Unisem Europe has the ability to support prototype and fast-turn builds aiding quick and efficient transition from product design to market. We also provide on-site product characterisation, qualification testing and certification.

Package Needs Assessment

Involve Unisem Europe at initial design stage for feasibility review.

Customer Specifications → Review Custom Package Feasibility → Statement of Work - Fully costed Proposal

Unisem Europe Std Packages
- QFN (Ni/Pd/Au Plated)
- VF-BGA, TF-BGA, LF-BGA
- L-BGA, LGA

Unisem Europe Custom Packages
- Molded Cavity Packages
- Lidded Cavity Packages
- Flip Chip
- Copper Wire Bonding
- Custom Development

Unisem Europe Std Configurations
- Multi-Die
- Stacked Die
- Integrated Passives
- Gold Wire Bonded

POD, AutoCAD Design Thermal, Electrical, Mechanical Model → Feasibility Analysis and Design Layout

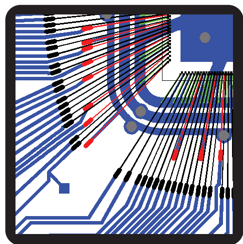
Transferable to volume destination → Tooling NRE

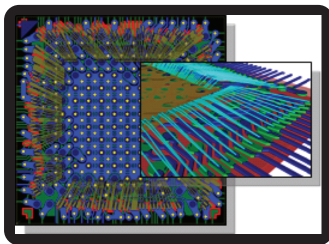
Transferable to volume destination → Material Selection

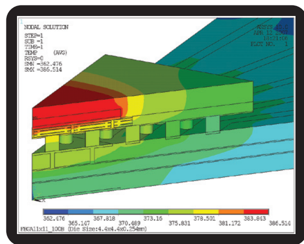
Capability Study

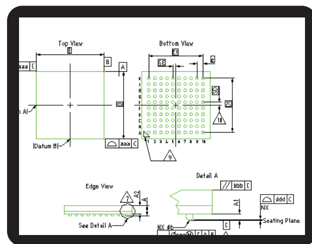
Qualification → Production Ready

Package Design


Design Lay-out

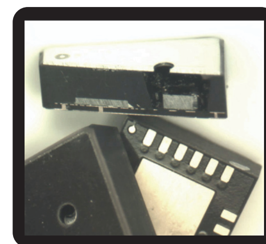

Wirebond integrity Checking

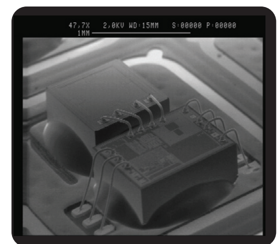

Thermal, electrical, mechanical modelling

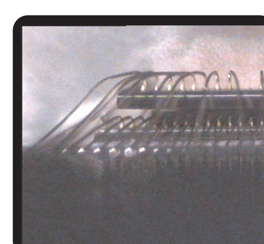


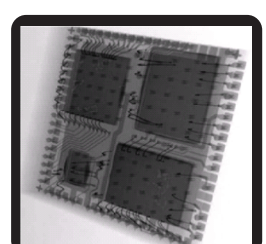
Package Outline Drawing

Successful Package Development


Molded Cavity Package


Dual Die MEMS

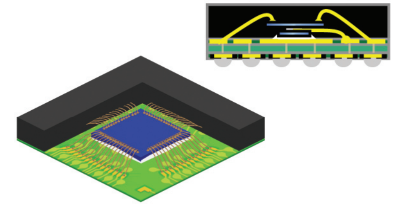

Stacked Die

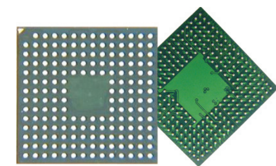

Multi Die Module

Ultra Fast Prototypes - Pre-production - Small Volume BGA - Small Volume QFN - MEMS - System-in-package

BGA Package Offerings

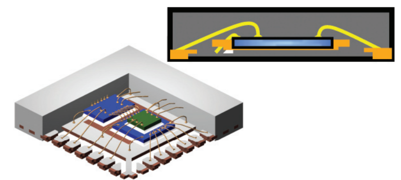
Body Size	I/O	Ball Size	Ball Pitch
5x5	65	0.30mm	0.5mm
6x8	36	0.50mm	1.00mm
7x7	128	0.30mm	0.5mm
8x8	81	0.40mm	0.80mm
9x9	100	0.30mm	0.8mm
10x10	281 128	0.30mm 0.30mm	0.5mm 0.8mm
12x12	160 -196	0.40mm	0.8mm
13x13	144	0.40mm	1.0mm
14x14	208	0.30mm	0.8mm
15x15	196 256	0.40mm 0.40mm	0.8mm 1.0mm
17x17	256 400	0.50mm 0.50mm	1.0mm 0.8mm
19x19	260 300 - 352 361 448 - 529	0.4mm 0.5mm 0.4mm 0.5mm	1.0mm 1.0mm 1.0mm 0.8mm
20x20	444	0.5mm	0.8mm
23x23	641	0.4mm	0.8mm
35x35	456	0.5mm	1.27mm

