

e2v



Your partner

With over 25 years of experience and in close partnership with Freescale Semiconductor, e2v offers a wide range of microprocessor products dedicated to serve Hi-Rel applications such as avionics, defence, space, industrial and field telecommunications. The range is based on microprocessors from the Power Architecture™ and 68k architecture, and a range of key peripherals supported in partnership with Tundra Semiconductor. e2v is committed to guaranteeing long-term availability of these products through wafer storage and foundry transfer.

e2v also offers assembly and test services.

All manufacturing facilities meet the ISO 9001 quality standard. Also manufacturing and test of high-reliability products are certified against the AS/EN 9100 Aerospace standard and the AQAP 2110 Military standard.

Temperature range

- Military: -55°C to +125°C
- Industrial: -40°C to +110°C

Screening quality assurance levels

- Upscreening
- Standard: extended and military temperatures
- MIL STD 883 Class B
- QML 38535 Class Q





Defence and Space

- Radar systems
- Electronic warfare
- Counter measures
- Space computers

Telecom & Industrial

- Transportation
- Oil prospection, drilling
- Industrial computer
- Field networking system



Avionics

- Flight computers
- Flight control systems
- Voice data recorders
- Displays
- Engine controllers



Power Architecture



Integrated Processors and Peripherals

PC8240/8245/83XX

- Integrated e300 (G2) processor
- Core frequency up to 667 MHz
- PCI bus-support up to 66 MHz
- Memory controller

PC8540/8548/8572

- Integrated e500 processor or dual core (8572)
- Memory controller/PCI Express™/RapidIO®
- Ethernet Controllers

PC107/PC109

- 60X bus-support up to 100 MHz (107)
- PCI bus-support up to 66 MHz (107)
- MPX bus support up to 200 MHz (109)
- PCI & PCI-X support up to 133 MHz (109)



PC574/578

- 40/80Gbps Full-Duplex Serial RapidIO® Switch
- Up to eight 4X links (or sixteen 1X)
- Cut-through latency-100ns



Microprocessors

PC603R

- Core frequency up to 300 MHz

PC745/755

- Core frequency up to 400 MHz
- L2-cache support up to 1 MB

PC7410/7447A/7457/7448

- Core frequency up to 1.5 GHz
- 128-bit vector processing: AltiVec™
- L2-cache support up to 2MB (7410)
- On-Chip L2 up to 1MB (744X/745X)
- L3-cache support up to 2MB (7457)

PC8610/8641D

- Integrated e600 processor single or dual core (8641D)
- DDR/DDR II memory controller
- Gigabit Ethernet, RapidIO®, PCI Express™



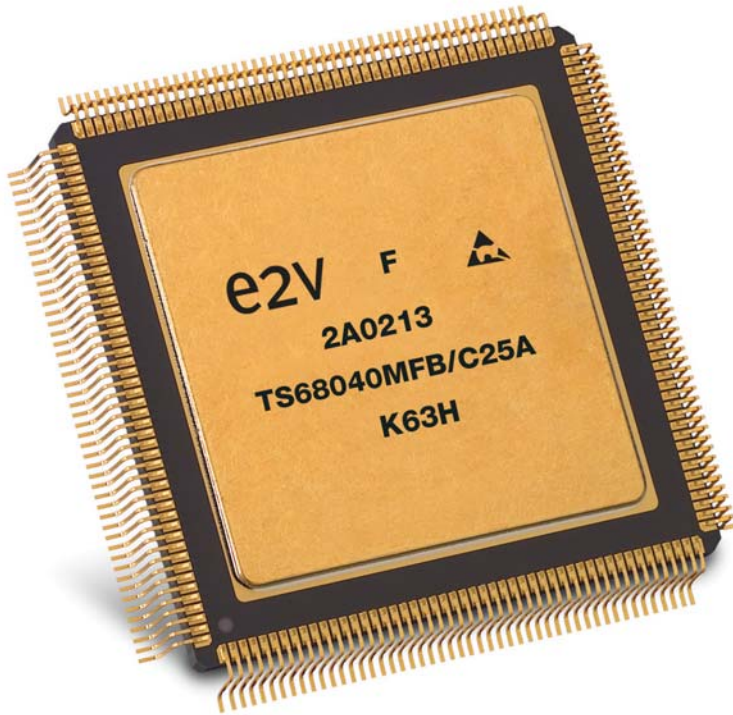
Communication Controllers

PC860SR/8265A/8270/8280

- Embedded Power Architecture™ core up to 333 MHz
- System interface unit (memory controller, RTC, PCMCIA)
- Communication processor module up to 250 MHz (Ethernet, ATM, HDCL)



68K Architecture



Integrated Processors and Peripherals

TS68EN360

- 32-bit communication
- Controller
- Four SCC's (Ethernet 10 Mbps support)
- Up to 33 MHz in CPGA241,
- CERQUAD240

