



RECTIFIER DIODE, HYPERFAST

■ DESCRIPTION

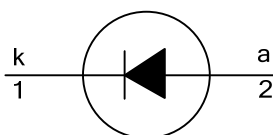
The UTC **BYC15-600** is a rectifier diode. It provides the designers with ultra-fast switching and low switching loss in associated MOSFET.

The UTC **BYC15-600** is suitable for half-bridge lighting ballasts, half-bridge/full-bridge switched mode power supplies and active power factor correction applications.

■ FEATURES

- * Low Reverse Recovery Current
- * Ultra-Fast Switching
- * Low Switching Loss in associated MOSFET
- * Low Thermal Resistance

■ SYMBOL

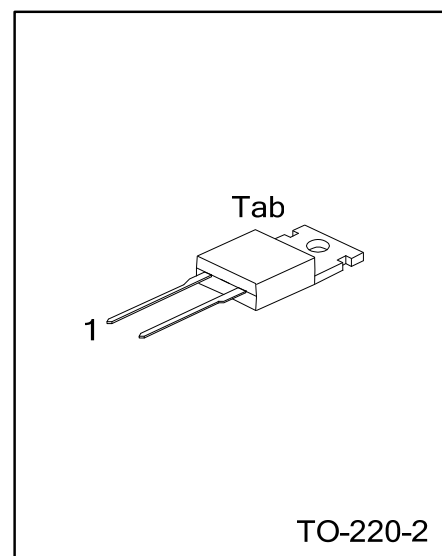


■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	Tab	
BYC15L-600-TA2-T	BYC15G-600-TA2-T	TO-220-2	K	A	K	Tube

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

BYC15L-600-TA2-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) TA2: TO-220-2
	(3)Lead Free	(3) L: Lead Free, G: Halogen Free



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Crest Working Reverse Voltage	V_{RWM}	600	V
Reverse Voltage	square-wave pulse; $\delta = 1.0$; $T_{Tab} \leq 100^{\circ}\text{C}$ V_R	500	V
Average Forward Current	square-wave pulse; $\delta = 0.5$; $T_{Tab} \leq 98^{\circ}\text{C}$ $I_{F(AV)}$	15	A
Repetitive Peak Forward Current	square-wave pulse; $\delta = 0.5$; $t_P = 25\mu\text{s}$, $T_{Tab} \leq 98^{\circ}\text{C}$ I_{FRM}	30	A
Non-Repetitive Peak Forward Current.	$t_P = 10\text{ms}$, sine-wave pulse; $t_P = 8.3\text{ms}$, sine-wave pulse; I_{FSM}	200	A
		220	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}	1.5	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	$I_F = 15\text{A}$, $T_J = 150^{\circ}\text{C}$		1.32	2.03	V
		$I_F = 30\text{A}$, $T_J = 150^{\circ}\text{C}$		1.64	2.34	V
		$I_F = 15\text{A}$		1.89	2.9	V
Reverse Current	I_R	$V_R = 600\text{V}$		12	200	μA
		$V_R = 500\text{V}$, $T_J = 100^{\circ}\text{C}$		1.1	3.0	mA
Reverse Recovery Time	t_{RR}	$I_F = 1\text{A}$, $V_R = 30\text{V}$, $dI_F/dt = 50\text{A}/\mu\text{s}$ (Figure1)		35	55	ns
		$I_F = 15\text{A}$, $V_R = 400\text{V}$, $dI_F/dt = 500\text{A}/\mu\text{s}$ (Figure1)	$T_J = 25^{\circ}\text{C}$	19		ns
			$T_J = 100^{\circ}\text{C}$	32	40	ns
Peak Reverse Recovery Current	I_{RM}	$I_F = 15\text{A}$, $V_R = 400\text{V}$, $T_J = 125^{\circ}\text{C}$ (Figure1)	$dI_F/dt = 50\text{A}/\mu\text{s}$	3.0	7.5	A
			$dI_F/dt = 500\text{A}/\mu\text{s}$	9.5	12	A
Forward Recovery Voltage	V_{FR}	$I_F = 15\text{A}$, $dI_F/dt = 100\text{A}/\mu\text{s}$ (Figure2)		8	11	V

TYPICAL CHARACTERISTICS

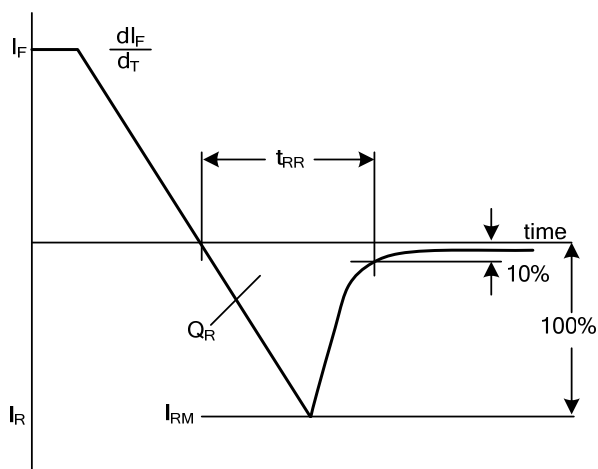


Fig 1. Reverse Recovery Definitions

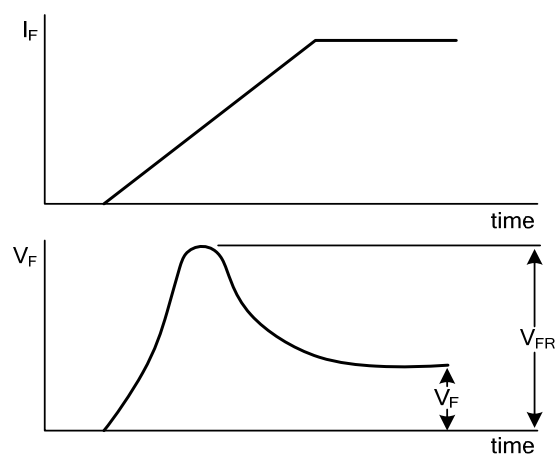


Fig 2. Forward Recovery Definitions

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