

LQFP/TQFP Packages

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.

Applications

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

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

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

LQFP/TQFP

Thermal Performance

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

Pkg	Body Size (mm)	θ_{JA} ($^{\circ}\text{C}/\text{W}$) 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.

Pkg	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	127°C, 100% RH, 168 hours
High Temp Storage	150°C, 2000 hours
Temp Cycle	-65/+150°C, 1000 cycles

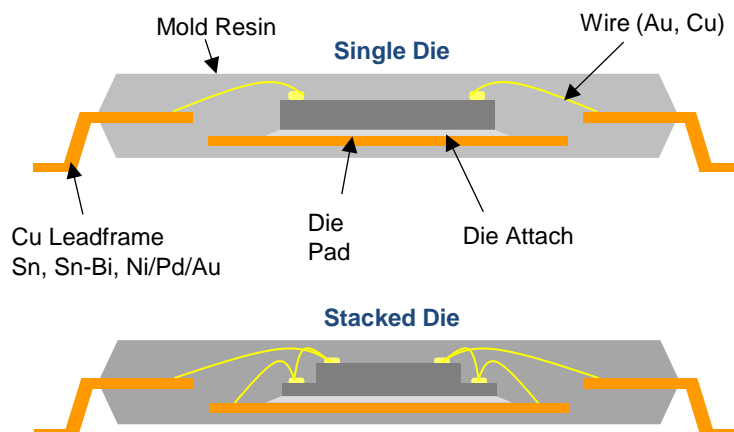
LQFP/TQFP

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



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

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
160	18 x 18	1.00	1.00	0.10	0.50	20.0	5 x 10	50



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