Elektronische Bauelemente

# SF10S60

**Voltage 600 V**

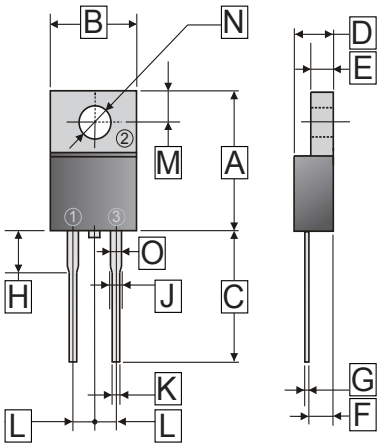
**10 Amp Low Loss Superfast Rectifier**

RoHS Compliant Product
A suffix of "-C" specifies halogen free

## FEATURES

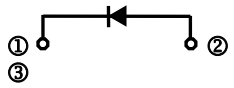
- High Surge Capacity
- 150°C Operating Junction Temperature
- Low Power Loss, High Efficiency
- High-Switching Speed 21 Nanosecond Recovery Time
- Low Forward Voltage, High Current Capability
- Low Stored Charge Majority Carrier Conduction
- Plastic Material Used Carries Underwriters Laboratory Flammability Classification 94V-O
- Weight: 1.64 grams (approximate)

**TO-220A**




Dimensions in millimeters

| REF. | Millimeter | | REF. | Millimeter | |
|---|---|---|---|---|---|
| | Min. | Max. | | Min. | Max. |
| A | 14.68 | 15.50 | H | 3.57 | 4.20 |
| B | 9.7 | 10.4 | J | - | 1.30 |
| C | 13.06 | 14.62 | K | 0.72 | 0.96 |
| D | 4.22 | 4.98 | L | 4.84 | 5.32 |
| E | 1.14 | 1.38 | M | 2.48 | 2.98 |
| F | 2.20 | 2.98 | N | ϕ3.7 | ϕ3.9 |
| G | 0.27 | 0.55 | O | 1.12 | 1.37 |




## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, de-rate current by 20%.)

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage | | $V_{RRM}$ | 600 | V |
| Working Peak Reverse Voltage | | $V_{RWM}$ | 600 | V |
| DC Blocking Voltage | | $V_R$ | 600 | V |
| Average Rectifier Forward Current | | $I_{F(AV)}$ | 10 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz) | | $I_{FSM}$ | 110 | A |
| Max. Instantaneous Forward Voltage ($I_F$= 10 A, $T_C$=25°C) | | $V_F$ | 2.8 | V |
| Typical Forward Voltage ($I_F$= 10 A, $T_C$=125°C) | | | 1.8 | |
| Max. Instantaneous Reverse Current | $T_C$=25°C | $I_R$ | 10 | μA |
| | $T_C$=125°C | | 500 | |
| Max. Reverse Recovery Time ($I_F$=0.5A,$V_R$=30V,d$I_F$/dt=100A/μs) | | $T_{RR}$ | 30 | nS |
| Typical Reverse Recovery Time ($I_F$=0.5A,$V_R$=30V,d$I_F$/dt=100A/μs) | | | 20 | |
| Typical Junction Capacitance (Reverse Voltage of 0V & f=1MHz) | | $C_P$ | 180 | pF |
| Thermal Resistance [1] | | $R_{\theta JA}$ | 12 | °C / W |
| Thermal Resistance [2] | | $R_{\theta JC}$ | 2 | °C / W |
| Operating Junction and Storage Temperature Range | | $T_J$, $T_{STG}$ | -65~150 | °C |

Notes:
1. Thermal Resistance Junction to Ambient.
2. Thermal Resistance Junction to Case.

