



UFR30120

Preliminary

FAST RECOVERY EPITAXIAL DIODE

SUPERFAST RECOVERY RECTIFIER

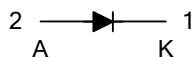
DESCRIPTION

The UTC **UFR30120** 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



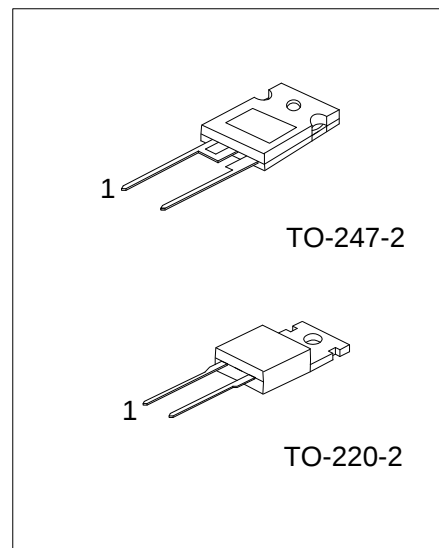
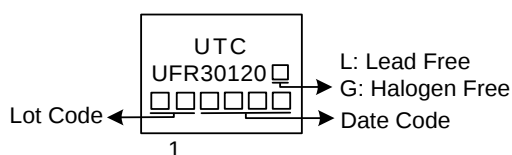
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UFR30120L-TA2-T	UFR30120G-TA2-T	TO-220-2	K	A	Tube
UFR30120L-T472-T	UFR30120G-T472-T	TO-247-2	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

UFR30120G-TA2-T (1) Packing Type (2) Package Type (3) Green Package	(1) T: Tube (2) TA2: TO-220-2, T472: TO-247-2 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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, $\delta=0.5\%$	T _C =130°C I _{F(AV)}	30	A
Repetitive peak forward current	t _p =5μs, F=5kHz square I _{FRM}	300	A
Surge non repetitive forward current	t _p =10ms Sinusoidal I _{FSM}	210	A
Operating Junction Temperature	T _J	+150	°C
Storage Temperature Range	T _{STG}	-65 ~ +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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	TO-220-2	1.2	°C/W
	TO-247-2	0.8	°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 =30A			3.2	V
					2.6	V
Junction to Case (Note 2)	I _R	V _R =V _{RRM}			250	μA
					1	mA
Reverse recovery time	t _{rr}	I _F =1.0A, V _R =30V, dI _F /dt=-100A/μs, T _J =25°C			65	ns
		I _F =30A, V _R =30V, dI _F /dt=-100A/μs, T _J =25°C			85	ns
Reverse recovery current	I _{RM}	I _F =30A, V _R =600V, dI _F /dt=-200A/μs, T _J =125°C		25	35	A
Softness factor	S	I _F =30A, V _R =600V, dI _F /dt=-200A/μs, T _J =125°C		1.5		
Forward recovery time	t _{fr}	I _F =30A, V _R =100V, V _{FR} =1.5×V _{F_MAX} , T _J =25°C			550	ns
Forward recovery voltage	V _{FP}	I _F =30A, dI _F /dt=100A/μs, T _J =25°C		6		V

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

2. Pulse test: t_p = 5 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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