

# Application Specific Integrated Circuit (ASIC) UT1752FC FPGA-to-ASIC

# COBHAM

Product Brief

[Cobham.com/HiRel](http://Cobham.com/HiRel)

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The most important thing we build is trust

## FEATURES

- ❑ Cobham UT90nHBD ASIC offering
- ❑ RHBD multi-Vt cell and IO library
- ❑ Compatible with Virtex-5QV 1752LGA CN/CF package
- ❑ Multiple pre-defined die frames and package substrates supporting up to 50 million equivalent 2-nand gates
- ❑ With AISiC heat sink, Theta JC <0.15 C°/W
- ❑ Support for MIL-STD-123 screened 0402 decoupling capacitors
- ❑ Support for solder columns
- ❑ Proven development methodology using existing QML ceramic
- ❑ Daisy chain package available for board development
- ❑ SEU / Soft Error Immune 3.125Gbps SERDES IP, pin for pin, protocol compatible with Virtex-5QV, up to 32 SERDES RX/TX lanes
- ❑ Commercial and SEE hardened memory compilers

## OPERATIONAL ENVIRONMENT

- ❑ Temperature Range: -55°C to +125°C
- ❑ Total Ionizing Dose: 100 krad(Si)
- ❑ SEL Immune: <110MeV-cm<sup>2</sup>/mg
- ❑ SET Rate: 5.3x10<sup>-3</sup> events/device-day

## APPLICATIONS

- ❑ QML-Y FPGA to ASIC conversions
- ❑ QML-Y System on Chip (SoC) ASICs
- ❑ Commercial and Military Space products

## INTRODUCTION

FPGA's allow for fast prototype time, but are expensive flight parts that have degraded speed performance over an ASIC solution. Cobham's ASIC solution allows you to port your FPGA design into an ASIC in record time using our pin-compatible package and FPGA conversion framework. Our ASIC's offer cost savings over your current FPGA, contain up to 5x the functionality of a single Virtex-5QV, with enhanced speed performance.

The UT1752FC FPGA-to-ASIC product provides a path to create a Virtex-5QV FPGA pin-for-pin and functionally equivalent QML Class-Y 90nm ASIC. The UT1752FC FPGA-to-ASIC product consists of five elements:

- Pre-defined set of Cobham UT90nHBD ASIC die frames with existing ceramic 1752 LGA substrates
- QML certified UT90nHBD ASIC development methodology
- QML Class Y certified flip-chip assembly flow with support for AISiC heat sink, MIL-PRF-123 0402 capacitors, and solder column attach
- Pre-defined production test and burn-in hardware
- 1752 LGA daisy chain package with solder column option

