

Ultrafast Rectifier

BYC15-1200P

FEATURES

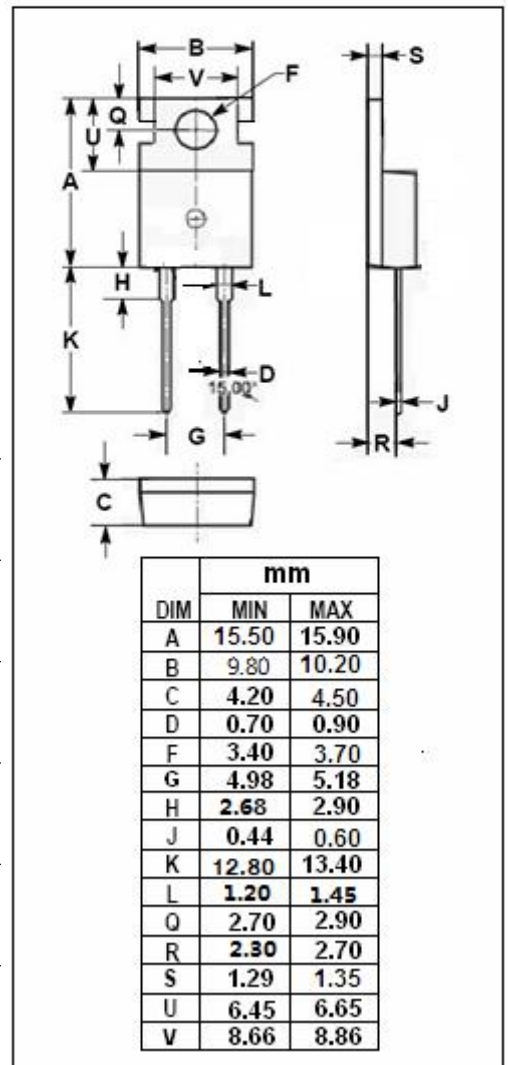
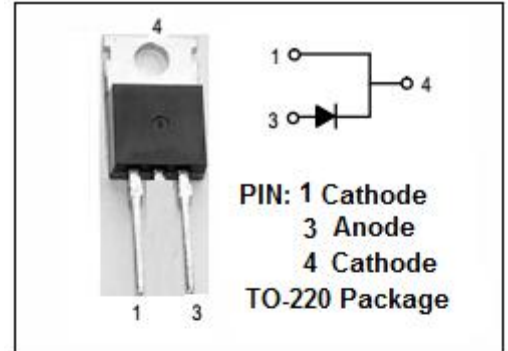
- 1200V blocking voltage
- Very short recovery time
- Soft recovery behaviour
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Half-bridge or full-bridge switched-mode power supplies
- Free wheeling diode in converters and motor control circuits

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	1200	V
$I_{F(AV)}$	Average Rectified Forward Current	15	A
I_{FSM}	Non-repetitive Peak Surge Current@45°C (Surge applied at rated load conditions half-wave, single phase, 60Hz)	200	A
T_J	Junction Temperature	-40~150	°C
T_{stg}	Storage Temperature Range	-40~150	°C



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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{thj-c}	Thermal Resistance, Junction to Case	1.5	°C/W

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$) (Pulse Test: Pulse Width=300 μs , Duty Cycle $\leq 2\%$)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F=15\text{A}$; $T_j=25^{\circ}\text{C}$ $I_F=15\text{A}$; $T_j=150^{\circ}\text{C}$	3.2 2.03	V
I_R	Maximum Instantaneous Reverse Current	$V_R=600\text{V}$; $V_R=500\text{V}$; $T_j=100^{\circ}\text{C}$	200 3000	μA
t_{rr}	Maximum Reverse Recovery Time	$I_F=1\text{A}$; $di/dt = 50\text{A}/\mu\text{s}$	55	ns

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