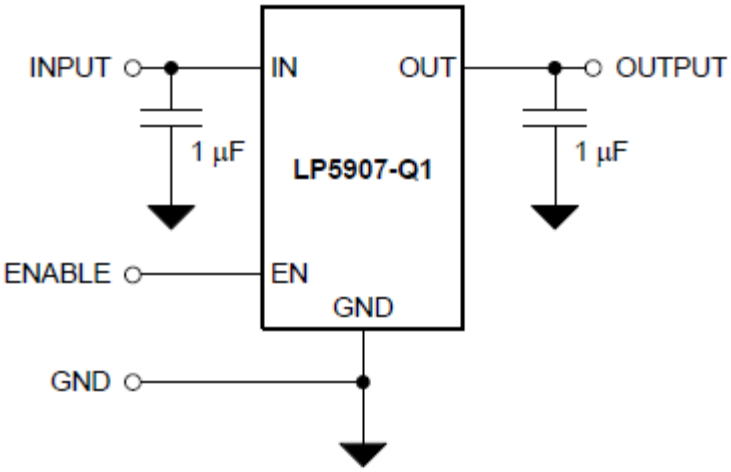
Functional Safety FIT Rate, Failure Mode Distribution LP5907-Q1

Automotive 250-mA, Ultra-Low-Noise, Low-IQ LDO

Simplified Schematic



Failure Rate Mission Profile (1)	Per 10^9 Hours (FIT)
Total FIT Rate	6
Die FIT Rate	4
Package FIT Rate	2

Failure Modes	Failure Mode Distribution (%)
No OUTPUT (Output low)	30%
OUTPUT High (Following Input)	20%
OUTPUT not in specification	40%
EN false enable	5%
Pin to Pin short any two pin	5%

(1)Failure Rate, Mission Profile and Failure Modes Distribution

The failure rate and mission profile information comes from the Reliability data handbook IEC TR 62380 using the reliability modeling for Integrated circuits with automotive motor control mission profiles
Mission Profile: Motor Control from Table 11
Power dissipation: 135 mW
Package: SOT-23
Climate type: World-wide Table 8
Package factor lambda 3 Table 17b
Substrate Material: FR4
EOS FIT rate assumed = 0

The failure mode distribution estimation comes from the combination of common failure modes listed in standards such as IEC 61508 and ISO 26262, the ratio of sub-circuit function size and complexity and from best engineering judgment. The failure rates listed reflect random failure events and do not include failures due to misuse or over stress.

LP5907-Q1 is a catalog product and not compliant to ISO-26262 standards.

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