

# BYD17DA - BYD17MA

# GENERAL PURPOSE CONTROLLED AVALANCHE RECTIFIERS

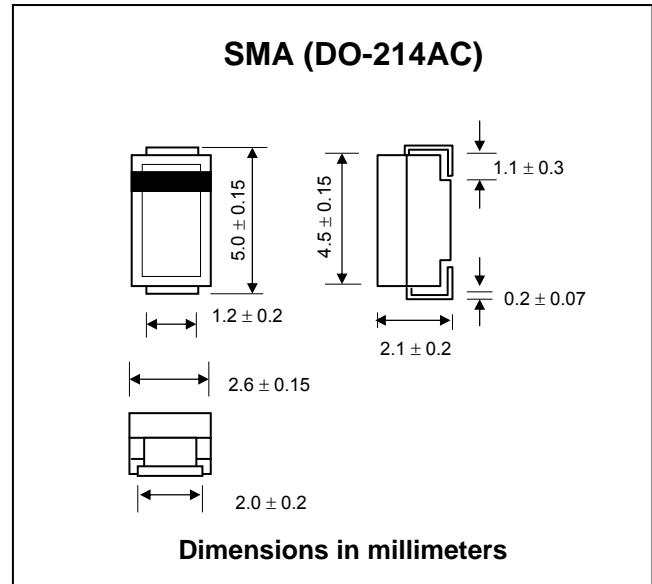
**PRV : 200 - 1000 Volts**  
**Io : 1.5 Amperes**

**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 Moulded 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** (Tj = 25 °C unless otherwise specified.)

| RATING   | SYMBOL                 | BYD 17DA  | BYD 17GA | BYD 17JA | BYD 17KA | BYD 17MA | UNIT  |
|--|------------------------|---|----------|----------|----------|----------|-------|
| Maximum Repetitive Peak Reverse Voltage  | V <sub>RRM</sub>       | 200   | 400      | 600      | 800      | 1000     | V     |
| Maximum Crest Working Reverse Voltage  | V <sub>RWM</sub>       | 200   | 400      | 600      | 800      | 1000     | V     |
| Maximum Continuous Reverse Voltage   | V <sub>R</sub>         | 200   | 400      | 600      | 800      | 1000     | V     |
| Min. Reverse Avalanche Breakdown Voltage at I <sub>R</sub> = 0.1 mA                              | V <sub>(BR)R-min</sub> | 225   | 450      | 650      | 900      | 1100     | V     |
| Maximum Average Forward Current<br>(Note 1) T <sub>tp</sub> = 105 °C<br>Ta = 65 °C; PCB mounting | I <sub>F(AV)</sub>     | 1.5   |          |          |          |          | A     |
|  |                        | 0.6   |          |          |          |          |       |
| Maximum Non-Repetitive Peak Forward Surge Current (Note 2)                                       | I <sub>FSM</sub>       | 20  |          |          |          |          | A     |
| Maximum Forward Voltage  | V <sub>F</sub>         | at I <sub>F</sub> = 1 A , T <sub>j</sub> = 25 °C                  |          |          | 1.05     |          | V     |
|  |                        | at I <sub>F</sub> = 1 A , T <sub>j</sub> = 175 °C                 |          |          | 0.93     |          |       |
| Maximum Reverse Current  | I <sub>R</sub>         | at V <sub>R</sub> = V <sub>RRMmax</sub> , T <sub>j</sub> = 25 °C  |          |          | 1.0      |          | μA    |
|  |                        | at V <sub>R</sub> = V <sub>RRMmax</sub> , T <sub>j</sub> = 165 °C |          |          | 100      |          | μA    |
| Typical Reverse Recovery Time (Note 3)   | T <sub>rr</sub>        | 3   |          |          |          |          | μs    |
| Thermal Resistance from Junction to Tie-Point  | R <sub>th j-tp</sub>   | 30  |          |          |          |          | K / W |
| Thermal Resistance from Junction to Ambient (Note 4)   | R <sub>th j-a</sub>    | 150   |          |          |          |          | K / W |
| Operating Junction Temperature Range   | T <sub>J</sub>         | - 65 to + 175   |          |          |          |          | °C    |
| Storage Temperature Range  | T <sub>STG</sub>       | - 65 to + 175   |          |          |          |          | °C    |

**Notes :**

- (1) Averaged over any 20 ms period.
- (2) t = 10ms half sine wave; T<sub>j</sub> = T<sub>jmax</sub> prior to surge; V<sub>R</sub> = V<sub>RRMmax</sub>
- (3) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- (4) Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper ≥ 40 μm.

RATING AND CHARACTERISTIC CURVES ( BYD17DA - BYD17MA )

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

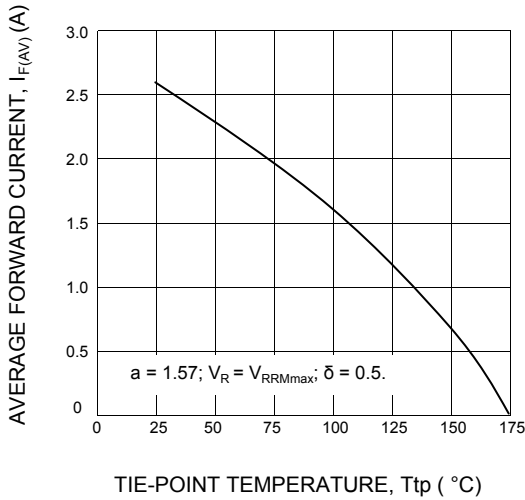


FIG.2 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE

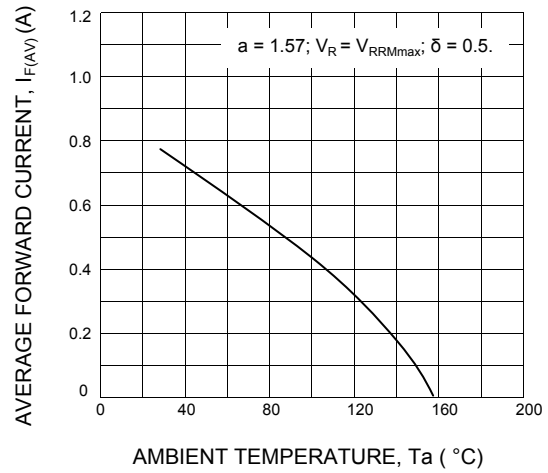


FIG.3 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE; MAXIMUM VALUES

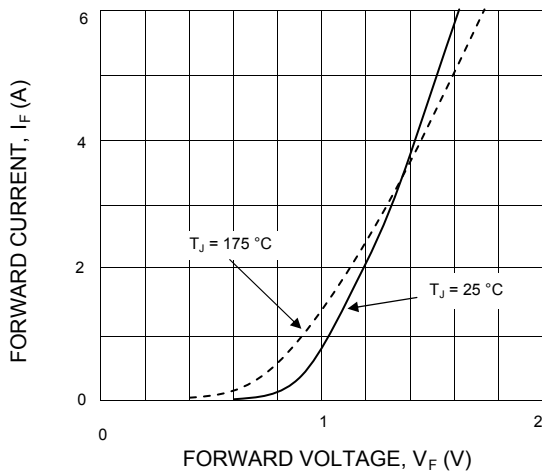


FIG.4 - REVERSE CURRENT AS FUNCTION OF JUNCTION TEMPERATURE; MAXIMUM VALUES

