

BYD37D - BYD37M

AVALANCHE FAST SOFT-RECOVERY RECTIFIER DIODES

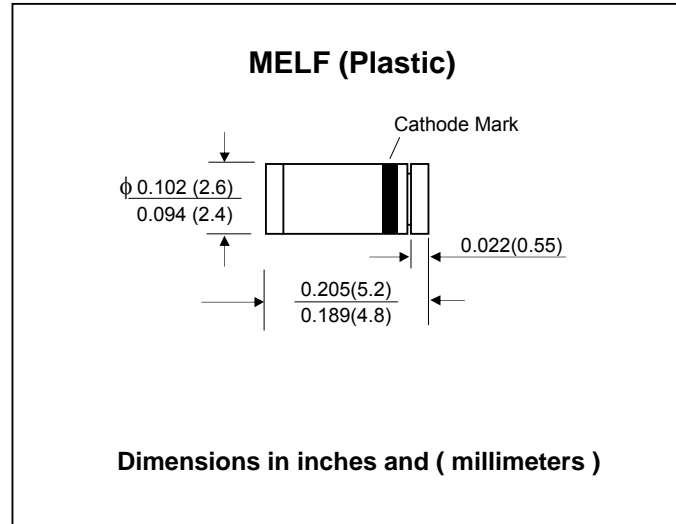
PRV : 200 - 1000 Volts
Io : 1.5 Amperes

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

RATING	SYMBOL	BYD 37D	BYD 37G	BYD 37J	BYD 37K	BYD 37M	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 @ $I_R = 0.1 \text{ mA}$	$V_{(BR)R-min}$	300	500	700	900	1100	V
Maximum Average Forward Current $T_{tp} = 105 \text{ }^\circ\text{C}$ (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 $V_R = V_{RRMmax}$ $T_J = 20 \text{ }^\circ\text{C}$ $T_J = 165 \text{ }^\circ\text{C}$	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	$R_{th \text{ j-tp}}$	30					K / W
Thermal Resistance from Junction to Ambient (Note 4)	$R_{th \text{ j-a}}$	120					K / W
Junction Temperature Range	T_J	- 65 to + 175					$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 65 to + 175					$^\circ\text{C}$

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 : $I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{rr} = 0.25 \text{ A}$.
- (4) Device mounted on an epoxy-glass printed-circuit board, 1.5 mm thick; thickness of Cu-lays $\leq 40 \mu\text{m}$.

RATING AND CHARACTERISTIC CURVES (BYD37D - BYD37M)

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

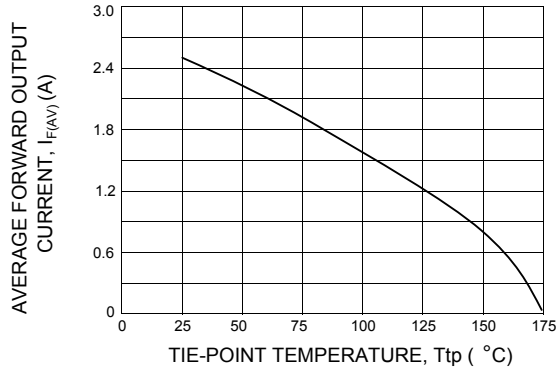


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

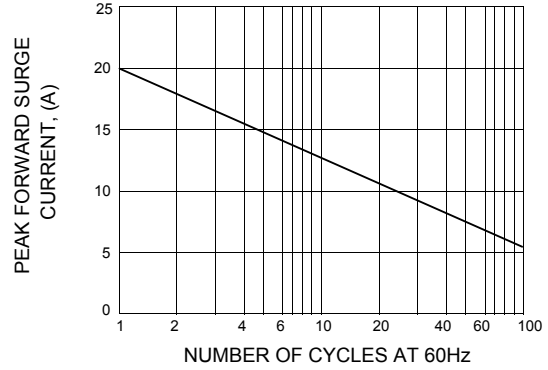


FIG.3 - FORWARD CURRENT AS FUNCTION OF FORWARD VOLTAGE

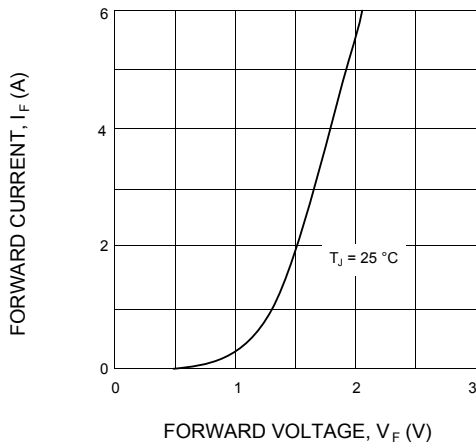


FIG.4 - REVERSE CURRENT AS FUNCTION OF JUNCTION TEMPERATURE

