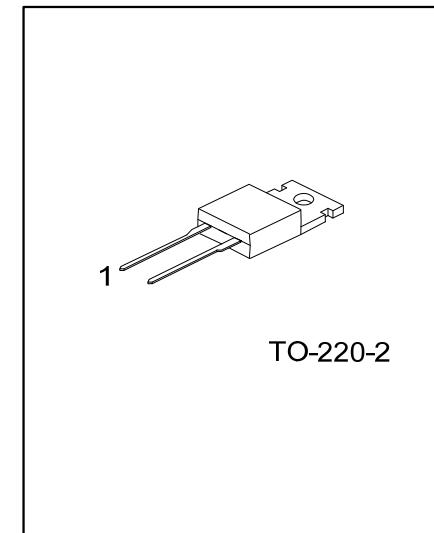


SUPERFAST RECOVERY  
RECTIFIER

## ■ DESCRIPTION

The UTC **UFR4060** 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

- \* Ultra-Fast Recovery Time for High Efficiency
- \* Low Forward Voltage Drop, High Current Capability and Low Power Loss

## ■ SYMBOL



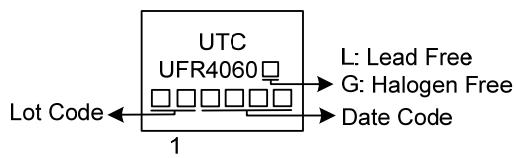
## ■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UFR4060L-TA2-T	UFR4060G-TA2-T	TO-220-2	K	A	Tube

Note: Pin Assignment: K: Cathode A: Anode

UFR4060G-TA2-T	(1)Packing Type (2)Package Type (3)Green Package	(1) T: Tube (2) TA2: TO-220-2 (3) G: Halogen Free and Lead Free, L: Lead Free
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## ■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

PARAMETER	SYMBOL	RATINGS	UNIT
Maximum D.C. Reverse Voltage	$V_R$	600	V
Repetitive Peak Reverse Voltage	$V_{RRM}$	600	V
Maximum Working Peak Reverse Voltage	$V_{RWM}$	600	V
Average forward current, $\delta= 0.5\%$	$T_C=130^\circ\text{C}$	$I_{F(AV)}$	A
Surge non repetitive forward current	$t_P=10\text{ms}$ Sinusoidal	$I_{FSM}$	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 (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	$\theta_{JC}$	1.2	$^\circ\text{C}/\text{W}$

■ ELECTRICAL CHARACTERISTICS

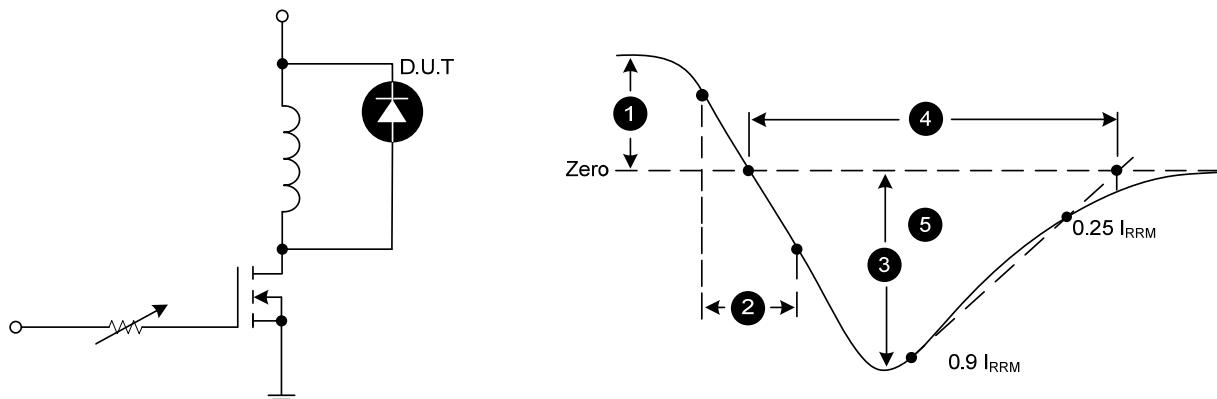
Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward voltage drop (Note 1)	$V_F$	$I_F=40\text{A}$	$T_J=25^\circ\text{C}$		1.2	1.5 V
Instantaneous Reverse Current (Note 2)	$I_R$	$V_R=V_{RRM}$	$T_J=25^\circ\text{C}$		10	$\mu\text{A}$
Reverse recovery time	$t_{rr}$	$I_F=40\text{A}$ , $dI_F/dt=-100\text{A}/\mu\text{s}$ $T_J=25^\circ\text{C}$		66		ns

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

2. Pulse test:  $t_P = 5$  ms,  $\delta = 2\%$ .

## ■ TEST CIRCUITS AND WAVEFORMS



Diode Reverse Recovery Test Circuit and Waveform

1.  $I_F$  - Forward Conduction Current
2.  $di/dt$  - Rate of Diode Current Change Through Zero Crossing.
3.  $I_{RRM}$  - Maximum Reverse Recovery Current.
4.  $t_{rr}$  - Reverse Recovery Time, measured from zero crossing where diode current goes from positive to negative, to the point at which the straight line through  $I_{RRM}$  and  $0.25 \cdot I_{RRM}$  passes through zero.
5.  $Q_{rr}$  - Area Under the Curve Defined by  $I_{RRM}$  and  $t_{rr}$ .

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