

BYD147A

ULTRA FAST LOW-LOSS RECTIFIER

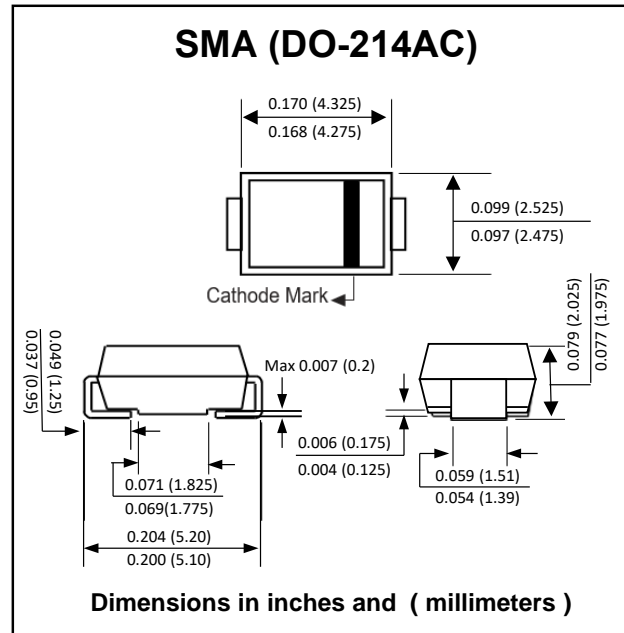
PRV : 400 Volts
Io : 2.0 Amperes

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}	400	V	
Maximum Continuous Reverse Voltage	V_R	400	V	
Maximum Average Forward Current (Note 1)	$I_{F(AV)}$	2.0	A	
Maximum Non-Repetitive Peak Forward Surge Current (Note 2)	I_{FSM}	25	A	
Maximum Forward Voltage at $I_F = 1.0$ A, $T_J = 25$ °C	V_F	1.05	V	
Maximum Reverse Current at $V_R = V_{RRMmax}$	$T_J = 25$ °C	I_R	5.0	μA
	$T_J = 150$ °C	$I_{R(H)}$	150	μA
Maximum Reverse Recovery Time (Note 3)	T_{rr}	50	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) $T_{tp} = 90$ °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 μm.

RATING AND CHARACTERISTIC CURVES (BYD147A)

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

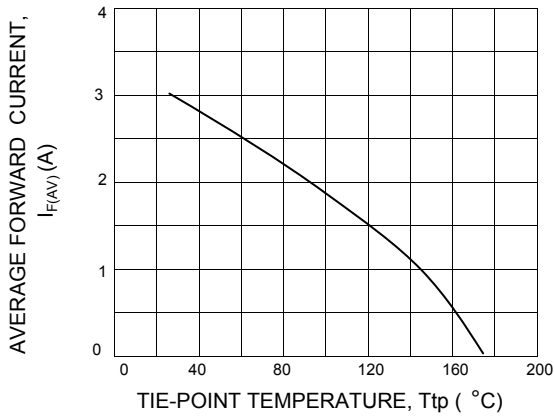


FIG.2 - MAXIMUM STEADY STATE POWER DISSIPATION AS A FUNCTION OF AVERAGE FORWARD CURRENT

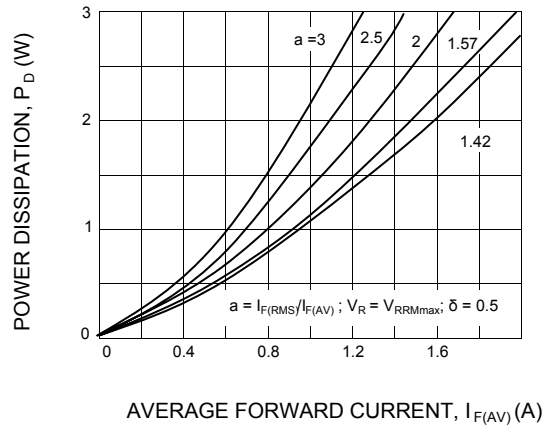


FIG.3 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE; TYPICAL VOLTAGE

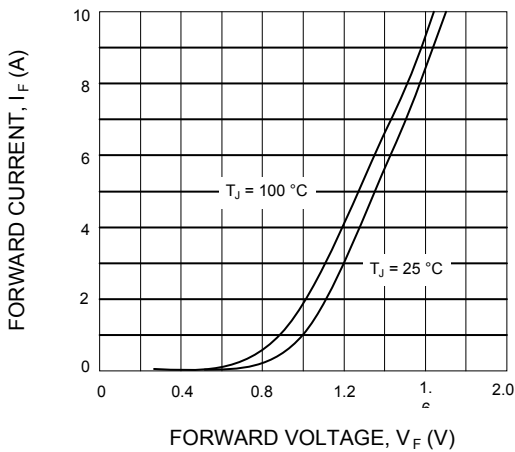


FIG.4 - REVERSE CURRENT AS FUNCTION OF REVERSE VOLTAGE; TYPICAL VALUES

