

**Ultrafast Rectifier**
**BYV30B-600PJ**
**FEATURES**

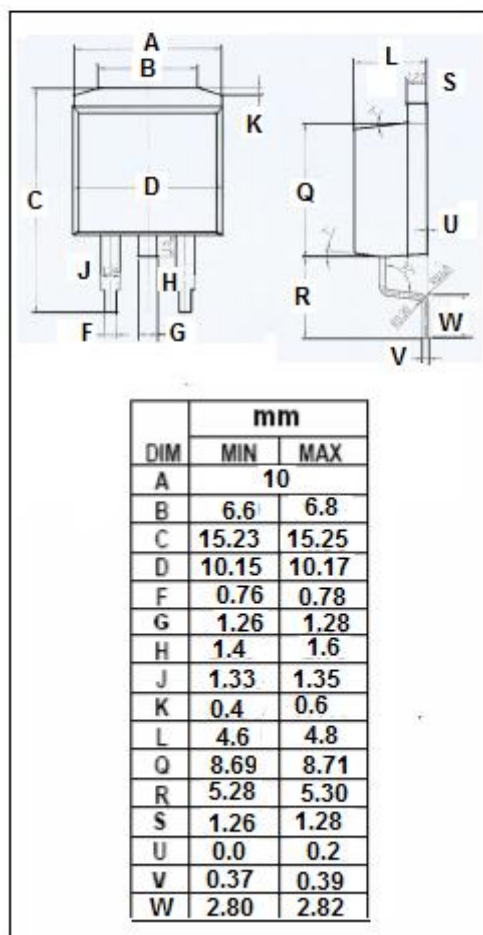
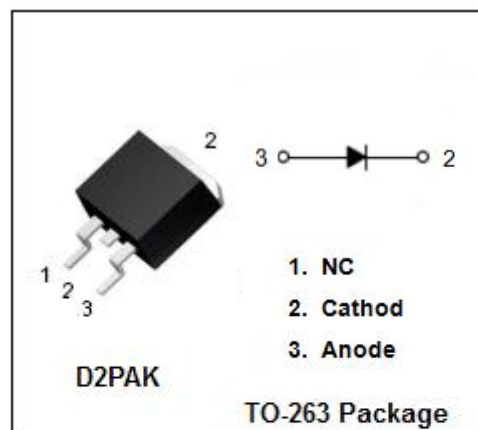
- Low Forward Voltage
- Low Power Loss/High Efficiency
- Low Stored Charge Majority Carrier Conduction
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Output rectifiers in high frequency switched-mode power supplies
- Discontinuous Current Mode (DCM) Power Factor Correction (PFC)

**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	600	V
$I_{F(AV)}$	Average Rectified Forward Current (Rated $V_R$ ) $T_C=133^{\circ}\text{C}$	30	A
$I_{FSM}$	Non-repetitive Peak Surge Current $t_p=10\text{ms}$ , sine-wave pulse	290	A
	Non-repetitive Peak Surge Current $t_p=8.3\text{ms}$ , sine-wave pulse	330	
$T_J$	Junction Temperature	-55~150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^{\circ}\text{C}$



## Ultrafast Rectifier

## BYV30B-600PJ

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.1	°C/W

## ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μs, Duty Cycle≤2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V <sub>F</sub>	Maximum Instantaneous Forward Voltage	I <sub>F</sub> = 30A	1.55	V
I <sub>R</sub>	Maximum Instantaneous Reverse Current	V <sub>R</sub> =600V, T <sub>C</sub> = 25°C V <sub>R</sub> =600V, T <sub>C</sub> = 125°C	10 500	μA
t <sub>rr</sub>	Maximum Reverse Recovery Time	I <sub>F</sub> =1A; V <sub>R</sub> =30V, dI <sub>F</sub> /dt = 50 A/μs;	75	ns

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