

# BYD17D - BYD17M

## GENERAL PURPOSE CONTROLLED AVALANCHE RECTIFIERS

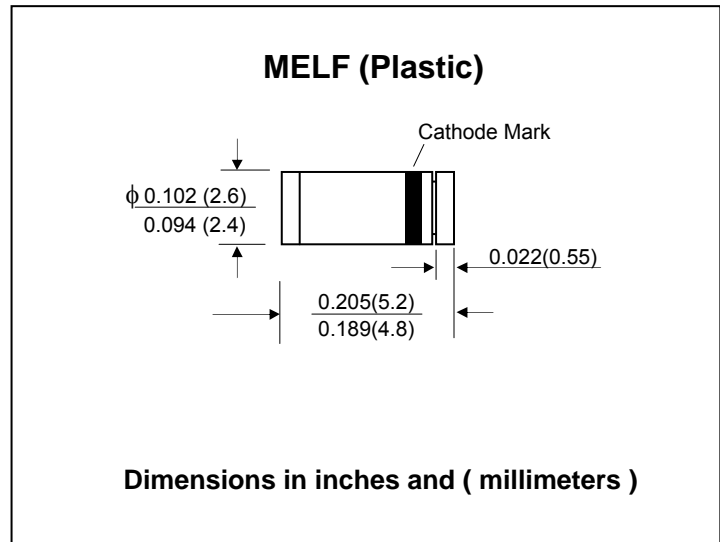
**PRV : 200 - 1000 Volts**  
**Io : 1.5 Amperes**

### FEATURES :

- \* Glass passivated
- \* High maximum operating temperature
- \* Low leakage current
- \* Excellent stability
- \* Guaranteed avalanche energy absorption capability
- \* 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 (T<sub>j</sub> = 25 °C unless otherwise specified.)

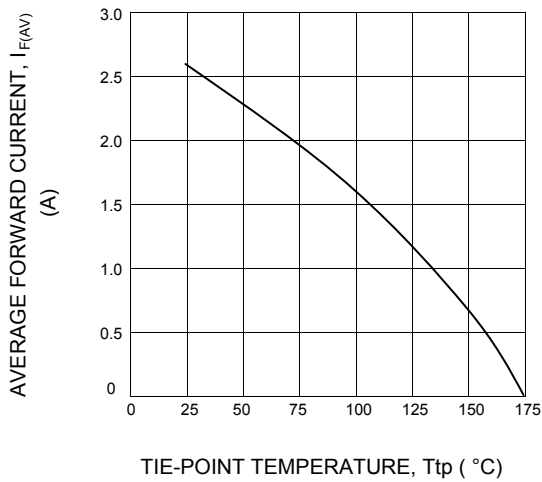
RATING	SYMBOL	BYD 17D	BYD 17G	BYD 17J	BYD 17K	BYD 17M	UNIT
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	200	400	600	800	1000	V
Maximum Crest Working Reverse Voltage	V <sub>RWM</sub>	200	400	600	800	1000	V
Maximum Continuous Reverse Voltage	V <sub>R</sub>	200	400	600	800	1000	V
Min. Reverse 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 T <sub>tp</sub> = 105 °C (Note 1) 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 at I <sub>F</sub> = 1 A , T <sub>j</sub> = 25 °C at I <sub>F</sub> = 1 A , T <sub>j</sub> = T <sub>jmax</sub>	V <sub>F</sub>	1.05					V
		0.93					
Maximum Reverse Current at V <sub>R</sub> = V <sub>RRMmax</sub> , T <sub>j</sub> = 25 °C at V <sub>R</sub> = V <sub>RRMmax</sub> , T <sub>j</sub> = 165 °C	I <sub>R</sub>	1.0					μA
	I <sub>R(H)</sub>	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 :

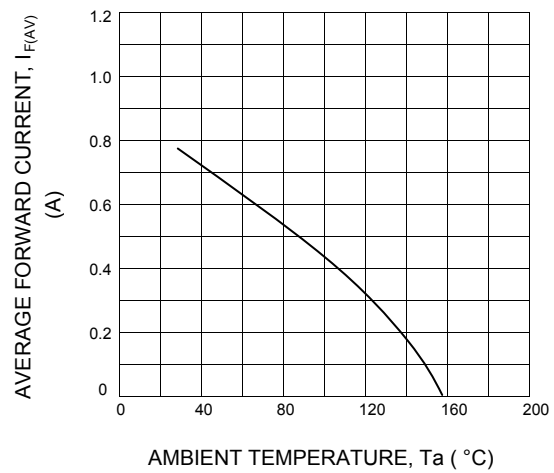
- (1) Averaged over any 20 ms period.
- (2) t = 10ms half sine wave; T<sub>j</sub> = T<sub>jmax</sub> prior to surge; V<sub>R</sub> = V<sub>RRMmax</sub>
- (3) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- (4) Device mounted on an epoxy-glass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

## RATING AND CHARACTERISTIC CURVES ( BYD17D - BYD17M )

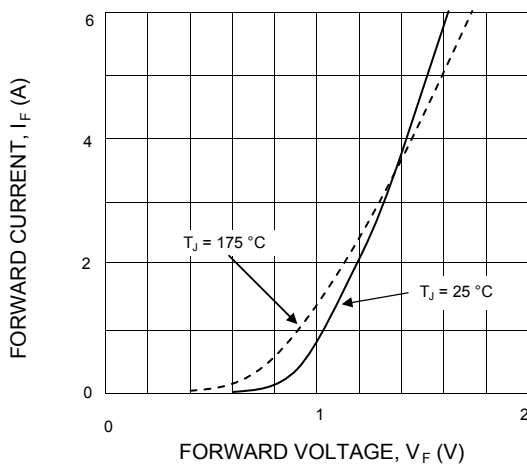
**FIG.1 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF TIE-POINT TEMPERATURE**



**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**