TS68332

- General purpose
- Microcontroller
- Up to 20 MHz in CPGA132,
- CERQUAD132

TS68882

- 32-bit co-processor
- Up to 33 MHz in CPGA68,
- CQFP68

TS88915T

- Clock driver
- Up to 100 MHz in CPGA29,
- LDCC28

TS68302

- 16-bit communication
- Processor
- Up to 16 MHz in CPGA132,
- CERQUAD132

Microprocessors

TS68C000

- 16-bit microprocessor
- Up to 12.5 MHz in CDIP64,
- LCCC68, CQFP68, PGA68

TS68020

- 32-bit microprocessor
- Up to 25 MHz in CPGA114,
- CQFP132 MIL STD 883 Class B

TS68040

- 32-bit microprocessor
- Up to 33 MHz in CPGA179,
- CQFP196

ARINC Controller

TS68C429

- ARINC 429 controller
- 8 receivers + 3 transmitters
- Designed to be connected to 68K processors
- In CPGA84, CQFP132

Packaging industrial facilities



Specific packaging

The entire High-Rel microprocessors product family is available in a wide range of market standard packages: **CPGA, CQFP, LDCC, CBGA, FC-PBGA, TBGA, PBGA.** e2v also provides specific packaging solutions.

Hi-TCE Ceramic BGA

Low temperature co-fired ceramic (LTCC) material

- Optimised coefficient of thermal expansion (CTE) enhanced resistance to thermal cycling
- Same body size & footprint as CBGAs
- Same board assembly process as CBGAs
- Optional lead-free solder-sphere

CI-CGA: Solder Column Interposer

A ruggedized packaging solution for CBGA packages

- Same size and footprint as ceramic BGAs
- Enhanced resistance to thermal cycling (3 - 5 times better than CBGA)

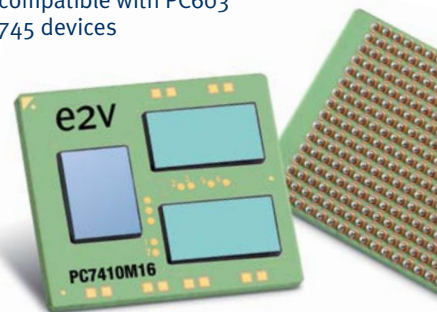
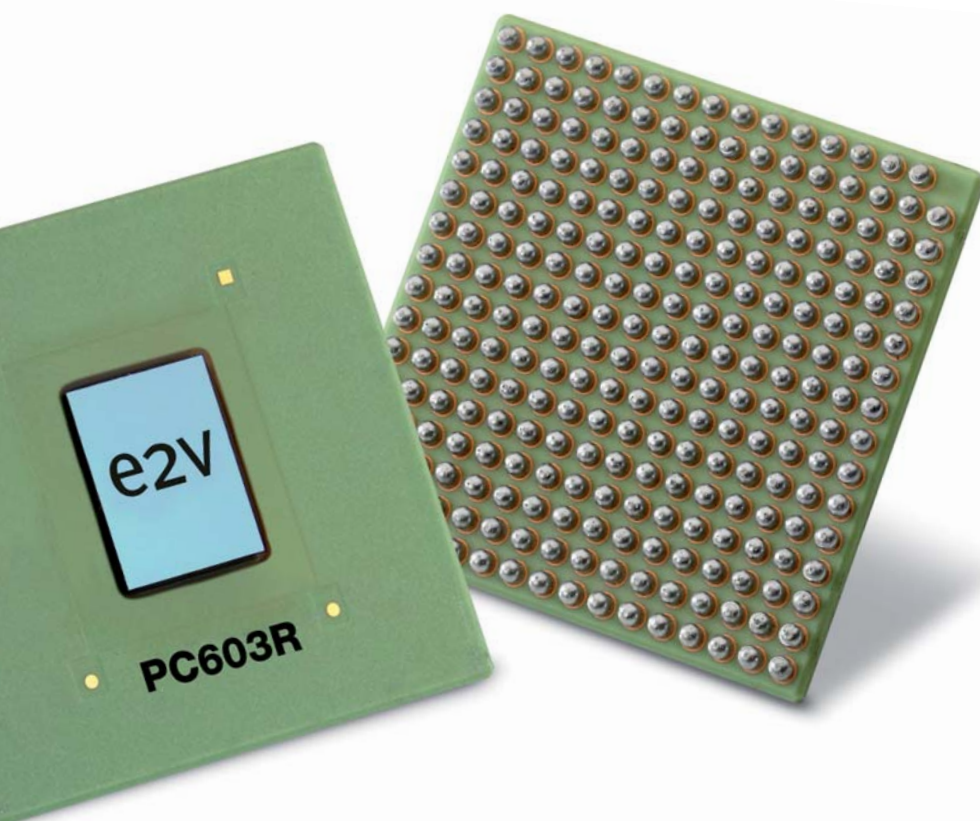
Lead-free Policy

In accordance with environmental concerns, the need for lead-free solution in electronic components has received increased attention and e2v is committed to working with our customers to be able to offer products that meet their needs in this area. Most of our products are also available in RoHS compliant versions. However, we continue to offer leaded version of packages.

