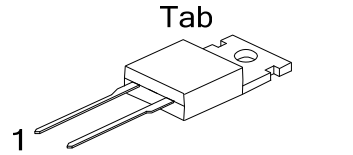
BYC15

DIODE

RECTIFIER DIODE, HYPERFAST



TO-220-2

■ DESCRIPTION

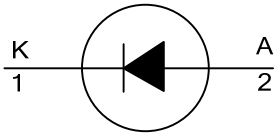
The UTC **BYC15** is a rectifier diode. It provides the designers with ultra-fast switching and low switching loss in associated MOSFET.

The UTC **BYC15** 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



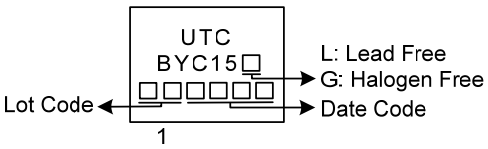
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	Tab	
BYC15L-6-TA2-T	BYC15G-6-TA2-T	TO-220-2	K	A	K	Tube

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

BYC15G-6-TA2-T (1)Packing Type	(1) T: Tube
(2)Package Type	(2) TA2: TO-220-2
(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ 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;δ =1.0; T_{Tab} ≤100°C	V_R	500	V
Average Forward Current	square-wave pulse;δ =0.5; T_{Tab} ≤98°C	$I_{F(AV)}$	15	A
Repetitive Peak Forward Current	square-wave pulse; δ =0.5; t_P = 25μs, T_{Tab} ≤98°C	I_{FRM}	30	A
Non-Repetitive Peak Forward Current.	t_P=10ms,sine-wave pulse;	I_{FSM}	200	A
	t_P=8.3ms,sine-wave pulse;		220	A
Junction Temperature		T_J	+150	°C
Storage Temperature		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 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°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	V_F	I_F =15A			2.9	V
Reverse Current	I_R	V_R=600V			200	μA
Reverse Recovery Time	t_{RR}	I_F =1A, V_R=30V, dI_F/dt=50A/μs (Figure1)		90		ns
		I_F=15A,V_R=400V,I_F/dt=300A/μs (Figure1)		117		ns
Forward Recovery Voltage	V_{FR}	I_F =15A, dI_F/dt=100A/μs (Figure2)		8	11	V

■ TYPICAL CHARACTERISTICS

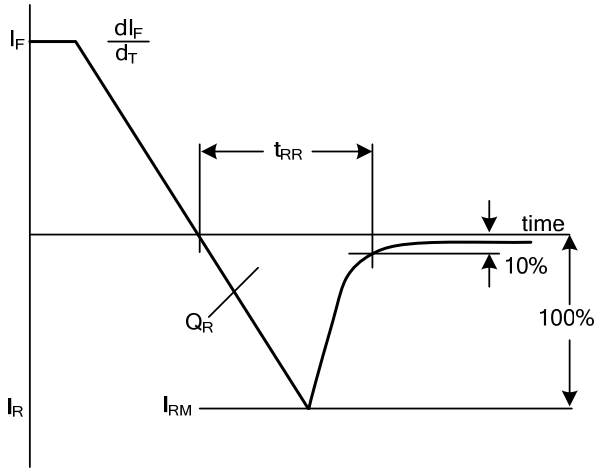


Fig 1. Reverse Recovery Definitions

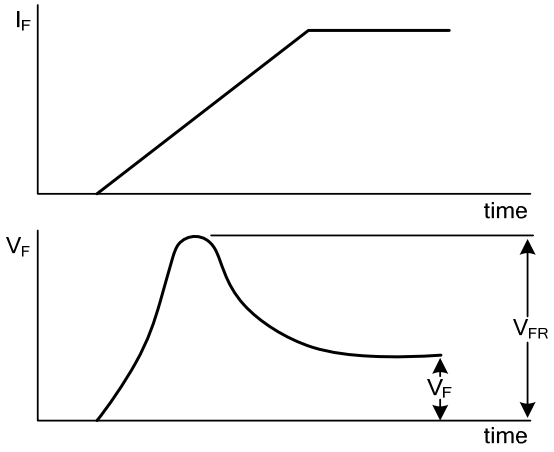


Fig 2. Forward Recovery Definitions

■ TYPICAL CHARACTERISTICS