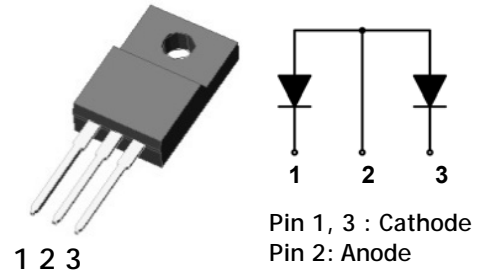


Ultrafast Recovery Power Rectifier

Features and Benefits

- Low forward drop voltage
- Dual common anode rectifier construction
- Ultrafast recovery time and high speed switching
- Full lead (Pb)-free device and RoHS compliant device



Applications

- Switching power supply
- Power inverters
- Power conversion system

TO-220F-3L

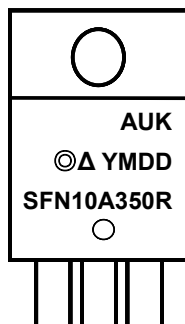
General Description

The SFN10A350R is ideally as boost diode in discontinuous or critical mode power factor corrections. The planar structure and the platinum doper life time control guarantee the best overall performance, ruggedness reliability characteristics. The device is also intended for use as a freewheeling diode in power supplies and other power switching applications.

Ordering Information

| Part Number | Marking Code | Package | Packaging |
|-------------|--------------|------------|-----------|
| SFN10A350R | SFN10A350R | TO-220F-3L | Tube |

Marking Information



Column 1: Manufacturer

Column 2: Production Information

e.g.) ◎△YMDD

- ◎△: Factory Management Code

- YMDD: Date Code (Year, Month, Daily)

Column 3: Device Code

SFN10A350R

Absolute Maximum Ratings (Limiting values at 25°C, unless otherwise specified)

| Characteristic | | Symbol | Ratings | Unit |
|---|--------------|---------------------------------|-------------|------|
| Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage | | V_{RRM} V_{RWM} V_R | 350 | V |
| Maximum average forward rectified current | Per diode | $I_{F(AV)}$ | 5 | A |
| | Total device | | 10 | |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode | | I_{FSM} | 120 | A |
| Storage temperature range | | T_{stg} | -45 to +150 | °C |
| Maximum operating junction temperature | | T_J | 150 | |

Thermal Characteristics (Per diode)

| Characteristic | Symbol | Ratings | Unit |
|----------------------------|---------------|---------|------|
| Maximum thermal resistance | $R_{th(J-C)}$ | 4.0 | °C/W |
| | $R_{th(J-A)}$ | 62.5 | |

Electrical Characteristics (Per diode)

| Characteristic | Symbol | Test Condition | | Min. | Typ. | Max. | Unit |
|---------------------------|---------------|-------------------------------|---------------------|------|------|------|------|
| Peak forward voltage drop | $V_{FM}^{1)}$ | $I_{FM} = 5A$ | $T_J = 25^\circ C$ | - | 1.04 | 1.30 | V |
| Reverse leakage current | $I_{RM}^{2)}$ | $V_R = V_{RRM}$ | $T_J = 25^\circ C$ | - | - | 5 | uA |
| | | | $T_J = 125^\circ C$ | - | - | 200 | |
| Reverse recovery time | t_{rr} | $I_F = 1A, di/dt = -100 A/us$ | | - | 19 | 25 | ns |
| Junction capacitance | C_j | $V_R = 10V_{DC}, f=1MHz$ | | - | 30 | - | pF |

¹⁾ Pulse test: $t_p \leq 380\mu s$, Duty cycle $\leq 2\%$

²⁾ Pulse test: $t_p \leq 20ms$, Duty cycle $\leq 2\%$

Typical Electrical Characteristic Curves (Per diode)

