

BYD1100A

HYPER FAST SOFT-RECOVERY RECTIFIER

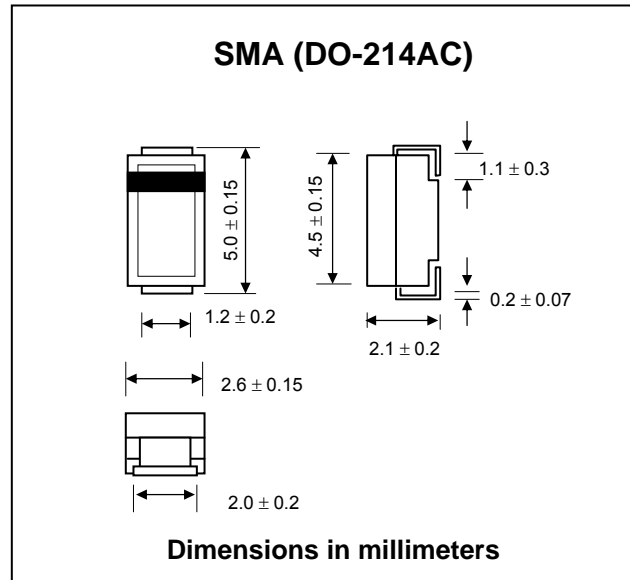
PRV : 100 Volts
I_o : 2.7 Amperes

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 specific

RATING	SYMBOL	VALUE	UNIT
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	100	V
Maximum Continuous Reverse Voltage	V _R	100	V
Min. Reverse Avalanche Breakdown Voltage @ I _R = 0.1 mA	V _{(BR)R-min}	120	V
Maximum Average Forward Current	I _{F(AV)}	2.7 ⁽¹⁾ 0.85 ⁽²⁾	A
Maximum Non-Repetitive Peak Forward Surge Current (Note 3)	I _{FSM}	15	A
Maximum Repetitive Peak Forward Current at T _{tp} = 105 °C	I _{FRM}	16	A
Maximum Forward Voltage at I _F = 1.0 A, T _J = 25 °C	V _F	0.96	V
Maximum Reverse Current at V _R = V _{RRMmax} T _J = 25 °C	I _R	5.0	μA
T _J = 165 °C	I _{R(H)}	150	μA
Maximum Reverse Recovery Time (Note 4)	T _{rr}	10	ns
Thermal Resistance from Junction to Tie-Point	R _{th j-tp}	30	K / W
Thermal Resistance from Junction to Ambient (Note 5)	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} = 55 °C; averaged over any 20 ms period; see Fig. 1 and 3.
- (2) T_{amb} = 60 °C; printed-circuit board mounting; averaged over any 20 ms period; see Fig. 2 and 3.
- (3) t = 10ms half sine wave; T_J = T_{Jmax} prior to surge; Ψ = V_{RRMmax}.
- (4) Reverse Recovery Test Conditions : I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A.
- (5) Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-layer 40 μm.

RATING AND CHARACTERISTIC CURVES (BYD1100A)

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

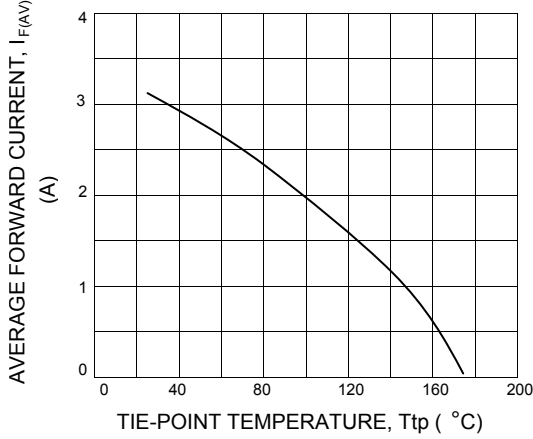


FIG.2 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE

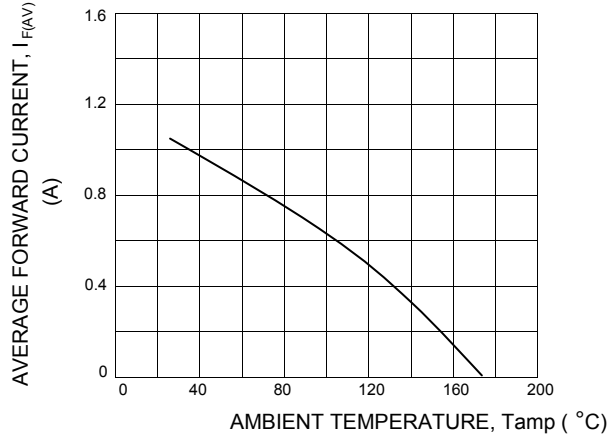


FIG.3 - MAXIMUM STEADY STATE POWER DISSIPATION AS A FUNCTION OF AVERAGE FORWARD CURRENT

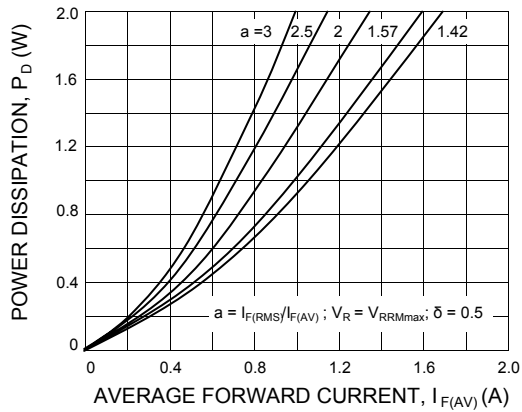


FIG.4 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE

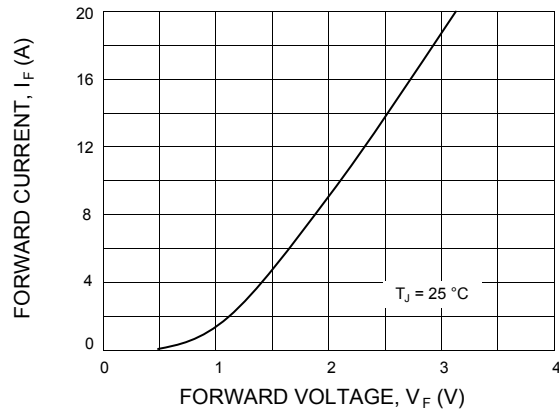


FIG.5 - REVERSE CURRENT AS FUNCTION OF JUNCTION TEMPERATURE; MAXIMUM VALUES

