

LQFP/TQFP

J-Devices offers a variety of LQFP and TQFP packages at low cost, with thin QFP solutions, including multi-die applications. J-Devices' LQFP/TQFP are an excellent choice when high reliability is required, such as in automotive applications.

Thermal Performance

Modeled data @ 0 air flow/JEDEC Multi-layer PCB

Package	Body Size (mm)	θ_{JA} (°C/W) by Velocity (LFPM)
48 LD	7 x 7	54.6
64 LD	10 x 10	49.7
80 LD	12 x 12	46.9
100 LD	14 x 14	44.3
120 LD	16 x 16	42.0
144 LD	20 x 20	38.3
176 LD	24 x 24	35.7
208 LD	28 x 28	34.3

Electrical Performance

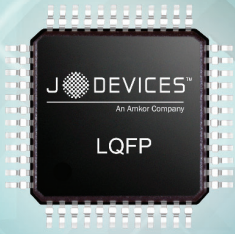
Simulated results @ 2 GHz. Values dependent on specific die and wire configurations.

Package	Body Size (mm)	(nH)	(pF)	(mOhm)
48 LD	7 x 7	2.2	0.103	100
64 LD	10 x 10	3.1	0.145	135
176 LD	24 x 24	5.3	0.36	54.6
208 LD	28 x 28	6.1	0.38	49.6

Reliability Qualification

J-Devices' LQFP Package reliability is assured through optimized designs, materials and processes, and verified using industry standard testing.

Moisture Sensitivity Characterization	JEDEC Level 3 30°C/60%, 192 hours
THB	85°C/85% RH, 1000 hours
Unbiased HAST	110°C, 85% RH, 264 hours
High Temp Storage	150°C, 2000 hours
Temp Cycle	-55/+150°C, 2000 cycles



Features

- ▶ 7-28 mm body size
- ▶ 32-256 lead counts
- ▶ Broad selection of die pad sizes
- ▶ Copper lead frames
- ▶ 1.0/1.4 mm body thickness
- ▶ Custom lead frame design available
- ▶ Low stress BOM for stress sensitive products
- ▶ Pb-free RoHs compliant materials
- ▶ Bus-bar lead frame
- ▶ Multi-chip/stacked chip package

Applications

- ▶ Audio, gaming, automotive, computer and industrial applications
- ▶ Applications where low cost, high reliability and low profile package is required

Process Highlights

- ▶ Die thickness: 280-300 mm
- ▶ Strip solder plating: Matte Sn and pre-plated package options
- ▶ Marking: Laser mark
- ▶ Pack/ship options: Bar code, dry pack
- ▶ Wafer back grinding: Available

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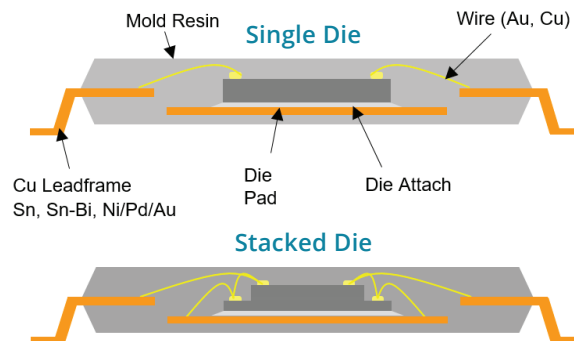
Test Services

- ▶ Program conversion
- ▶ Product engineering
- ▶ Wafer sort/final test available
- ▶ 256 pin x 20 MHz test system available
- ▶ Burn-in capabilities

Shipping

- ▶ JEDEC outline trays
- ▶ Tape & Reel

Cross-section



Configuration Options - LQFP Nominal Package Dimensions (mm)

Lead Count	Body Size (mm)	Body Thickness (mm)	Lead Form	Standoff	Foot Length	Tip to Tip	Tray Matrix	Units per Tray
32/48/64	7 x 7	1.40	1.00	0.10	0.50	9.0	10 x 25	250
44/48/52/64/80	10 x 10	1.40	1.00	0.10	0.50	12.0	8 x 20	160
64/80	12 x 12	1.40	1.00	0.10	0.50	14.0	7 x 17	119
64/80/100/120/128	14 x 14	1.40	1.00	0.10	0.50	16.0	6 x 15	90
120/144	16 x 16	1.40	1.00	0.10	0.50	18.0	6 x 15	90
144/176	20 x 20	1.40	1.00	0.10	0.50	22.0	5 x 12	60
176/216	24 x 24	1.40	1.00	0.10	0.50	26.0	4 x 10	40
208/256	28 x 28	1.40	1.00	0.10	0.50	30.0	4 x 9	36
128	14 x 20	1.40	1.00	0.10	0.50	16.0 x 22.0	6 x 12	72

Configuration Options - TQFP Nominal Package Dimensions (mm)

Lead Count	Body Size (mm)	Body Thickness (mm)	Lead Form	Standoff	Foot Length	Tip to Tip	Tray Matrix	Units per Tray
100	12 x 12	1.00	1.00	0.10	0.50	14.0	7 x 17	119
100/128	14 x 14	1.00	1.00	0.10	0.50	16.0	6 x 15	90
144	16 x 16	1.00	1.00	0.10	0.50	18.0	6 x 15	90



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