Fig. 1) Typical Forward Characteristics

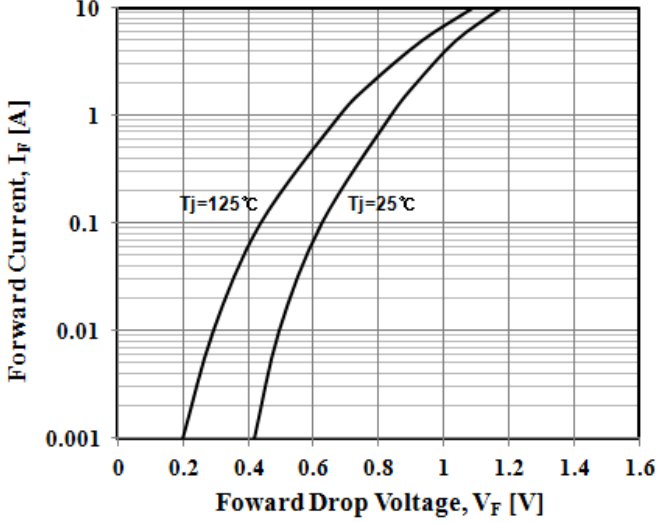


Fig. 2) Typical Reverse Characteristics

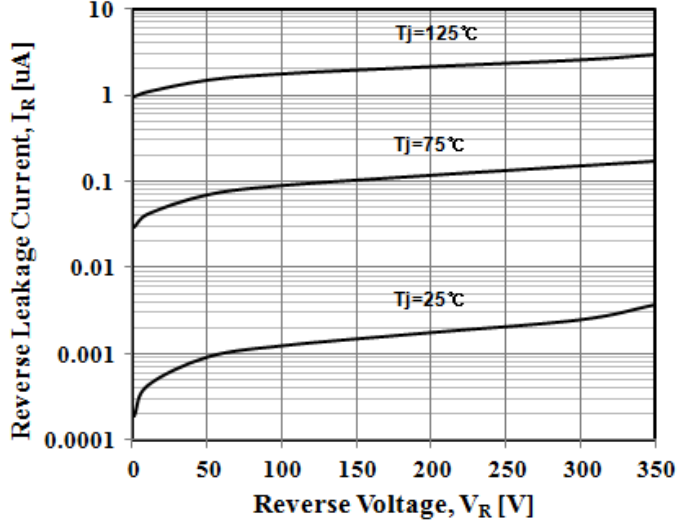


Fig. 3) Typical Junction Capacitance Characteristics

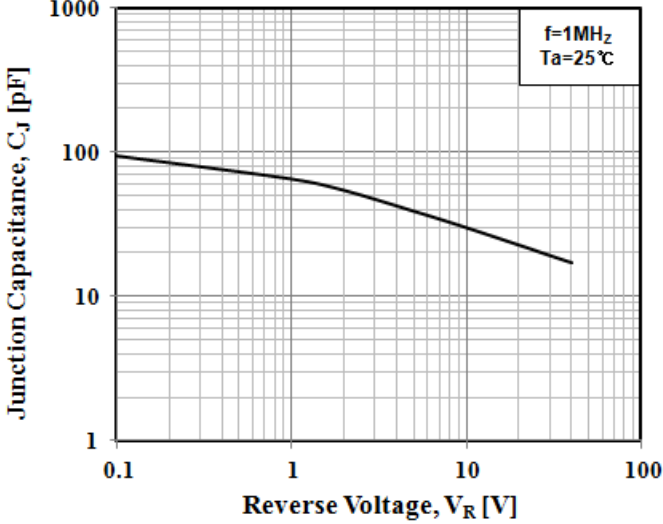


Fig. 4) Peak Forward Surge Current Characteristics

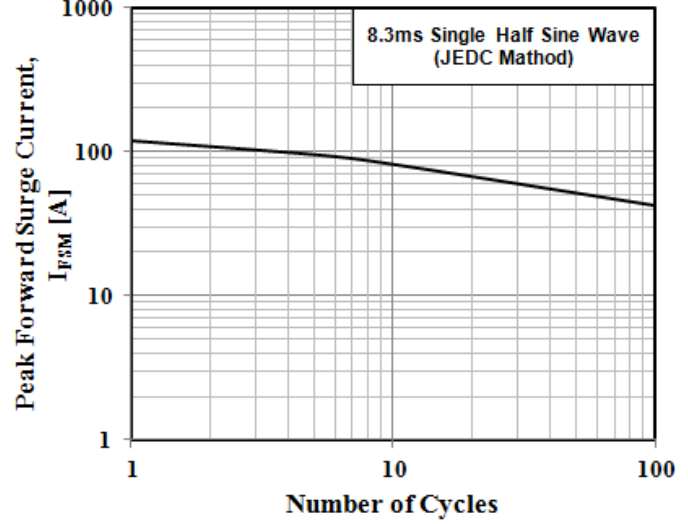


Fig. 5) Thermal Impedance Characteristics

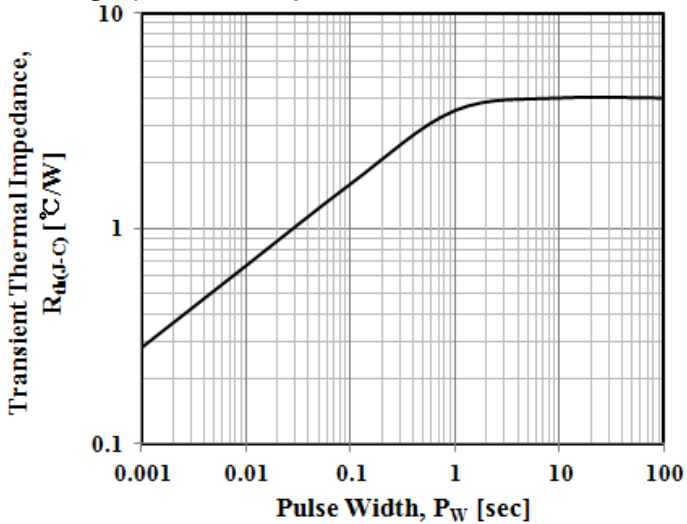
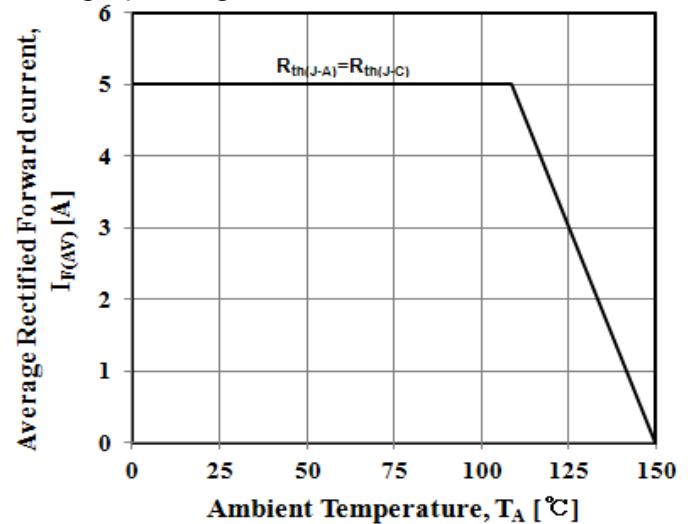
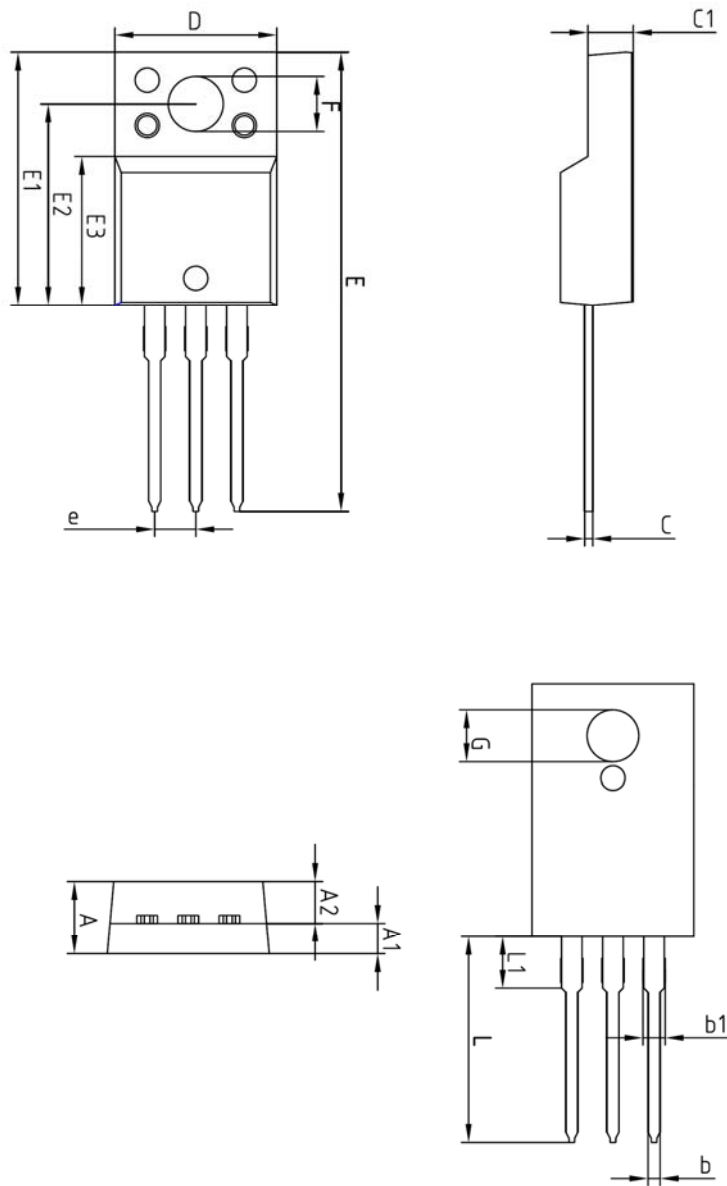


Fig. 6) Average Forward Current Characteristics



Package Outline Dimensions (Unit: mm)



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | — | — | 4.60 | |
| A1 | 2.45 | 2.50 | 2.55 | |
| A2 | 1.95 | 2.00 | 2.05 | |
| b | 0.65 | 0.75 | 0.85 | |
| b1 | 1.07 | 1.27 | 1.47 | |
| C | 0.40 | 0.50 | 0.60 | |
| C1 | 2.70 | 2.80 | 2.90 | |
| D | 9.90 | 10.00 | 10.10 | |
| E | 28.00 | — | 28.60 | |
| E1 | 15.50 | 15.60 | 15.70 | |
| E2 | 12.30 | 12.40 | 12.50 | |
| E3 | 9.15 | 9.20 | 9.25 | |
| F | 3.30 | 3.40 | 3.50 | |
| G | 3.10 | 3.20 | 3.30 | |
| e | 2.34 | 2.54 | 2.74 | |
| L | 12.40 | — | 13.00 | |
| L1 | 3.00 | 3.20 | 3.40 | |

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