

Ultra fast Rectifier
BYC30-600P
FEATURES

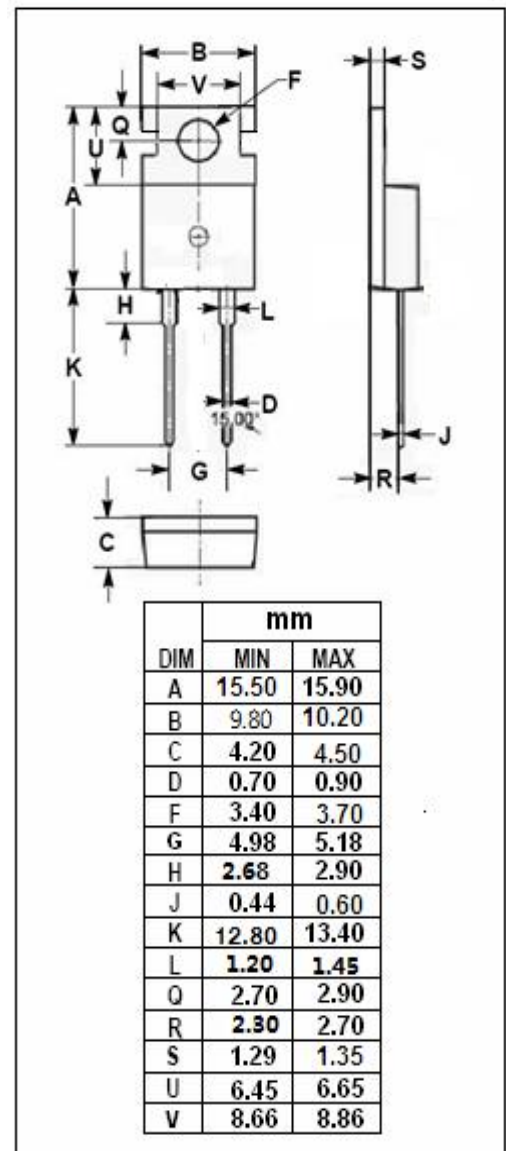
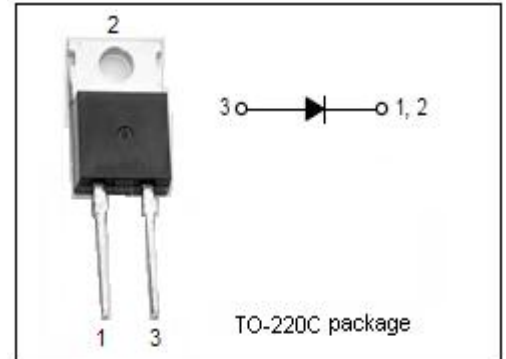
- High surge capacity
- Low forward voltage
- Fast switching
- Soft recovery characteristic
- Reverse surge capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power supply output rectification
- Power management
- Instrumentation

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{RRM} V _{RWM} V _R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	600	V
I _{F(AV)}	Average Rectified Forward Current (Rated V _R)	30	A
I _{FM}	Peak Repetitive Forward Current (Rated V _R , Square Wave, 20kHz)	60	A
I _{FSM}	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase)	50Hz 60Hz 200 220	A
T _J	Junction Temperature	-65~175	°C
T _{stg}	Storage Temperature Range	-65~175	°C



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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-b}$	Thermal Resistance, Junction to Mounting Base	2.5	°C/W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	60	°C/W

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

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F=30\text{A}; T_j=25^\circ\text{C}$ $I_F=30\text{A}; T_j=150^\circ\text{C}$	2.75 1.80	V
I_R	Maximum Instantaneous Reverse Current	$V_R=V_{RWM}; T_j=25^\circ\text{C}$ $V_R=V_{RWM}; T_j=150^\circ\text{C}$	10 1000	μ A
t_{rr}	Maximum Reverse Recovery Time	$I_F=1\text{A}; di/dt=50\text{A}/\mu\text{s}; V_R=30\text{V}$	35	ns

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