

BYD17DA - BYD17MA

GENERAL PURPOSE CONTROLLED AVALANCHE RECTIFIERS

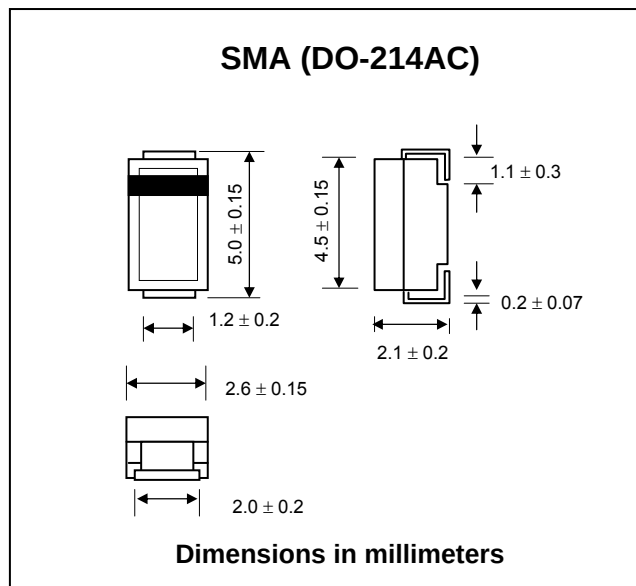
PRV : 200 - 1000 Volts
Io : 1.5 Amperes

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 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 (T_j = 25 °C unless otherwise specified.)

RATING	SYMBOL	BYD 17DA	BYD 17GA	BYD 17JA	BYD 17KA	BYD 17MA	UNIT
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	200	400	600	800	1000	V
Maximum Crest Working Reverse Voltage	V _{RWM}	200	400	600	800	1000	V
Maximum Continuous Reverse Voltage	V _R	200	400	600	800	1000	V
Min. Reverse Avalanche Breakdown Voltage at I _R = 0.1 mA	V _{(BR)R-min}	225	450	650	900	1100	V
Maximum Average Forward Current (Note 1) T _{tp} = 105 °C Ta = 65 °C; PCB mounting	I _{F(AV)}	1.5 0.6					A
Maximum Non-Repetitive Peak Forward Surge Current (Note 2)	I _{FSM}	20					A
Maximum Forward Voltage at I _F = 1 A , T _j = 25 °C at I _F = 1 A , T _j = 175 °C	V _F	1.05 0.93					V
Maximum Reverse Current at V _R = V _{RRMmax} , T _j = 25 °C at V _R = V _{RRMmax} , T _j = 165 °C	I _R I _{R(H)}	1.0 100					μA
Typical Reverse Recovery Time (Note 3)	T _{rr}	3					μs
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
Operating Junction Temperature Range	T _J	- 65 to + 175					°C
Storage Temperature Range	T _{STG}	- 65 to + 175					°C

Notes :

- (1) Averaged over any 20 ms period.
- (2) t = 10ms 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 copper ≥ 40 μm.

RATING AND CHARACTERISTIC CURVES (BYD17DA - BYD17MA)

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

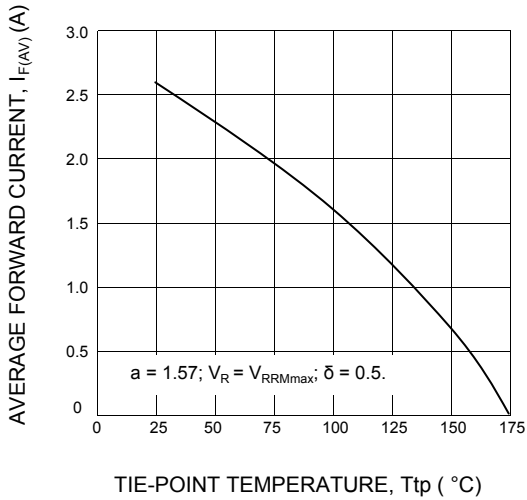


FIG.2 - MAXIMUM PERMISSIBLE AVERAGE FORWARD CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE

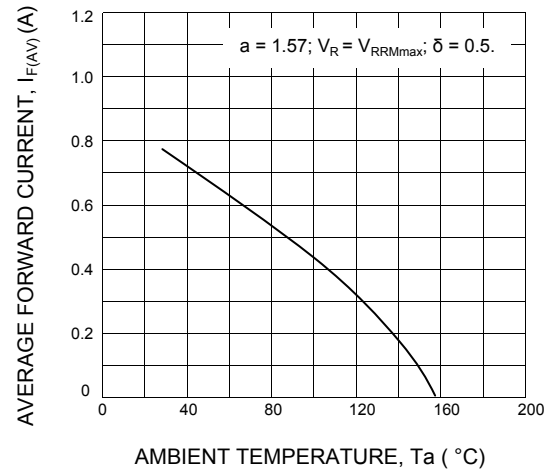


FIG.3 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE; MAXIMUM VALUES

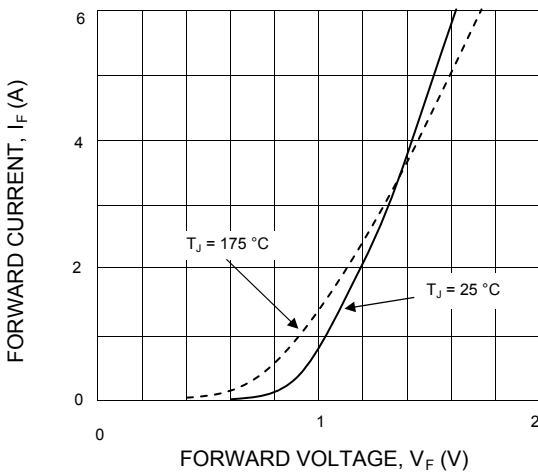


FIG.4 - REVERSE CURRENT AS FUNCTION OF JUNCTION TEMPERATURE; MAXIMUM VALUES

