

**Ultrafast Rectifier**
**BYC15-1200P**
**FEATURES**

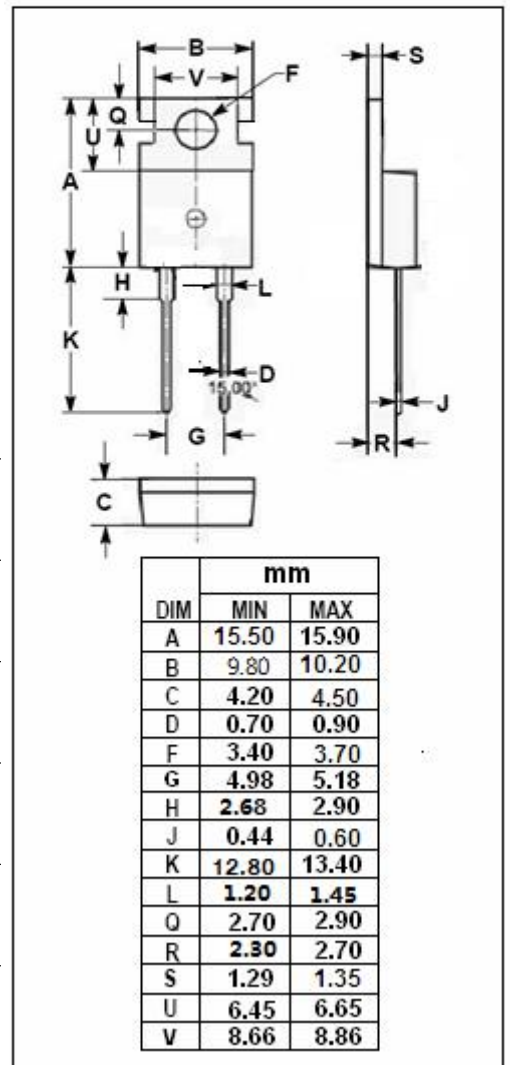
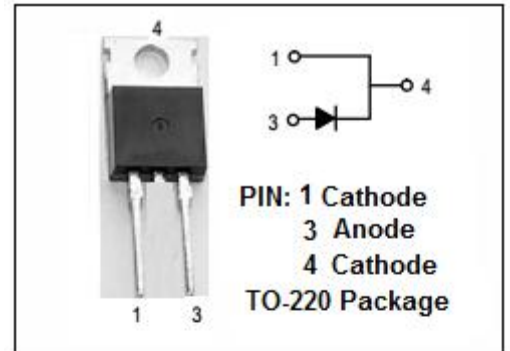
- 1200V blocking voltage
- Very short recovery time
- Soft recovery behaviour
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

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

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	1200	V
I <sub>F(AV)</sub>	Average Rectified Forward Current	15	A
I <sub>FSM</sub>	Non-repetitive Peak Surge Current@45°C (Surge applied at rated load conditions half-wave, single phase, 60Hz)	200	A
T <sub>J</sub>	Junction Temperature	-40~150	°C
T <sub>stg</sub>	Storage Temperature Range	-40~150	°C



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**THERMAL CHARACTERISTICS**

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

**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ ) (Pulse Test: Pulse Width=300  $\mu$ s, 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	$\mu$ A
$t_{rr}$	Maximum Reverse Recovery Time	$I_F=1\text{A}; di/dt=50\text{A}/\mu\text{s}$	55	ns

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