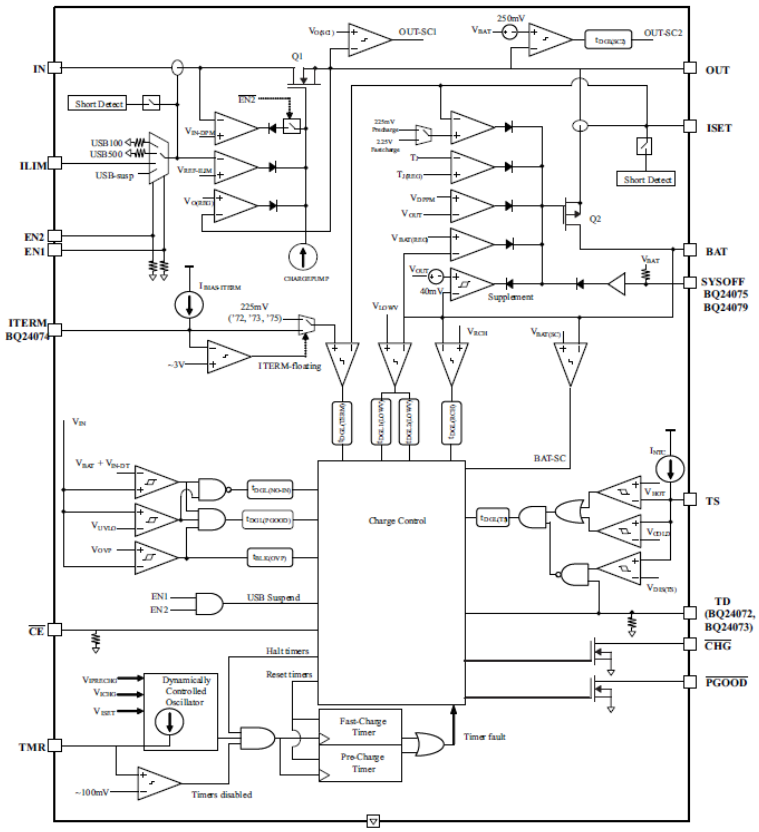
Functional Safety FIT Rate, Failure Mode Distribution BQ2407x

Standalone 1-Cell 1.5-A Linear Battery Charger with PowerPath

Functional Block Diagram



FIT IEC TR 62380 / ISO 26262 (1)	Per 10^9 Hours (FIT)
Total FIT Rate	23
Die FIT Rate	4
Package FIT Rate	19

FIT Siemens Norm SN29500 (2)			
Table	Category	Ref FIT λ_{ref}	Ref Virtual Tj $\theta_{vj,1}$
5	Digital, Analog, Mixed	25 FIT	55 C

(1) Failure Rate, Mission Profile

The failure rate and mission profile information come from reliability modeling for Integrated circuits from Reliability data handbook IEC TR 62380 / ISO 26262 Part 11
Mission Profile: Motor Control from Table 11
Power dissipation 250 mW
Climate type: World-wide Table 8
Package factor lambda 3 Table 17b
Substrate Material: FR4
EOS FIT rate assumed = 0

(2) Reference failure rate, Virtual (equivalent) junction temperature

The reference failure rate and virtual junction temperature come from Siemens Norm SN29500-2 tables 1-5. Failure rate under operating conditions are calculated from the reference failure rate and virtual junction temperature using conversion information in SN29500-2 section 4.

The failure rates listed reflect random failure events and do not include failures due to misuse or over stress.

BQ2407x are catalog product and not compliant to ISO-26262 standards.

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