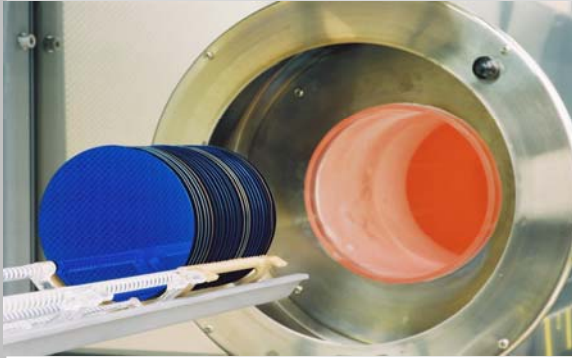


Flexible Foundry

Semiconductor Process Development and Fabrication



RSL's Semiconductor Business provides a flexible approach to semiconductor process development and fabrication

Benefits

❑ Extensive process engineering experience in silicon and non-silicon processes

Silicon Carbide
CS/silicon integration
Silicon
Silicon on Insulator

❑ Processes co-developed for manufacture in RSL's qualified CMOS wafer fab

❑ Maximises customers own IP

❑ Support from incubation to commercialisation

❑ Access to individual process steps e.g.

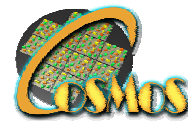
Ion implantation
Wafer probe
Wafer saw

Raytheon Systems Limited has significant experience in the development, co-development and manufacturing transfer of a range of silicon and non-silicon processes. Core to this expertise is the design of the processes for manufacture in RSL's qualified silicon wafer fabrication facility. Expertise includes mixed signal and digital CMOS, NVM, Bipolar, SOS, SOI, NMOS FET sensors and SiC.

New developments include the hyper-integration of III-Vs on silicon and a high temperature SiC IC process.

RSL has a long history in the support of technology startups through post-incubation to commercialisation.

The Semiconductor Business of RSL supports the very long product lifecycles typical in industrial, automotive and defence applications. More than thirty years of experience provides very high levels of product reliability backed by extensive field proven ruggedness.



Flexible Foundry

Core Processes

Photolithography

Ultratech Steppers
Range of resists including
photodefinable polyimide

Plasma etch

For all film types

Oxidation and diffusion

Range of oxidation processes
Solid source phosphorus
deposition
Spray processor pre-furnace
cleans

LPCVD and PECVD

Range of deposited oxides,
undoped, PSG, BPSG
Range of deposited nitrides

Metal depositions and anneals

Al, TiW, Ti, Ni

Ion Implant

Phosphorus, boron and others
20 keV to 180 keV
Medium and high dose implanters

Backend

Wafer probe, wafer saw

Managed Processes

Wafer back metallisation

Wafer back grind

Further ion implant, Arsenic

Quality Approvals

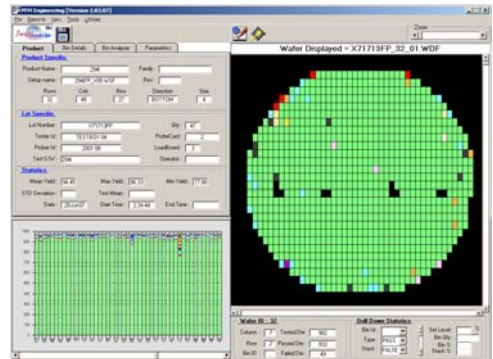
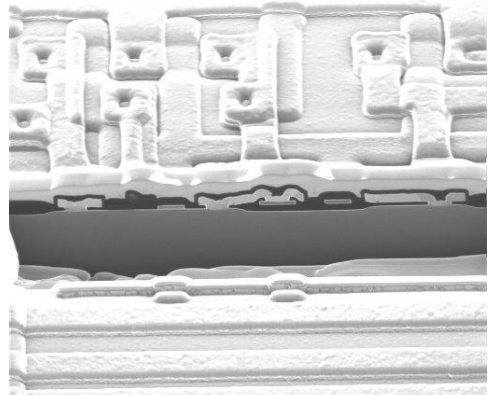
BS EN ISO90001:2000

ISO/TS 16949:2002

ISO14001

AS9100

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Material Analysis

Electrical test and characterisation, deprocessing
and de-encapsulation

Chemical, reactive ion and mechanical
sample preparation
Cross sectioning
Microprobe

Advanced Microscopy

Macro and microscope imaging
Image capture and manipulation
Spectral Photo Emission (SPEM)
Scanning Electron Microscope (SEM)

ESD and Latch-up stress analysis

For further information contact:

Jim McGonigal
Fullerton Road
Glenrothes KY7 5PY
Tel : +44 (1)592 762088
jim.mcgonigal@raytheon.co.uk

www.raytheon.co.uk

Raytheon
Systems Limited

Customer Success Is Our Mission