
Development sample quality level

Introduction

STMicroelectronics proposes a series of rad-hard products in plastic packages optimized for new space constellations. These are compliant to ST proprietary low earth orbit generic specification (LEO specification).

In addition to the products qualified as per the LEO specification, referred to as LEO flight models (FM), ST proposes a development samples (DvS) quality level. DvS are provided to support customer's developments with cost effective parts and a low minimum order quantities. The present document describes the manufacturing and screening flow of this development sample quality level.

1 Eligible products

Any product available as per ST's LEO specification have a development sample version.

2 Production flow

2.1 Manufacturing flow

Figure 1. Simplified development samples production flow



The generic DvS specification is provided below. With respect to LEO FMs, DvS:

- Use the same design, the same technology and the same wafer fab
- Are submitted to the same 25 °C electrical wafer sort
- Use the same package, with the same finishing, manufactured on the same assembly line
- Carry a specific marking
- Have the same functionality and characteristics guaranteed at 25 °C
- Have the same 5-year max date code

On the reverse, with respect to LEO FMs, DvS are:

- Not guaranteed above and below 25 °C
- Not provided with any radiation hardness guarantee
- Not submitted to any package testing (thermal cycles, etc.)
- Not guaranteed for reliability
- Provided without a dedicated certificate of conformance
- Packed in slices of reels

2.2 Product identification

As described in the datasheet of each product and on the web site:

- The part numbers of DvS are denoted by a suffix "-D" as shown in the examples below:
 - LEOAD128PT-D
 - LEO3910PDT-D
- The marking of parts is denoted by a prefix "D" as shown in the examples below:
 - DLEOAD128
 - DLEO3910

3 Logistics

To ensure proper shipment, the minimum order quantity and base quantity strictly apply for DvS. Furthermore, a maximum order quantity applies. The formulas below summarize the constraints applicable to the quantity of each order line item of DvS.

$$\begin{aligned} \text{Line item quantity} &= \text{MOQ} + n \times \text{Base} \\ &\text{and} \\ \text{Line item quantity} &\leq \text{Max order quantity} \end{aligned}$$

Where

- MOQ: Minimum Order Quantity
- Base: Base Quantity
- n: integer between 0 and a product dependent maximum value

Minimum order quantities, base quantity and maximum order quantities are both package and product dependent. Contact ST for more information.

Revision history

Table 1. Document revision history

Date	Version	Changes
27-Jul-2022	1	Initial release.

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