

Ultra fast Rectifier

BYV29-500

FEATURES

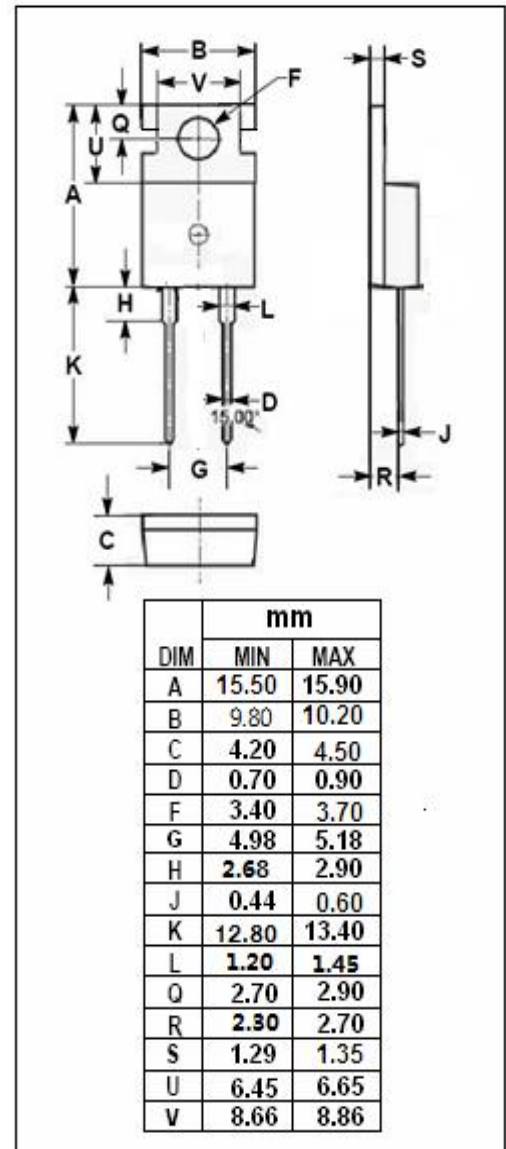
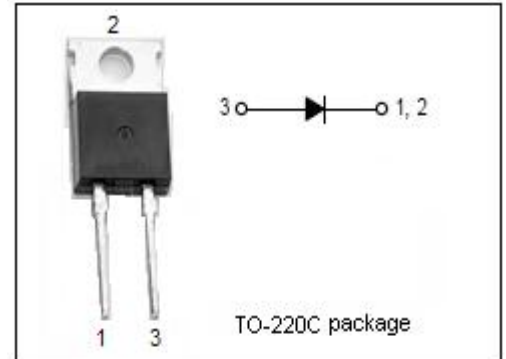
- High surge capacity
- Low forward voltage
- Fast switching
- Soft recovery characteristic
- Reverse surge capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power supply-output rectification
- Power management
- Instrumentation

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| 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 | °C |
| T _{stg} | Storage Temperature Range | -40~150 | °C |



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THERMAL CHARACTERISTICS

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

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

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|----------|---------------------------------------|---|----------------------|---------|
| V_F | Maximum Instantaneous Forward Voltage | $I_F=8A; T_j=25^{\circ}C$ $I_F=8A; T_j=150^{\circ}C$ $I_F=20A; T_j=25^{\circ}C$ | 1.25 1.03 1.40 | V |
| I_R | Maximum Instantaneous Reverse Current | $V_R=V_{RWM}; T_j=25^{\circ}C$ $V_R=V_{RWM}; T_j=100^{\circ}C$ | 50 350 | μ A |
| t_{rr} | Maximum Reverse Recovery Time | $I_F=1A; di/dt=50A/\mu s; V_R=30V$ | 60 | ns |