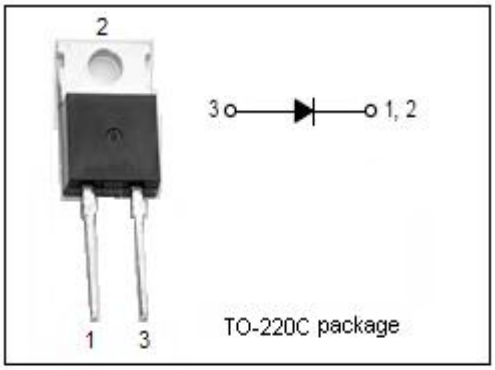
Ultra fast Rectifier

BYV29-500



FEATURES

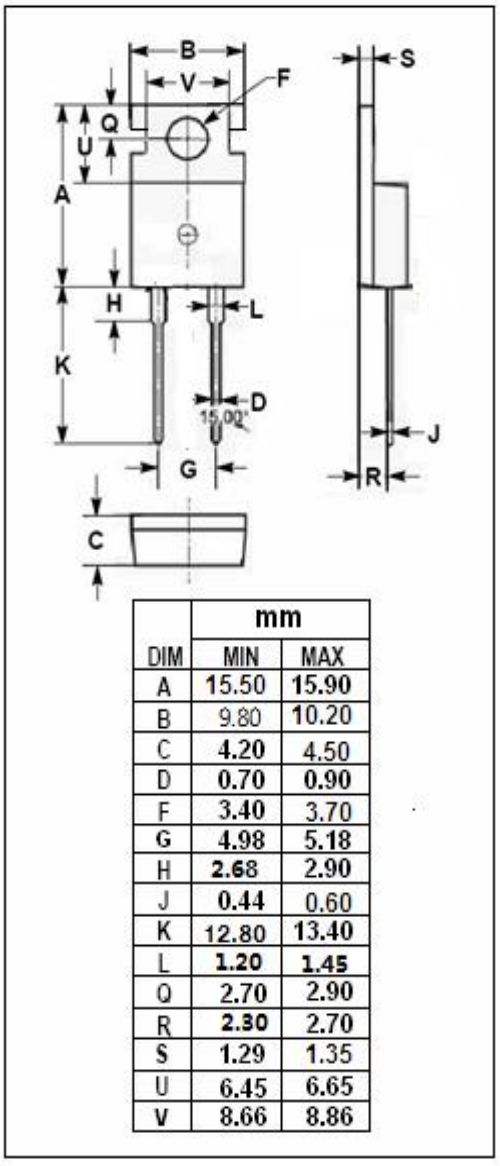
- High surge capacity
- Low forward voltage
- Fast switching
- Soft recovery characteristic
- Reverse surge capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power supply-output rectification
- Power management
- Instrumentation

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		500	V
$I_{F(AV)}$	Average Rectified Forward Current (Rated V_R)		9	A
I_{FM}	Peak Repetitive Forward Current (Rated V_R, Square Wave,20kHz)		18	A
I_{FSM}	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase)	50Hz 60Hz	100 110	A
T_J	Junction Temperature		-40~150	℃
T_{stg}	Storage Temperature Range		-40~150	℃



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS(T_a=25℃) (Pulse Test: Pulse Width=300 μ s,Duty Cycle≤2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	I_F= 8A ;Tj=25℃ I_F= 8A ;Tj=150℃ I_F= 20A ;Tj=25℃	1.25 1.03 1.40	V
I_R	Maximum Instantaneous Reverse Current	V_R= $V_{RWM;}$Tj=25℃ V_R= $V_{RWM;}$Tj=100℃	50 350	μ A
t_{rr}	Maximum Reverse Recovery Time	IF =1A;di/dt = 50A/μs;V_R=30V	60	ns

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