

Ultra fast Rectifier

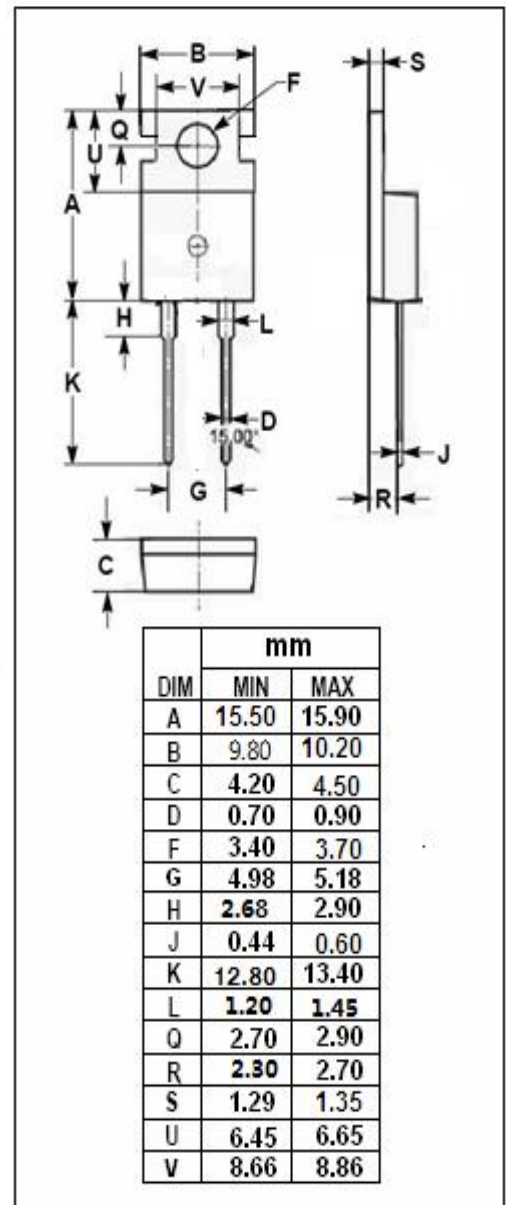
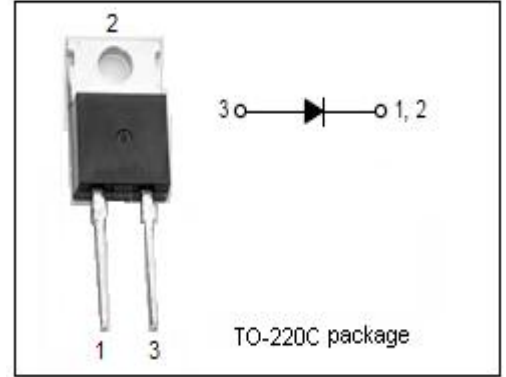
BYC15-600P

FEATURES

- With TO-220 packaging
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- High frequency inverters
- Reverse battery protection
- Polarity protection applications



ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{RRM} V _{RMS} V _R	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	600	V
I _{F(AV)}	Average Rectified Forward Current @T _c =121°C	15	A
I _{FRM}	Repetitive Peak Forward Current@T _c =121°C	30	A
I _{FSM}	Nonrepetitive Peak Surge Current 10 ms single half sine-wave superimposed on rated load conditions;One shot(50Hz)	180	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
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 1%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F = 15A; T_c = 25^{\circ}C$ $I_F = 15A; T_c = 150^{\circ}C$	3.2 2.0	V
I_R	Maximum Instantaneous Reverse Current	$V_R = \text{rated } V_{RRM}; T_c = 25^{\circ}C$ $T_c = 150^{\circ}C$	10 1000	μA
t_{rr}	Maximum Reverse Recovery Time	$I_F = 1A; di_F/dt = -200A/\mu s; V_R = 30V$	18	ns