T_J=25^{\circ}\text{C}$			2.0	V
		$T_J=125^{\circ}\text{C}$			1.9	V
Junction to Case (Note 2)	I_R	$V_R=V_{RRM}$			10	μA
		$T_J=125^{\circ}\text{C}$			100	μA
Reverse recovery time	t_{rr}	$I_F=1.0\text{A}, V_R=30\text{V}, dI_F/dt=50\text{A}/\mu\text{s}, T_J=25^{\circ}\text{C}$			100	ns
		$I_F=1.0\text{A}, V_R=30\text{V}, dI_F/dt=100\text{A}/\mu\text{s}, T_J=25^{\circ}\text{C}$		50	70	ns
Reverse recovery current	I_{RM}	$I_F=12\text{A}, V_R=600\text{V}, dI_F/dt=200\text{A}/\mu\text{s}, T_J=125^{\circ}\text{C}$		16	24	A

Notes: 1. Pulse test: $t_P = 5\text{ ms}$, $\delta = 2\%$.

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

3. To evaluate the conduction losses use the following equation: $P = 1.5 \times I_{F(AV)} + 0.033 I_F^2 (\text{RMS})$.

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