

# BYD147A

## ULTRA FAST LOW-LOSS RECTIFIER

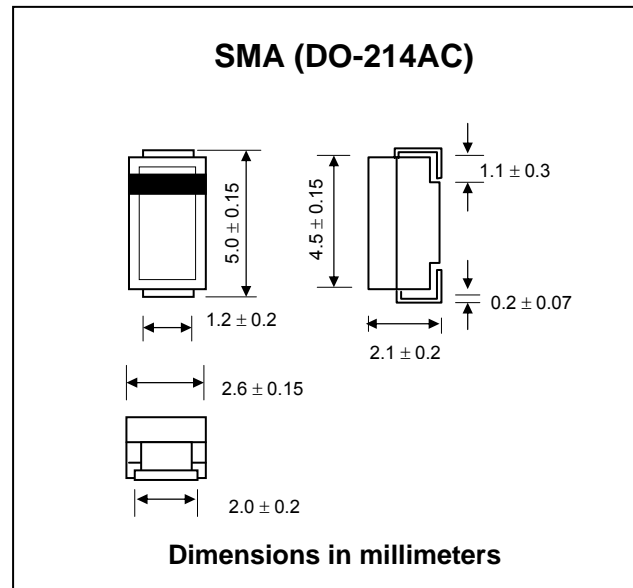
**PRV : 400 Volts**  
**Io : 2.0 Amperes**

### 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

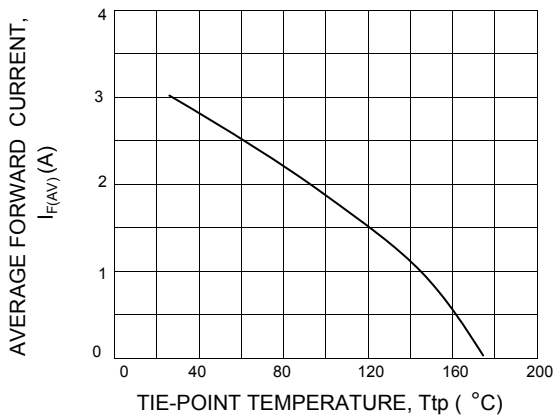
RATING	SYMBOL	VALUE	UNIT	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	400	V	
Maximum Continuous Reverse Voltage	$V_R$	400	V	
Maximum Average Forward Current (Note 1)	$I_{F(AV)}$	2.0	A	
Maximum Non-Repetitive Peak Forward Surge Current (Note 2)	$I_{FSM}$	25	A	
Maximum Forward Voltage at $I_F = 1.0$ 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 :

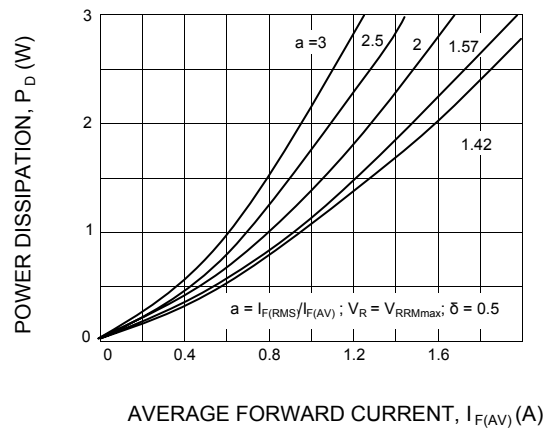
- (1)  $T_{tp} = 90$  °C; averaged over any 20 ms period; see Fig. 1 and 2 .
- (2)  $t = 10$ ms half sine wave;  $T_J = T_{jmax}$  prior to surge;  $V_R = V_{RRMmax}$ .
- (3) Reverse Recovery Test Conditions :  $I_F = 0.5$  A,  $I_R = 1.0$  A,  $I_{rr} = 0.25$  A.
- (4) Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-layer 40 μm.

## RATING AND CHARACTERISTIC CURVES ( BYD147A )

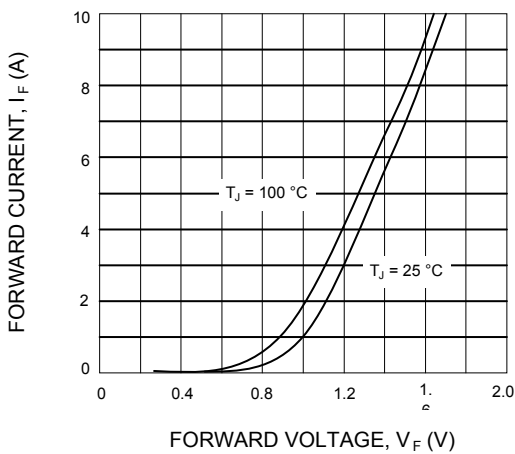
**FIG.1 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF TIE-POINT TEMPERATURE**



**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**

