BYC20C

DIODE

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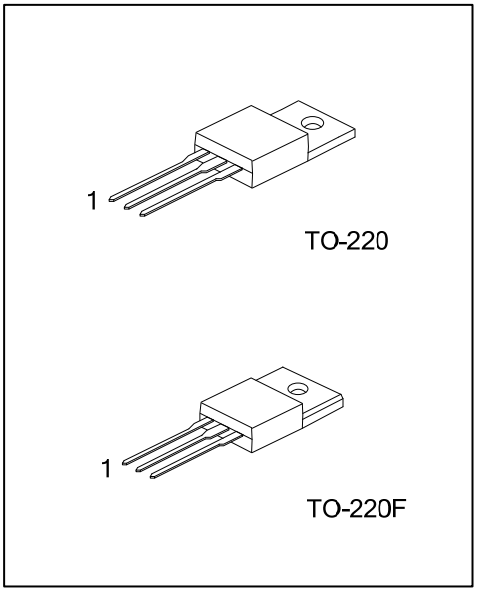


■ DESCRIPTION

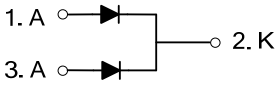
The UTC **BYC20C** is a rectifier dual diode. It provides the designers with ultra-fast switching and low switching loss in associated MOSFET.

The UTC **BYC20C** is ideally used in half-bridge lighting ballasts, half-bridge/full-bridge switched mode power supplies and continuous current mode (CCM) power factor correction (PFC).

■ FEATURES

* Low Reverse Recovery Current
* Ultra-Fast Switching
* Low Switching Loss In Associated MOSFET
* Low Thermal Resistance

■ SYMBOL



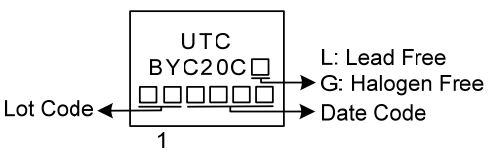
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BYC20CL-TA3-T	BYC20CG-TA3-T	TO-220	A	K	A	Tube
BYC20CL-TF3-T	BYC20CG-TF3-T	TO-220F	A	K	A	Tube

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

BYC20CG-TA3-T (1)Packing Type (2)Package Type (3)Green Package	(1) T: Tube (2) TA3: TO-220, TF3: TO-220F (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (Pre Leg)

PARAMETER		SYMBOL	RATINGS	UNIT
Peak Repetitive Reverse Voltage		V_{RRM}	600	V
Crest Working Reverse Voltage		V_{RWM}	600	V
Average Forward Current	δ =0.5; with reapplied $V_{RRM(max)}$; T_{Tab} ≤78°C	$I_{F(AV)}$	10	A
Repetitive Peak Forward Current	δ =0.5; with reapplied $V_{RRM(max)}$; T_{Tab} ≤78°C	I_{FRM}	20	A
Non-Repetitive Peak Forward Current.	t = 10ms	I_{FSM}	65	A
	t = 8.3ms sinusoidal; T_J =150°C prior to surge with reapplied $V_{RWM(max)}$		71	A
Operating 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	TO-220	$θ_{JB}$	2	K/W
	TO-220F		5	K/W

■ ELECTRICAL CHARACTERISTICS (Pre Leg) (T_J =25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	V_F	I_F =10A, T_J =150°C		1.4	1.8	V
		I_F =20A, T_J =150°C		1.7	2.3	V
		I_F =10A		2.0	2.9	V
Reverse Current	I_R	V_R=600V		9	200	μA
		V_R=500V, T_J=100°C		1.1	3.0	mA
Reverse Recovery Time	t_{RR}	I_F =1A, V_R=30V, dI_F/dt=50A/μs		35	55	ns
		I_F=10A, V_R=400V, dI_F/dt=100A/μs		64		ns

■ TYPICAL CHARACTERISTICS

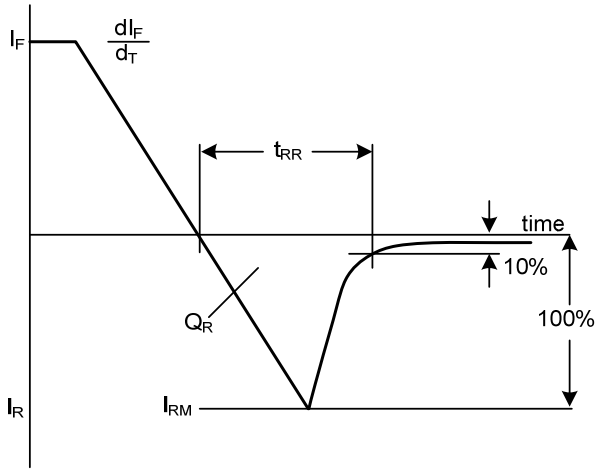


Fig 1. Reverse Recovery Definitions

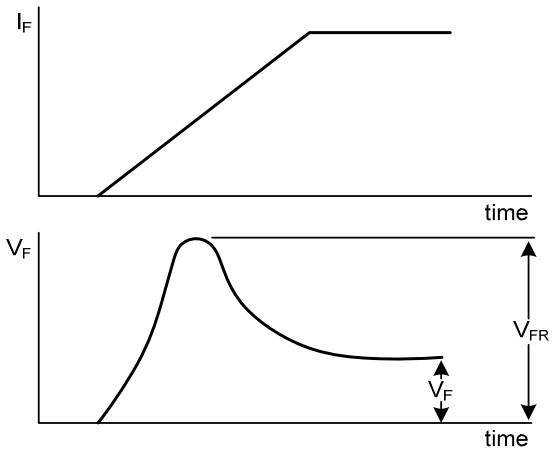


Fig 2. Forward Recovery Definitions

■ TYPICAL CHARACTERISTICS