

Table of Contents

VFAT3 Packaged.....	1
Organizations Involved.....	1
VFAT3 Package Design & Production.....	1
Package General Description.....	1
Technical Documents.....	1
Substrate Design File.....	1

VFAT3 Packaged

This page contains all the technical data and information about the design and the test of the packaged version of the VFAT3 chip.

Organizations Involved

- INFN - Sezione di Bari: technical management and testing,
- IMEC: design, simulations and production.

VFAT3 Package Design & Production

Design, simulations and production of the package has been assigned to IMEC (<https://www.imec-int.com/en/iclink>) by means of a public price enquiry. The VFAT3 packaging process has been organized into three main steps:

1. Package substrate design and simulations.
2. Prototypes production.
3. Series production.

Regarding to the first step IMEC will provide:

- Design files of the package design compatible with Cadence Allegro Package Designer (.mcm),
- An electrical analysis report including the characteristic impedance of the high-speed nets,
- A thermal analysis report of the package,
- Design guidelines for the PCB.

Package General Description

VFAT3 will be enclosed in a Ball Grid Array (BGA) package with the following specifications:

- Ball Grid Array: 20 x 20 array,
- Ball Grid Array Pitch: 0.8 mm,
- Package size: 17 mm x 17 mm,
- Package material: organic,
- Number of layers of the substrate: 4,
- Thickness of complete assembly at its thickest point: ≤ 1.6 mm.

Technical Documents

File	Note
VFAT3b_package_outline.pdf: VFAT3b_package_outline.pdf	physical dimensions of the package
VFAT3b_prot_ballout.xlsx: VFAT3b_prot_ballout.xlsx	Package pin assignment
VFAT3b_prot_electric_diagram.pdf: VFAT3b_prot_electric_diagram.pdf	Electrical diagram of the substrate

Substrate Design File

File	Note
ISE_EU_IM2163_20190924.mcm:	Cadence Allegro design file of the package

|ISE_EU_IM2163_20190924.mcm

|substrate

For the users that do not use Cadence tools, in order to view the layout of the package substrate Cadence provides a free viewer called "Allegro/OrCAD/SIP/MCM FREE Physical Viewers" that can be downloaded from this link

https://www.cadence.com/content/cadence-www/global/en_US/home/tools/allegro-downloads-start.html.

This topic: Sandbox > VFAT3bPackageTwiki

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