



UFR10040C

FAST RECOVERY EPITAXIAL DIODE

ULTRAFAST SOFT RECOVERY RECTIFIER DIODE

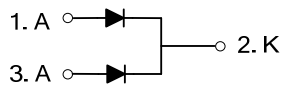
DESCRIPTION

The UTC **UFR10040C** 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.

FEATURES

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

SYMBOL



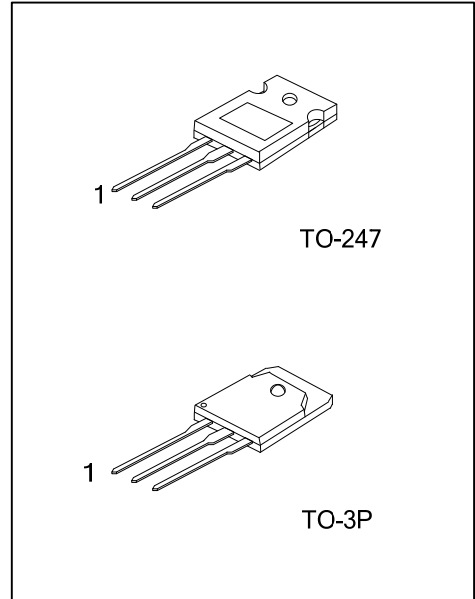
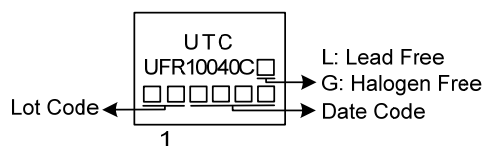
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UFR10040CL-T3P-T	UFR10040CG-T3P-T	TO-3P	A	K	A	Tube
UFR10040CL-T47-T	UFR10040CG-T47-T	TO-247	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

UFR10040CG-T3P-T	(1)Packing Type (2)Package Type (3)Green Package	(1) T: Tube (2) T3P: TO-3P, T47: TO-247 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Maximum D.C. Reverse Voltage	V _R	400	V
Maximum Peak Repetitive Reverse Voltage	V _{RRM}	400	V
Maximum Working Peak Reverse Voltage	V _{RWM}	400	V
Maximum Average Forward Current (T _C =110°C)	Per Leg	50	A
	Total	100	A
RMS Forward Current (T _C =110°C)	I _{F(RMS)}	50	A
Non-Repetitive Forward Surge Current (T _J =45°C, t=10ms, 50Hz, Sine)	I _{FSM}	300	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
Junction to Case	θ _{JC}	0.8	°C/W

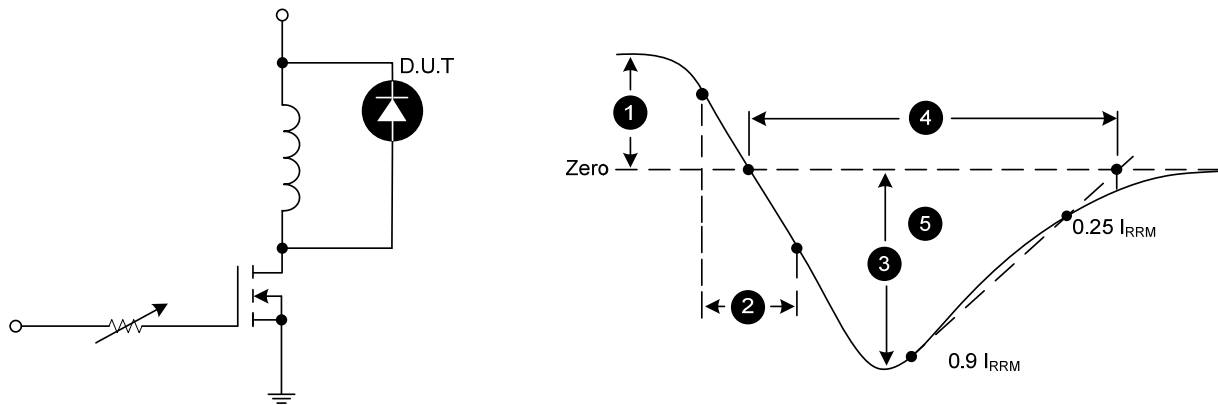
■ STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	V _F	I _F =50A			1.5	V
		I _F =50A, T _J =150°C			1.3	V
Maximum Reverse Leakage Current	I _{RM}	V _R =400V			1	μA
		V _R =400V, T _J =150°C			100	μA

■ DYNAMIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Recovery Time	t _{rr}	I _F =1A, di _F /dt=-100A/μs, V _R =200V			64	ns
Reverse Recovery Time	t _{rr}	I _F =30A, di _F /dt=-100A/μs, V _R =200V			70	ns

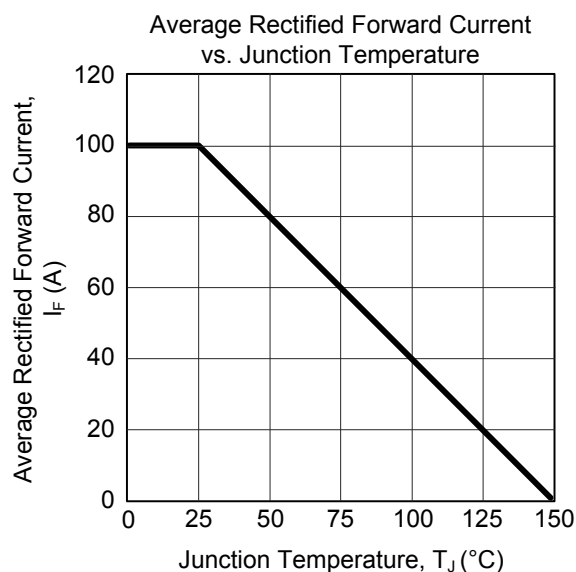
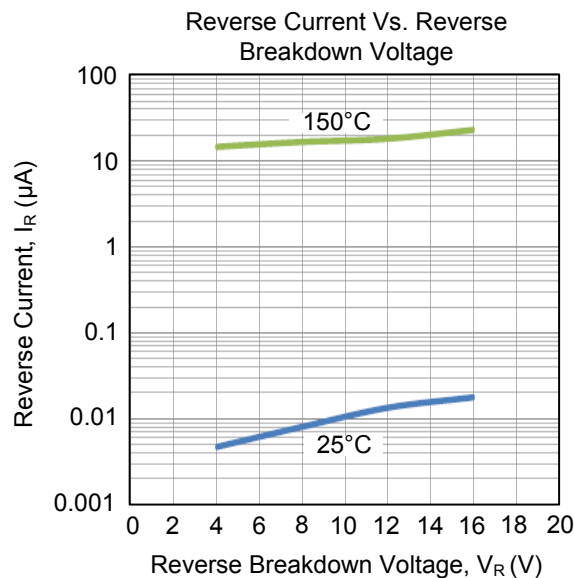
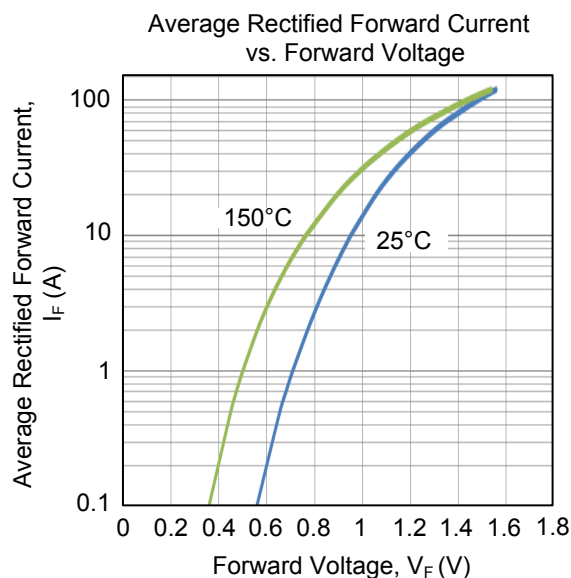
■ TEST CIRCUITS AND WAVEFORMS



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} .

■ TYPICAL CHARACTERISTICS



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