



UHRP1560

DIODE

15A, 600V HYPERFAST DIODE

DESCRIPTION

The UTC **UHRP1560** is a hyperfast diodes with soft recovery characteristics, it uses UTC's advanced technology to provide customers with high reverse voltage, etc.

The UTC **UHRP1560** is suitable for various applications such as switching power supplies, and power switching circuits, etc.

FEATURES

- * Hyperfast Recovery
- * Max Forward Voltage
- * 600V Reverse Voltage
- * High Reliability Avalanche Energy Rated

SYMBOL



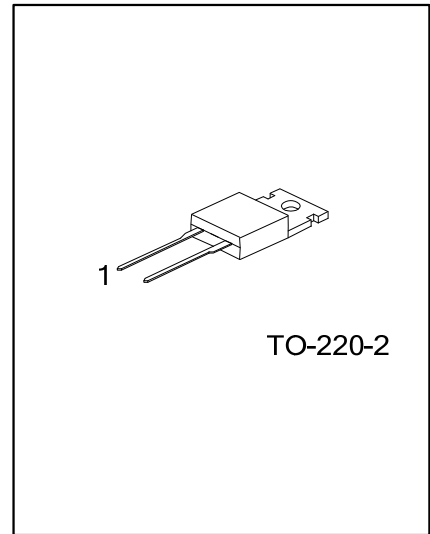
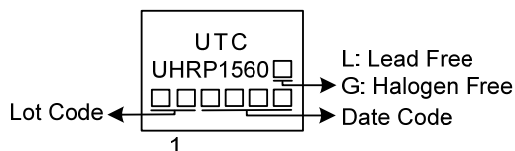
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UHRP1560L-TA2-T	UHRP1560G-TA2-T	TO-220-2	K	A	NC	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>UHRP1560G-TA2-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>		<p>(1) T: Tube (2) TA2: TO-220-2 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
DC Blocking Voltage	V_R	600	V
Working Peak Reverse Voltage	V_{RWM}	600	V
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Average Rectified Forward Current (Rated V_R), $T_C=145^{\circ}\text{C}$	$I_{F(AV)}$	15	A
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20kHz), $T_C=145^{\circ}\text{C}$	I_{FRM}	30	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60Hz)	I_{FSM}	150	A
Operating Junction Temperature	T_J	-65 ~ +175	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-65 ~ +175	$^{\circ}\text{C}$

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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	75	$^{\circ}\text{C/W}$
Junction to Case	θ_{JC}	1.5	$^{\circ}\text{C/W}$

■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage (Note 1)	V_F	$I_F=15\text{A}$, $T_C=25^{\circ}\text{C}$			2.1	V
		$I_F=15\text{A}$, $T_C=150^{\circ}\text{C}$			1.7	V
Instantaneous Reverse Current (Note 1)	I_R	$V_R=600\text{V}$			100	μA
		$V_R=600\text{V}$, $T_C=150^{\circ}\text{C}$			500	μA
Reverse Recovery Time	t_{rr}	$I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$			40	ns
		$I_F=15\text{A}$, $di/dt=100\text{A}/\mu\text{s}$			60	ns
Time to reach peak reverse current	t_a	$I_F=15\text{A}$, $di/dt=100\text{A}/\mu\text{s}$		25		ns
Time from peak IRM to projected zero crossing of IRM based on a straight line from peak IRM through 25% of IRM	t_b	$I_F=15\text{A}$, $di/dt=100\text{A}/\mu\text{s}$		26		ns
Reverse Recovery Change	Q_{rr}	$I_F=15\text{A}$, $di/dt=100\text{A}/\mu\text{s}$		55		ns
Junction Capacitance	C_J	$V_R=10\text{V}$, $I_F=10\text{A}$		60		pF

Note: Pulse Test: Pulse Width=300 μs , Duty Cycle $\leq 2.0\%$.

