



UFR4060C

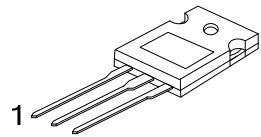
Preliminary

FAST RECOVERY EPITAXIAL DIODE

ULTRAFAST SOFT RECOVERY
RECTIFIER DIODE

■ DESCRIPTION

The UTC **UFR4060C** utilizes advanced processing techniques to achieve ultrafast recovery times and higher forward current. Its soft recovery characteristics and high reliability suit for wide industrial applications.

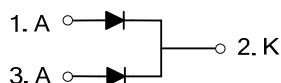


TO-247

■ FEATURES

- * Ultrafast Recovery Time
- * Soft Recovery Characteristics
- * Low Recovery Loss
- * Low Forward Voltage
- * High Surge Current Capability
- * Low Leakage Current

■ SYMBOL



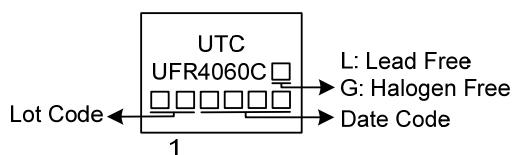
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UFR4060CL-T47-T	UFR4060CG-T47-T	TO-247	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

UFR4060CG-T47-T	<ul style="list-style-type: none">(1)Packing Type(2)Package Type(3)Green Package	<ul style="list-style-type: none">(1) T: Tube(2) T47: TO-247(3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Maximum D.C. Reverse Voltage	V_R	600	V
Maximum Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Maximum Working Peak Reverse Voltage	V_{RWM}	600	V
Maximum Average Forward Current ($T_c=110^\circ\text{C}$)	Per Leg	20	A
	Total	40	A
Non-Repetitive Forward Surge Current ($T_J=45^\circ\text{C}$, $t=10\text{ms}$, 50Hz, Sine)	I_{FSM}	150	A
Operating Temperature Range	T_J	-40 ~ +150	°C
Storage Temperature Range	T_{STG}	-40 ~ +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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	θ_{JC}	0.8	°C/W

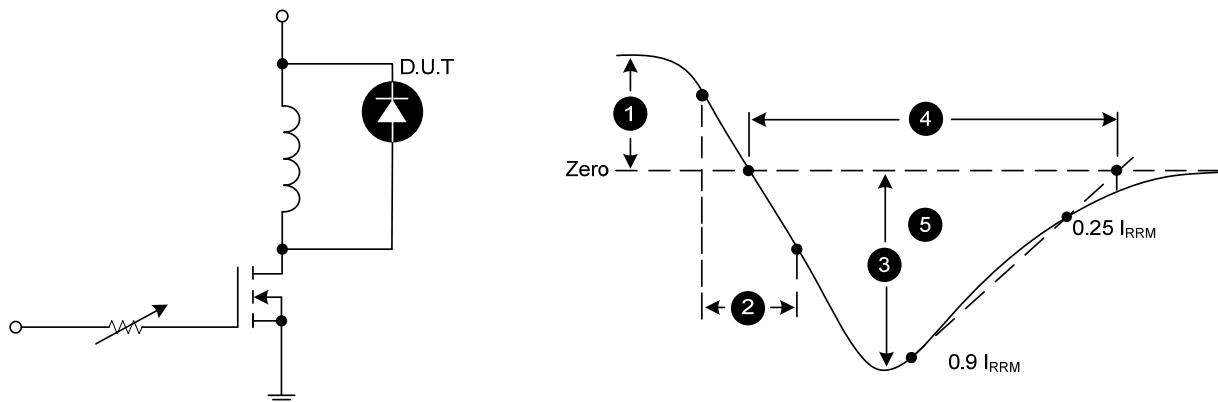
■ STATIC ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	V_F	$I_F=20\text{A}$		1.3	1.6	V
Maximum Reverse Leakage Current	I_{RM}	$V_R=600\text{V}$ $V_R=600\text{V}, T_J=125^\circ\text{C}$		10	500	μA

■ DYNAMIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Recovery Time	t_{rr}	$I_F=40\text{A}, dI_F/dt=-100\text{A}/\mu\text{s}$		48		ns

■ TEST CIRCUITS AND WAVEFORMS



Diode Reverse Recovery Test Circuit and Waveform

1. I_F - Forward Conduction Current
2. di_F/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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