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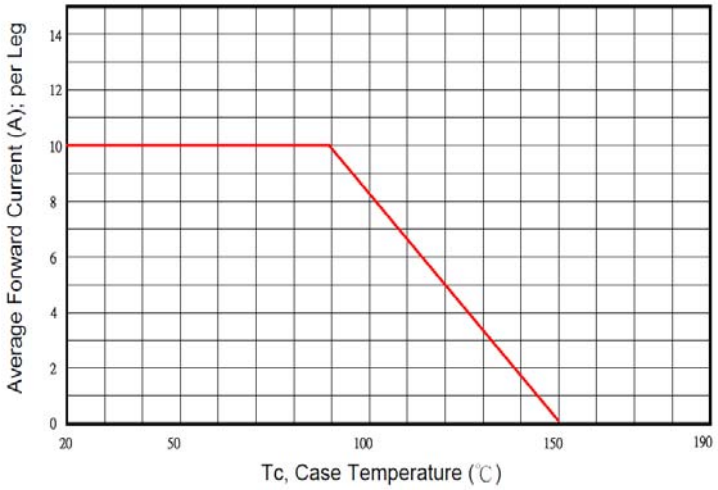
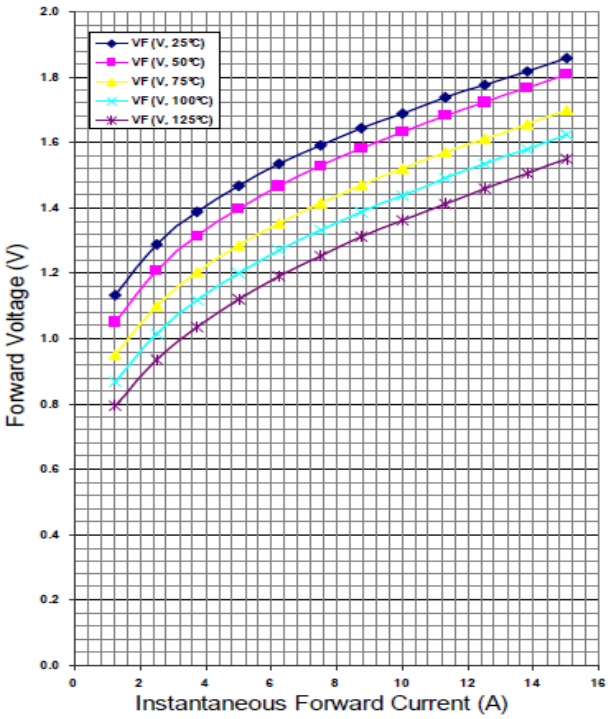
## RATINGS AND CHARACTERISTIC CURVES

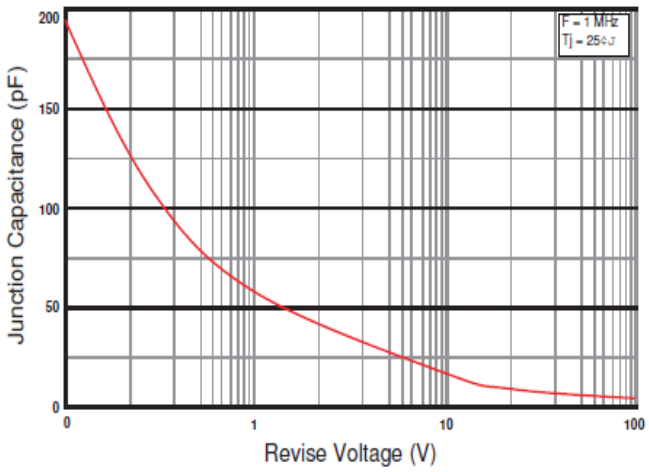
Typical Forward Current Derating Curve



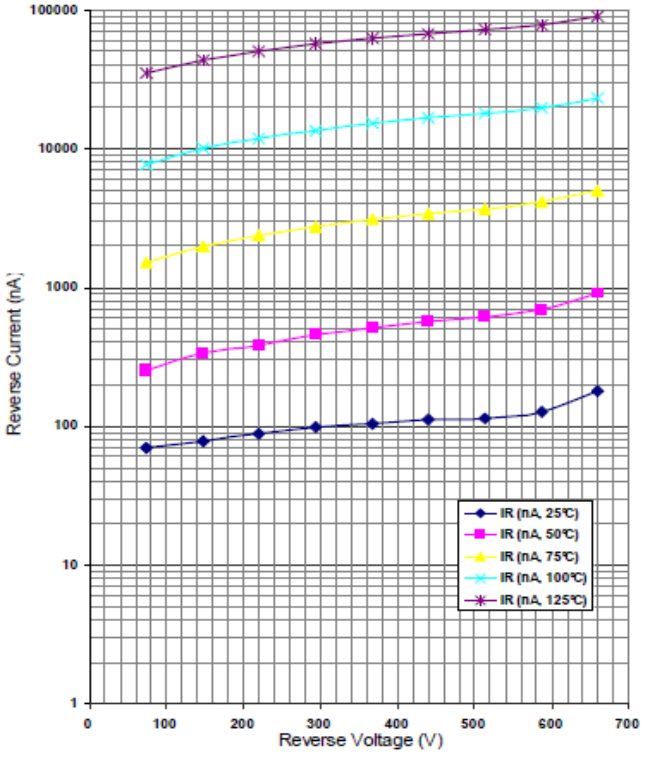

Typical Forward Characteristic




Typical Junction Capacitance




Typic Reverse Curve




Maximum Non- Repetitive Forward Surge Current