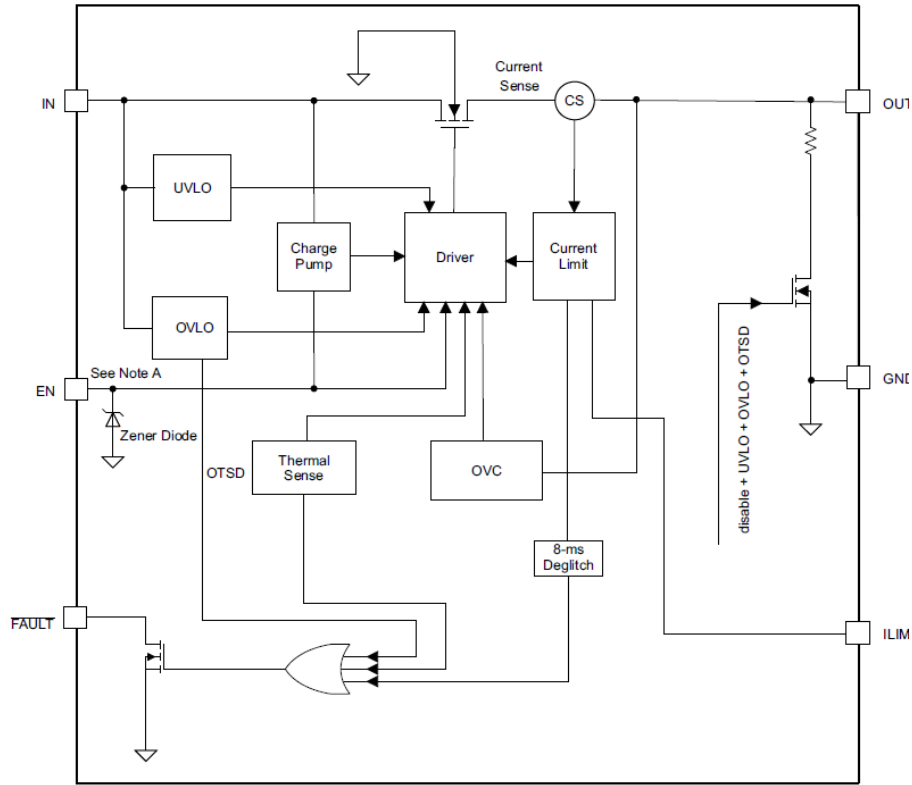


# Functional Safety FIT Rate, Failure Mode Distribution TPS25200QDRVRQ1

5-V eFuse With Precision Adjustable Current Limit and Overvoltage Clamp

## Functional Block Diagram



### FIT Siemens Norm SN29500 (2)

Table	Category	Ref FIT $\lambda_{ref}$	Ref Virtual Tj $\theta_{vi,1}$
Table 5	Digital, Analog, Mixed	20 FIT	55 C

### Failure Modes

### Failure Mode Distribution (%)

VOUT open or HIZ including from incorrect disabling of switch

25

VOUT pulled to GND including from false fault detection

30

VOUT outside specification (voltage or time)

25

VOUT stuck on

5

Incorrect FAULT flag report

5

Pin to Pin short any two pins

10

## **(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 for user mission profile is calculated using the reference failure rate and virtual junction temperature and following the calculation information in SN29500-2 section 4.

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.

TPS25200-Q1 is a catalog product and not compliant to ISO-26262 standards.

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