



ULTRA FAST-RECOVERY RECTIFIER DIODE

DESCRIPTION

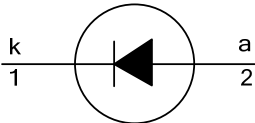
The UTC **BYR79-600** is a rectifier diode providing the designers with ultra-fast switching and low switching loss. It features low forward voltage drop, ultra fast reverse recovery times with very low stored charge and soft-recovery characteristic.

The UTC **BYR79-600** is suitable for switched-mode power supplies, SRPS and high-frequency circuits.

FEATURES

- * Low Switching Loss
- * Low Forward Volt Drop
- * Ultra-Fast Switching
- * Soft Recovery Characteristic
- * Low Thermal Resistance

SYMBOL

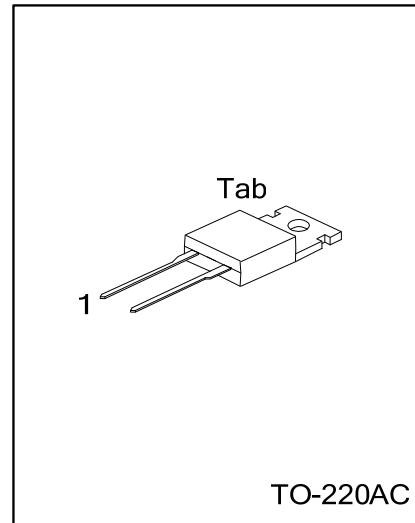


ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	Tab	
BYR79L-600-TA2 -T	BYR79G-600-TA2 -T	TO-220AC	K	A	K	Tube

Note: Pin Assignment: A: Anode, K: Cathode, Tab: Mounting Base

	<p>(1) T: Tube</p> <p>(2) TA2: TO-220AC</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	CONDITIONS	RATINGS	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}		600	V
Crest Working Reverse Voltage	V_{RWM}		500	V
Continuous Reverse Voltage	V_R		500	V
Average Forward Current	$I_{F(AV)}$	switching losses negligible up to 100kHz; square wave; $\delta = 0.5$; $T_{Tab} = 98^\circ\text{C}$	14	A
R.M.S. Forward Current	$I_{F(RMS)}$		20	A
Repetitive Peak Forward Current	I_{FRM}	$t_P = 20\mu\text{s}$; $\delta = 0.02$	360	A
Non-Repetitive Peak Forward Current.	I_{FSM}	half sinewave; $T_J = 150^\circ\text{C}$ prior to surge; with reapplied $V_{RWM(max)}$ $t = 10\text{ms}$	90	A
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{STG}		-40 ~ +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

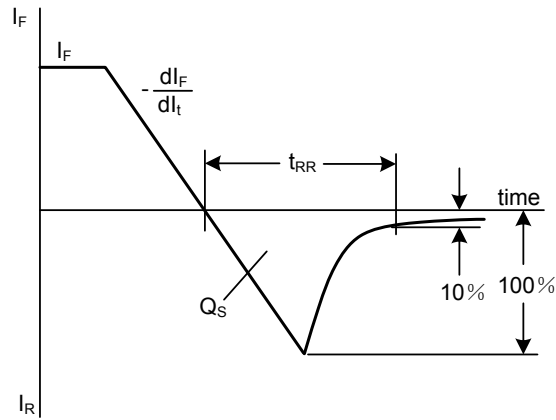
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	60	K/W
Junction to Tab	θ_{JB}	2.0	K/W

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	V_F	$I_F = 15\text{A}$, $T_J = 150^\circ\text{C}$			1.5	V
		$I_F = 50\text{A}$, $T_J = 25^\circ\text{C}$			2.0	V
Reverse Current	I_R	$V_R = V_{RWM max}$, $T_J = 100^\circ\text{C}$			0.4	mA
		$V_R = V_{RWM max}$, $T_J = 25^\circ\text{C}$			25	μA
Reverse Recovery Charge	Q_S	$I_F = 2\text{A} \sim V_R \geq 30\text{V}$, $-di_F/dt = 20\text{A}/\mu\text{s}$, $T_J = 25^\circ\text{C}$			220	nC
Reverse Recovery Time	t_{RR}	$I_F = 1\text{A} \sim V_R \geq 30\text{V}$, $-di_F/dt = 100\text{A}/\mu\text{s}$, $T_J = 25^\circ\text{C}$			100	ns

Note: Measured under pulse conditions to avoid excessive dissipation.

■ TYPICAL CHARACTERISTICS



Definition of t_{RR} and Q_S

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.