■ TEST CIRCUITS AND WAVEFORMS

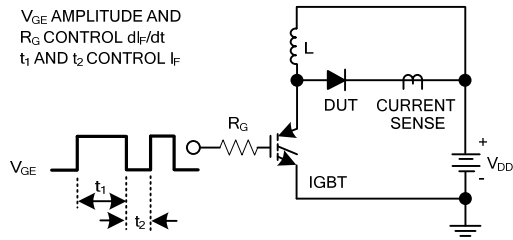


Figure 1. Trr TEST CIRCUIT

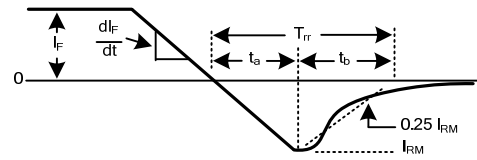


Figure 2. Trr WAVEFORMS AND DEFINITIONS

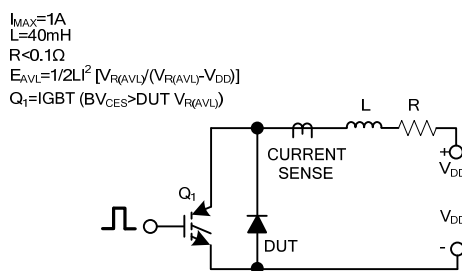


Figure 3. AVALANCHE ENERGY TEST CIRCUIT

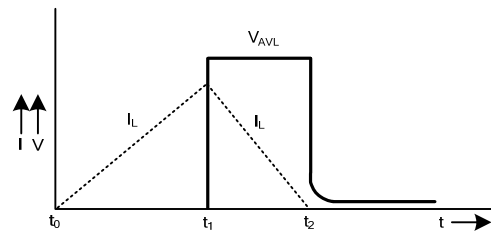
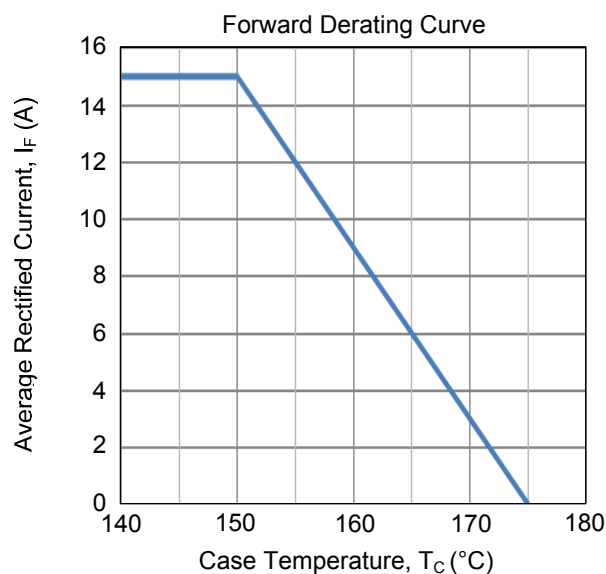
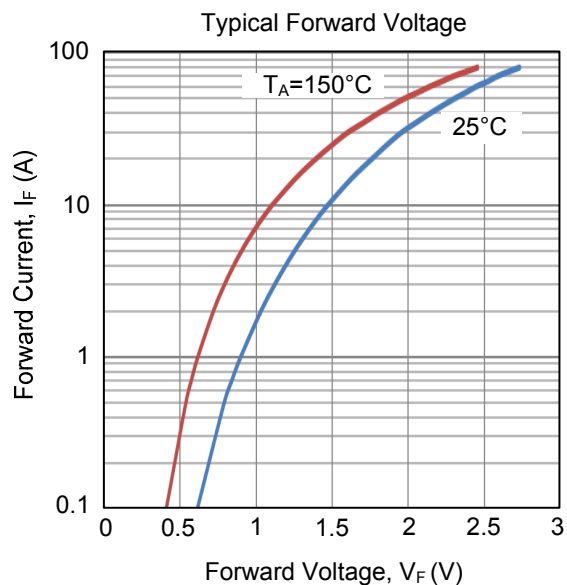
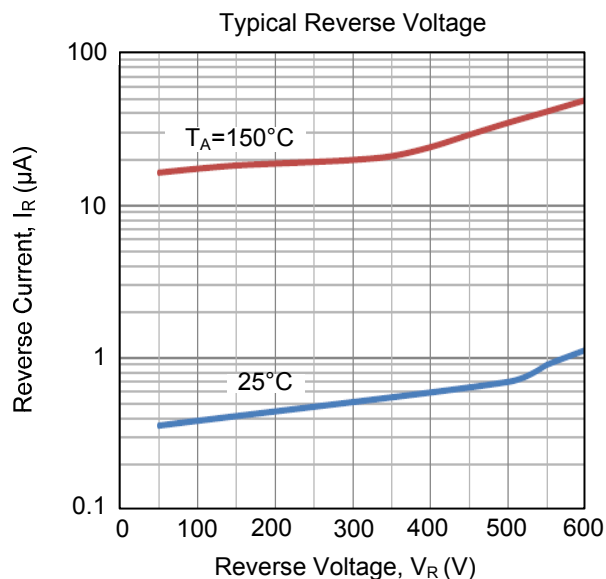


Figure 4. AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

TYPICAL CHARACTERISTICS



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