

BYD127A

ULTRA FAST LOW-LOSS RECTIFIER

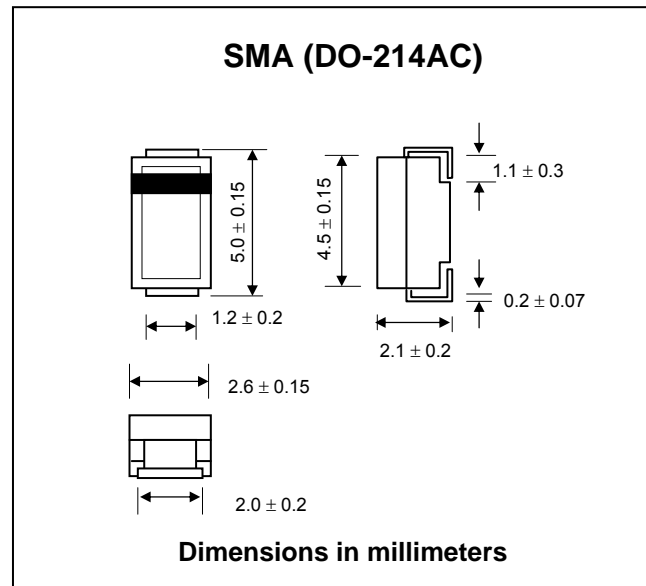
PRV : 200 Volts
Io : 2.0 Amperes

FEATURES :

- * Glass passivated junction chip
- * High maximum operating temperature
- * Low leakage current
- * Excellent stability
- * Smallest surface mount rectifier outline
- * **Pb / RoHS Free**

MECHANICAL DATA :

- * Case : SMA Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.067 gram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| RATING | SYMBOL | VALUE | UNIT |
|--|----------------|---------------|---------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 200 | V |
| Maximum Continuous Reverse Voltage | V_R | 200 | V |
| Maximum Average Forward Current (Note 1) | $I_{F(AV)}$ | 2.0 | A |
| Maximum Non-Repetitive Peak Forward Surge Current (Note 2) | I_{FSM} | 15 | A |
| Maximum Forward Voltage at $I_F = 1.0$ A, $T_J = 25$ °C | V_F | 0.93 | V |
| Maximum Reverse Current at $V_R = V_{RRMmax}$ $T_J = 25$ °C $T_J = 150$ °C | I_R | 2.0 | μ A |
| | $I_{R(H)}$ | 50 | μ A |
| Maximum Reverse Recovery Time (Note 3) | T_{rr} | 25 | ns |
| Thermal Resistance from Junction to Tie-Point | $R_{th\ j-tp}$ | 30 | K / W |
| Thermal Resistance from Junction to Ambient (Note 4) | $R_{th\ j-a}$ | 150 | K / W |
| Junction Temperature Range | T_J | - 65 to + 175 | °C |
| Storage Temperature Range | T_{STG} | - 65 to + 175 | °C |

Notes :

- (1) $T_{tp} = 95$ °C; averaged over any 20 ms period; see Fig. 1 and 2.
- (2) $t = 10$ ms half sine wave; $T_j = T_{jmax}$ prior to surge; $V_R = V_{RRMmax}$.
- (3) Reverse Recovery Test Conditions : $I_F = 0.5$ A, $I_R = 1.0$ A, $I_{rr} = 0.25$ A.
- (4) Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-layer ≥ 40 μ m.

RATING AND CHARACTERISTIC CURVES (BYD127A)

FIG.1 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF TIE-POINT TEMPERATURE

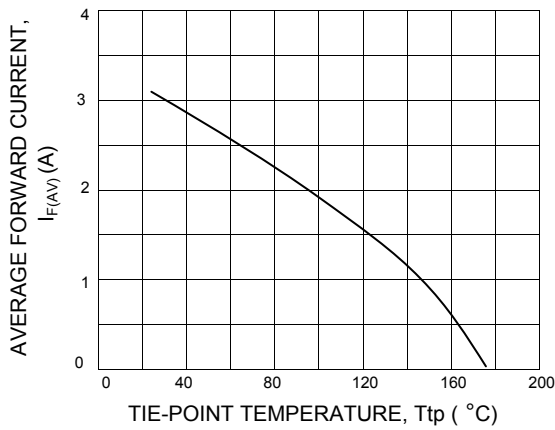


FIG.2 - MAXIMUM STEADY STATE POWER DISSIPATION AS A FUNCTION OF AVERAGE FORWARD CURRENT

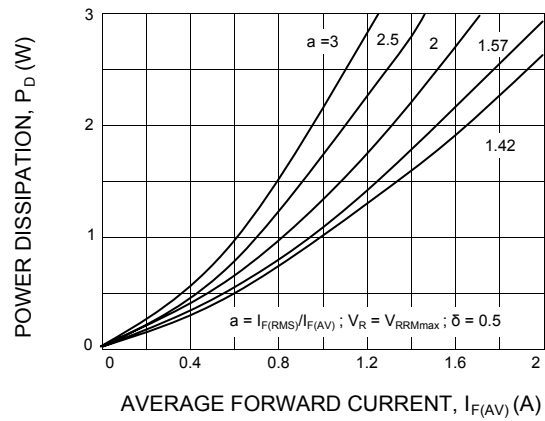


FIG.3 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE; TYPICAL VOLTAGE

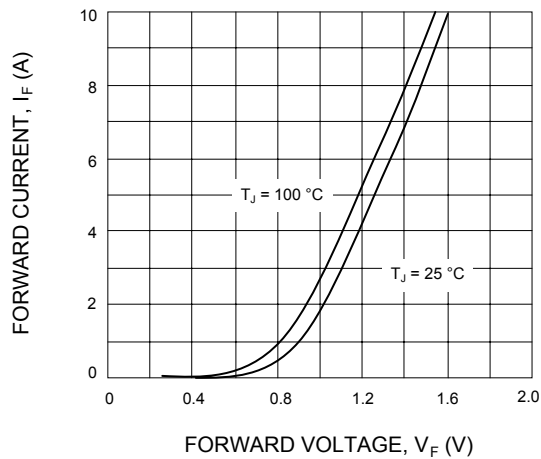


FIG.4 - REVERSE CURRENT AS FUNCTION OF REVERSE VOLTAGE; TYPICAL VALUES