PowerPC + L2 Cache Multi-chip Modules

High-performance PowerPC microprocessor

- + Fast SRAMs on the same package
- 21x21 CBGA package footprint
- Pinout compatible with PC603 and PC745 devices





Manufacturing capabilities



Leading European High-Reliability Assembly Line

- 600 sq. meters, Class 100 clean room
- Hermetic ceramic packages: DIL, CHIP-CARRIER, CPGA, CQFP
- Flip-Chip assembly on ceramic substrate
- Die processing assembly capacity: GelPack delivery
- Low and medium volume capacity (up to 1M/year)

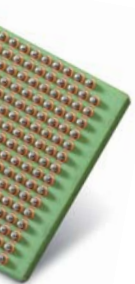
State-of-the-art Mixed Signal and Digital Test Line

- 1000 sq. meters under controlled environment
- Digital ICs automatic test equipment: Teradyne, J971, J973, A585, Tiger
 - Temperature Conditioning equipment ETC 2000, turboflex
 - Burn-in and quality test equipment
 - Die testing over temperature: -40°C to +125°C



Assembly and test

Taking advantage of its outstanding manufacturing capabilities, e2v offers specific services for customised solutions: complex digital circuits, microprocessors, memories, ASICS.



Package Design

We can design, simulate and characterise all types of ceramic packages

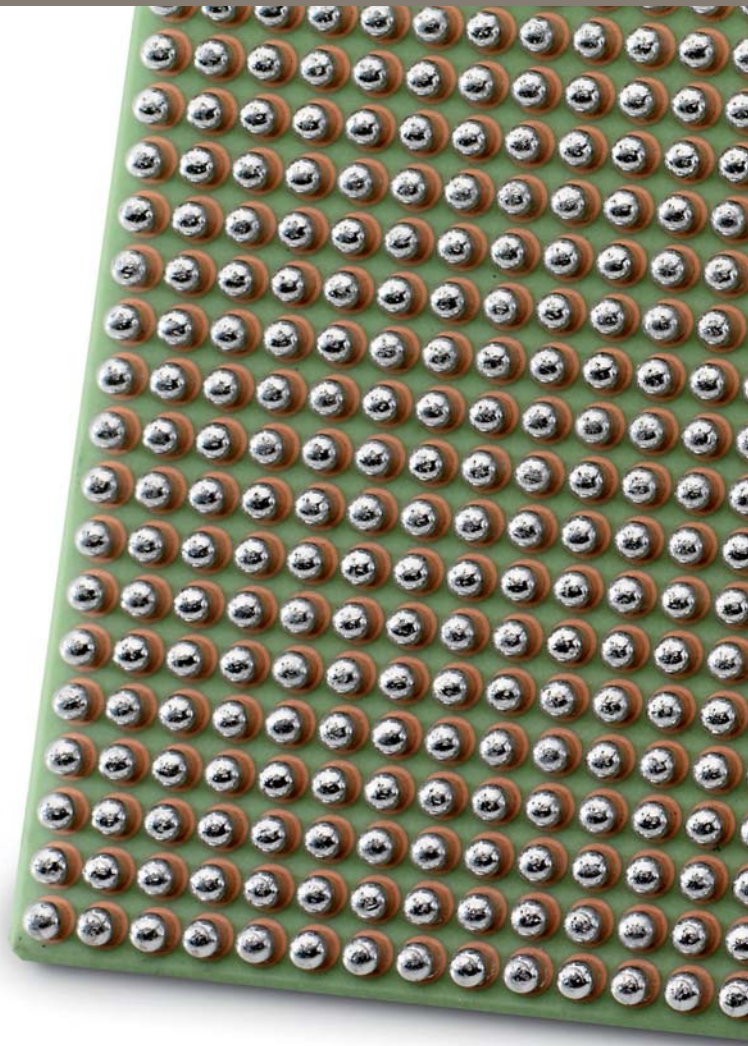
Assembly

All kinds of ceramic packages, wirebonding and Flip-Chip, multi-chip modules

Test

- **Engineering:**
Test program transfer or development
Design & manufacturing of test interface
Qualification: life-test, environmental tests
- **Production:**
Wafer probe test: -40°C to +125°C
Package test: -55°C to +125°C
Burn-in and screening





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