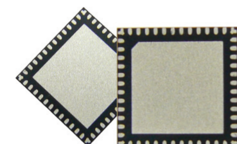




QFN Package Offerings

Body Size	I/O	DAP Size	Lead Pitch
3x3	16	1.75x1.75mm	0.50mm
4x4	16 20 - 24	2.25x2.25mm 2.5x2.5mm	0.65mm 0.50mm
5x5	20 28 - 32	3.5x3.5mm 3.5x3.5mm	0.65mm 0.50mm
6x6	36 40	4.5x4.5mm 4.5x4.5mm	0.50mm 0.50mm
7x7	48 56	5.5x5.5mm 5.5x5.5mm	0.50mm 0.40mm
8x8	56	6.5x6.5mm	0.50mm
9x9	64 72	7.5x7.5mm 7.5x7.5mm	0.50mm 0.40mm
10x10	68 88	8.2x8.2mm 8.5x8.5mm	0.50mm 0.40mm
12x12	108	10.3x10.3mm	0.40mm





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Unisem (Europe) Ltd, Parkway, Pen-Y-Fan Industrial Estate,
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www.unisemgroup.com

Company Registration No. 3791340

Unique in Europe, Unisem offers a complete Probe and Final Test solution for emerging Start ups and more established semiconductor manufacturers. With our strategic partners we can offer a complete test program development and debug solution leading into low volume production and a pathway to higher volumes in Unisem's Asian facilities.

Tester Platforms

RF	Teradyne Integra-Flex 240 DP, 6 Ghz, RF Option
	Teradyne Catalyst 128 DP, 6 Ghz, RF Option
Mixed Signal	Teradyne Integra-Flex 192 DP
	Teradyne Catalyst 128 DP + VHF
	Teradyne Catalyst 64 DP
	Teradyne J750 384 DP / Mixed Signal Option
	Teradyne A585 128 DP
	Teradyne Catalyst LC 80 DP
Digital	Teradyne J750 256 DP
	LTX Credence D10 288 DP

Handlers

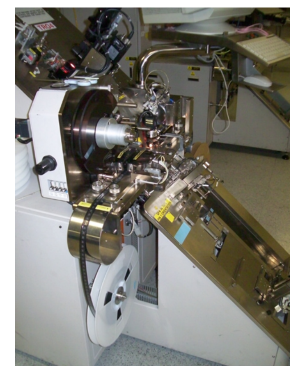
Handler Model	No. of Sites	Package Types	Other Info.
Rasco SO1000	Quad	SSOP20/28	Tri-Temp
Rasco SO1000	Quad	SSOP 20/28, QFN 5x5	Ambient
Multitest 8704	Single / Kitted	SSOP/TSSOP/SOIC 150/300	
Synax 1211/1221	Dual / Pick & Place	QFP/BGA/QFN	1221 w/ Vision
Synax 141	Single / Pick & Place	QFP/BGA/QFN	w/Vision

Probers

Model	Wafer Size	Other Info
Electroglas 2001	4" / 6"	
Electroglas 4080	4" / 6" / 8"	
Electroglas 4090	4" / 6" / 8"	w/ Hot Chuck
TSK UF 200	4" / 6" / 8"	w/ Hot Chuck

Tape and Reel / Backend

Model	Package Type	Tube / Tray to Reel
STI AT 28	SSOP 20/28, QFN 5x5, 7x7v	Tube to Reel
LKT NGT 0405	QFN 5x5	Tube to Reel
Systemation ST595	QFP / BGA / QFN	Tray to Reel
Systemation ST585	SOIC	Tube to Reel
ICOS CI 8250	QFN / QFP / BGA (3D)	Tray to Reel
ICOS CI 8250	QFP / BGA (3D)	Lead/Ball Scan only



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Our expert knowledge and experience enables Unisem Europe to offer full on-site support for package qualification, reliability testing and device failure analysis.

Reliability Testing & Monitoring	
Temperature Cycle	Accelerated stress test where product moves between hot and cold air zones JESD 22 A104
Thermal Shock	Accelerated stress test where product moves between hot and cold liquid baths JESD 22 A106
Temperature / Humidity	Product stored in a pre-set temp & humidity atmosphere for up to 1000hrs. JESD 22 A101
HAST	Highly accelerated stress test where product stored in moisture under pressure at 131C 85%RH HAST - JESD 22 A110 / UHAST - JESD 22 A118
Autoclave (Pressure Cooker)	Accelerated stress test where product stored in moisture under pressure JESD 22 A102
High Temperature Storage	Accelerated stress test where product stored in a high temp JESD 22 A103
Cold Temperature Storage	Endurance stress test where product stored in a low temp usually -40C at room atmosphere for up to 1000hrs.
IR Reflow Simulation/ Solderability	Simulates the temperature profile of the solder process of mounting on PCB. JESD 22 B102
Preconditioning	A moisture level graded flow sequence to simulate the steps seen by devices from assembly to mounting in a circuit board. To Jedec standard JESD 22 A113 / J-STD020

Failure Analysis Capability	
Low Power Microscope	Inspection up to 200x
High Power Microscope	Inspection up to 1500x
Scanning Electron Microscope	3D image up to 50,000x, EDX gives display of detected elements
Scanning Acoustic Microscope	inspection of the integrity of molded devices & the interfaces between the various internal materials.
Open Short Tester	PC driven test programs & multi package sockets provide basic continuity check between all terminals of the device under test.
Curve Tracer	Displays relationship of current with applied voltage at selected device terminals
Micro Prober	Direct contact to die bond pads to check electrical parameters by-passing the bond wires.
Decapsulation	Etches a window through the mold material to allow die & internal assembly inspection.
X-Section Analysis	Structural inspection of internal assembly components.
X-ray Inspection	Wirebonding & die attach integrity inspection

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