

Ultra fast Rectifier

DSEI20-12A

FEATURES

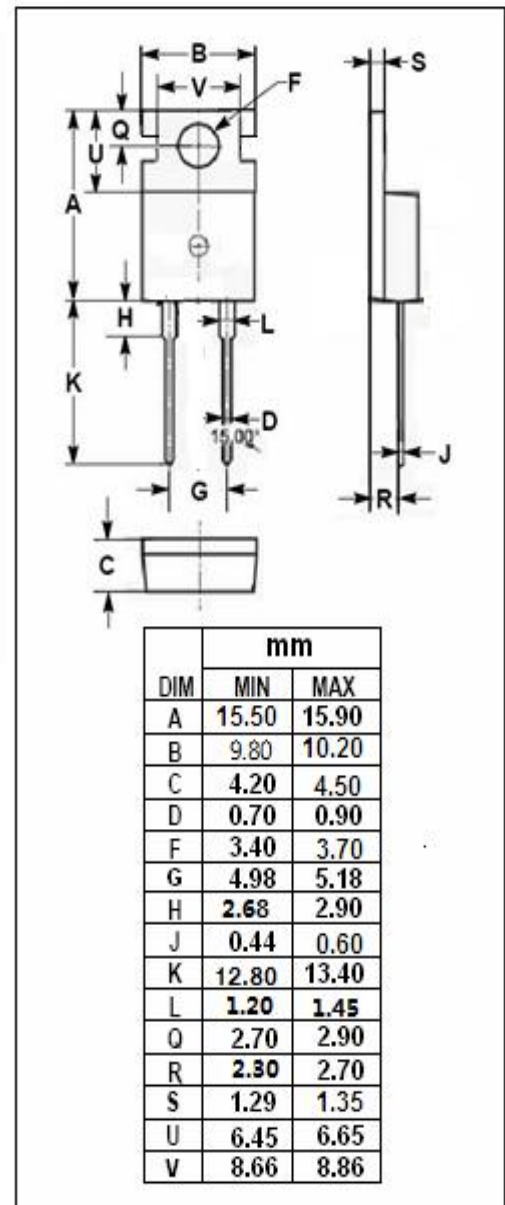
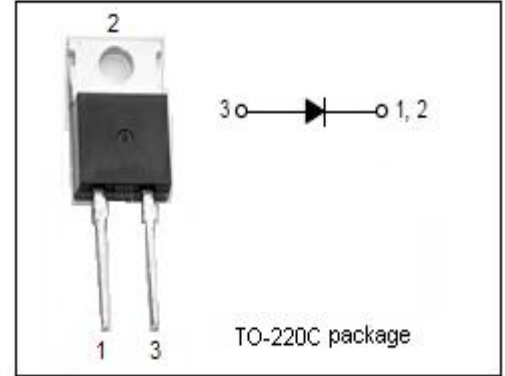
- With TO-220 packaging
- Metal silicon junction, majority carrier conduction
- Low leakage current
- Low power loss, high efficiency
- High current capability and low forward voltage drop
- Guardring for overvoltage protection
- High surge capability
- Minimum Lot-to-Lot variations for robust device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

APPLICATIONS

- Switching power supply
- High frequency inverters
- Freewheeling diodes
- 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 | 1200 | V |
| I _{F(AV)} | Average Rectified Forward Current @T _c =125°C | 17 | A |
| I _{FRM} | Repetitive Peak Surge Current (Square Wave, 20kHz) | 70 | A |
| I _{FSM} | Nonrepetitive Peak Surge Current 8.3 ms single half sine-wave superimposed on rated load conditions;One shot | 140 | A |
| P _D | Maximum Power Dissipation | 78 | W |
| T _j | Junction Temperature | -55~175 | °C |
| T _{stg} | Storage Temperature Range | -55~175 | °C |



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THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|---------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.0 | $^{\circ}C/W$ |

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

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|----------|---------------------------------------|---|--------------|------|
| V_F | Maximum Instantaneous Forward Voltage | $I_F = 12A ; T_c = 25^{\circ}C$ $I_F = 12A ; T_c = 125^{\circ}C$ | 2.15 1.87 | V |
| I_R | Maximum Instantaneous Reverse Current | $V_R = \text{rated } V_{RRM}$ | 0.75 | mA |
| t_{rr} | Maximum Reverse Recovery Time | $I_F = 1A ; dI_F/dt = 100A/\mu s ; V_R = 30V$ | 60 | ns |