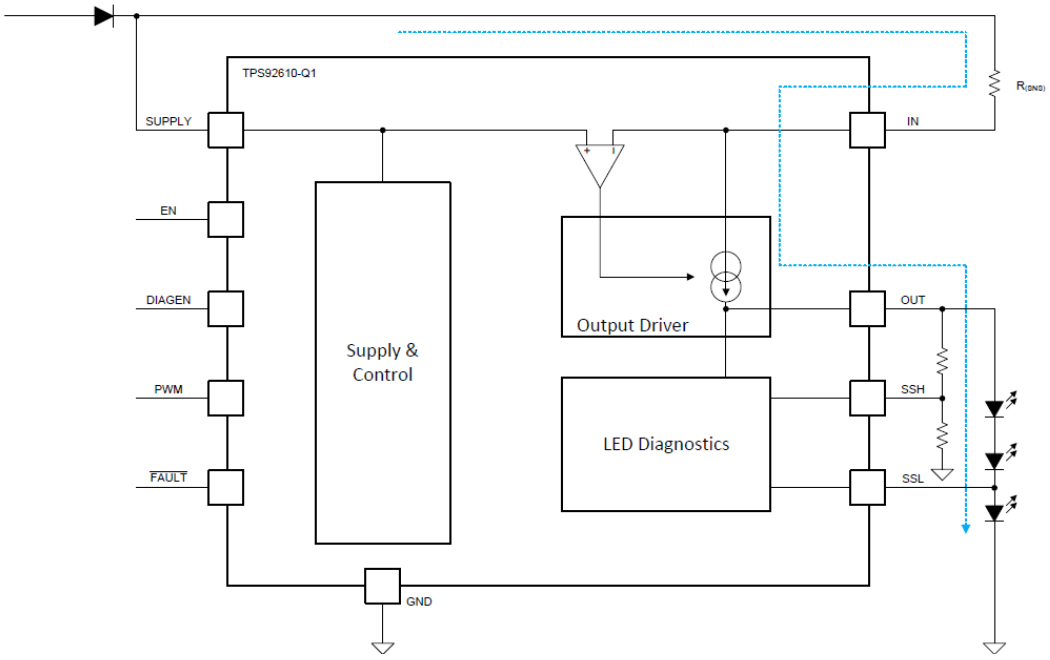
Functional Safety FIT Rate, Failure Mode Distribution TPS92610-Q1

Automotive Single-Channel Linear LED Driver



FIT IEC TR 62380 / ISO 26262-11 (1)	Per 10^9 Hours (FIT)
Total FIT Rate	22
Die FIT Rate	12
Package FIT Rate	10

Failure Modes	Failure Mode Distribution (%)
OUT no output (HIZ)	5%
OUT output out of specification, current or timing	50%
OUT stuck off (GND)	15%
OUT stuck on	15%
FAULT fails to trip or false trip	10%
Short circuit any two pins	5%

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

The failure rate and mission profile information come from reliability modeling for Integrated circuits in Reliability data handbook IEC TR 62380 and ISO 26262 Part 11

Mission Profile: Motor Control from Table 11	Power dissipation: 1000 mW
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.

TPS92610-Q1 is a catalog product and not compliant to ISO-26262 standards.

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