

BYD37DA - BYD37MA

AVALANCHE FAST SOFT-RECOVERY RECTIFIER DIODES

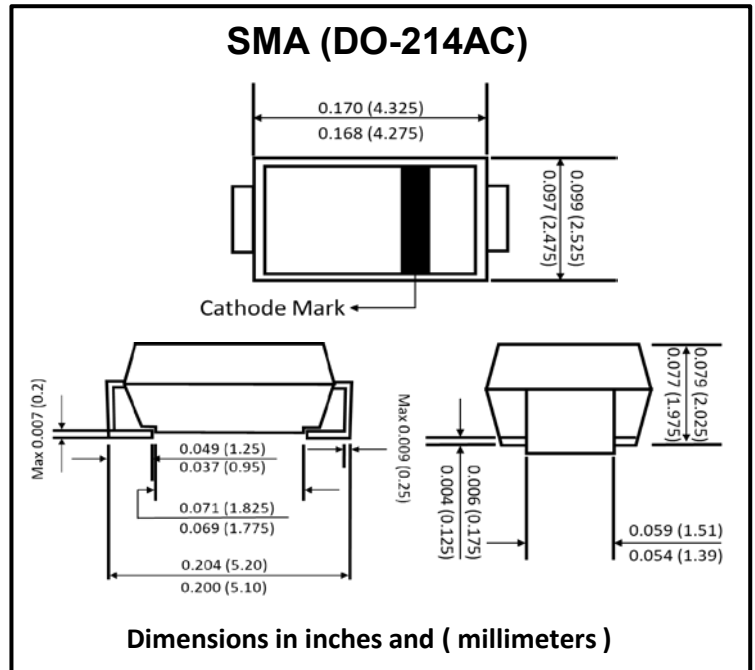
PRV : 200 - 1000 Volts
Io : 1.5 Amperes

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

RATING	SYMBOL	BYD 37DA	BYD 37GA	BYD 37JA	BYD 37KA	BYD 37MA	UNIT
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	200	400	600	800	1000	V
Maximum Continuous Reverse Voltage	V _R	200	400	600	800	1000	V
Min. Reverse Avalanche Breakdown Voltage @ I _R = 0.1 mA	V _{(BR)R-min}	300	500	700	900	1100	V
Maximum Average Forward Current T _{tp} = 105 °C (Note 1)	I _{F(AV)}	1.5					A
Maximum Non-Repetitive Peak Forward Surge Current (Note 2)	I _{FSM}	20					A
Maximum Repetitive Peak Forward Current	I _{FRM}	12					A
Maximum Forward Voltage at 1.0 A	V _F	1.3					V
Maximum Reverse Current at V _R =V _{RRMmax} T _J = 20 °C T _J = 165 °C	I _R	1.0					μA
	I _{R(H)}	100					μA
Maximum Reverse Recovery Time (Note 3)	T _{rr}	250			300		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}	120					K / W
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) $t=10\text{ms}$ 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 (BYD37DA - BYD37MA)

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

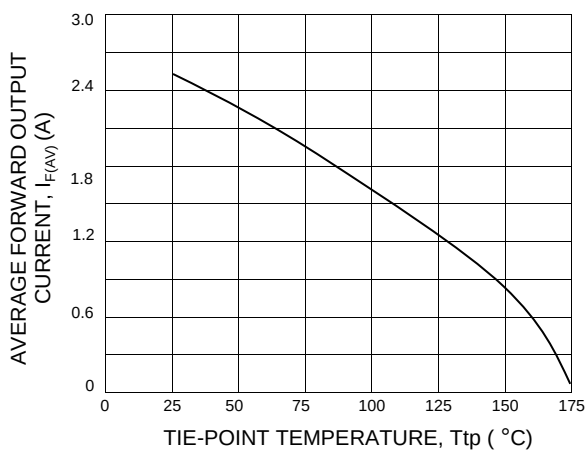


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

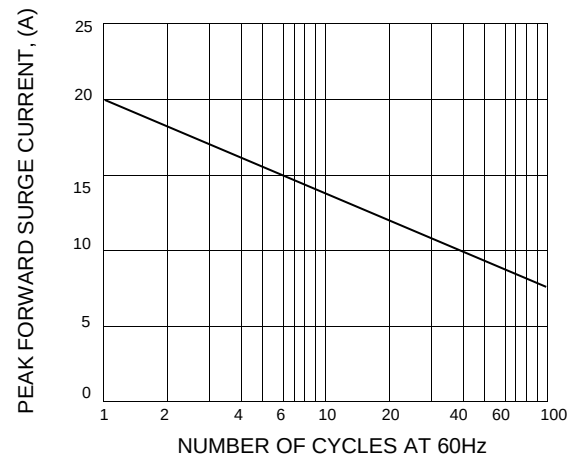


FIG.3 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE

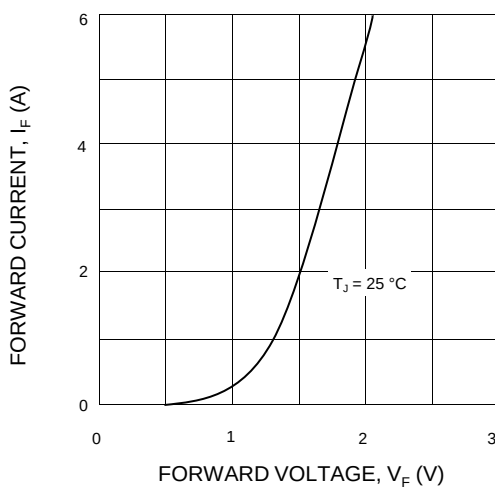


FIG.4 - REVERSE CURRENT AS FUNCTION OF JUNCTION TEMPERATURE

