

BYD1100

HYPER FAST SOFT-RECOVERY RECTIFIER

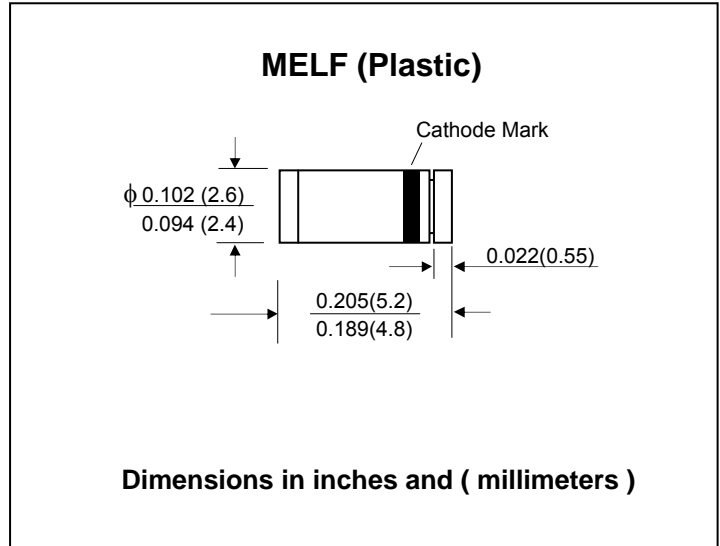
PRV : 100 Volts
I_o : 2.7 Amperes

FEATURES :

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

MECHANICAL DATA :

- * Case : Molded plastic
- * Terminals : Plated Terminals, solderable per MIL-STD-750 Method 2026
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.116 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}	100	V
Maximum Continuous Reverse Voltage	V_R	100	V
Min. Reverse Avalanche Breakdown Voltage @ $I_R = 0.1 \text{ mA}$	$V_{(BR)R-min}$	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 $T_{tp} = 105 \text{ °C}$	I_{FRM}	16	A
Maximum Forward Voltage at $I_F = 1.0 \text{ A}$, $T_J = 25 \text{ °C}$	V_F	0.96	V
Maximum Reverse Current at $V_R = V_{RRMmax}$	I_R	5.0	μA
	$I_{R(H)}$	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) $T_{tp} = 55 \text{ °C}$; averaged over any 20 ms period; see Fig. 1 and 3.
- (2) $T_{amb} = 60 \text{ °C}$; printed-circuit board mounting ;averaged over any 20 ms period; see Fig. 2 and 3.
- (3) $t=10\text{ms}$ half sine wave; $T_J = T_{jmax}$ prior to surge; $V_R = V_{RRMmax}$.
- (4) Reverse Recovery Test Conditions : $I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{rr} = 0.25 \text{ A}$.
- (5) Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-layer $\geq 40 \mu\text{m}$.

RATING AND CHARACTERISTIC CURVES (BYD1100)

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

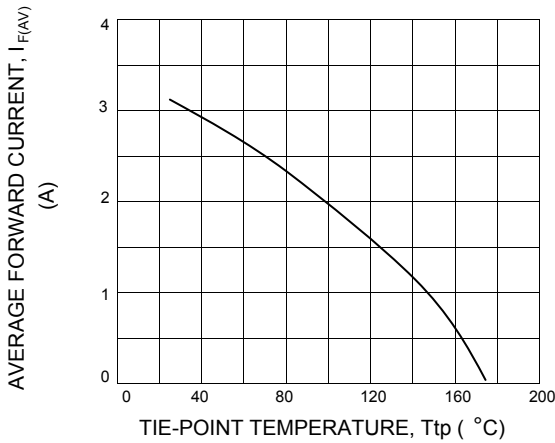


FIG.2 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE

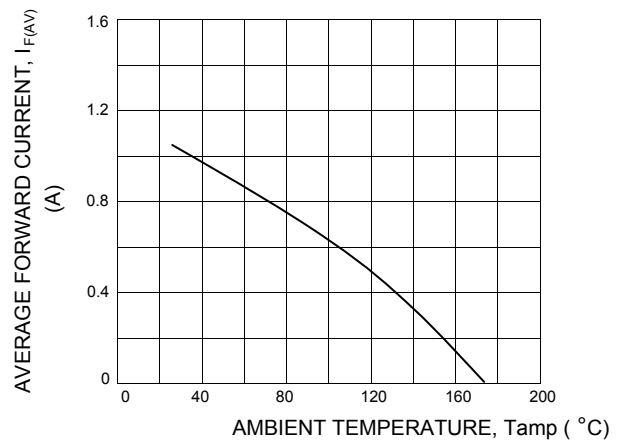


FIG.3 - MAXIMUM STEADY STATE POWER DISSIPATION AS A FUNCTION OF AVERAGE FORWARD CURRENT

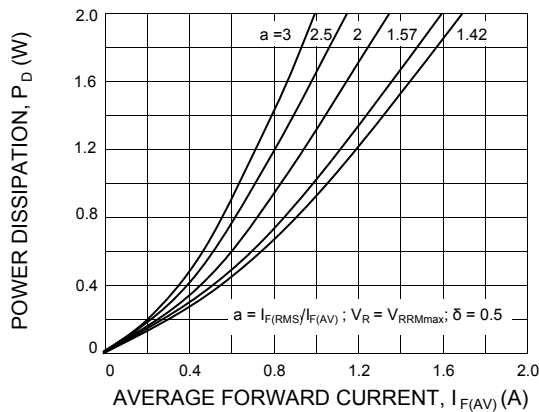


FIG.4 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE

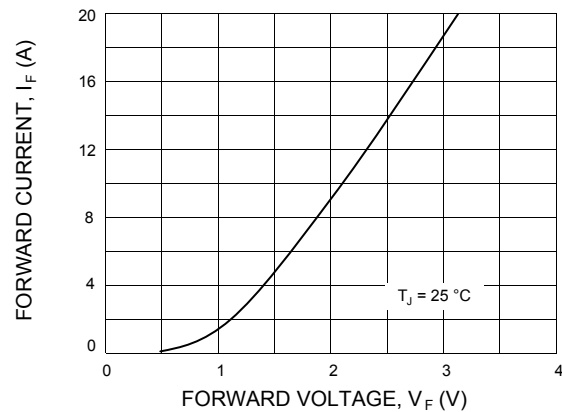


FIG.5 - REVERSE CURRENT AS FUNCTION OF JUNCTION TEMPERATURE; MAXIMUM VALUES

