

PLCC



Amkor's PLCC (Plastic Leaded Chip Carrier) package offerings cover the total range of industry-available options, including 20 to 84 lead square body packages as well as the 32 lead rectangular body format. RoHs compliant, lead-free and green materials are now Amkor qualified standards for this package family.

FEATURES

- ▶ 0.352" x 0.352" to 1.152" x 1.152" body sizes
- ▶ 20-84 lead counts
- ▶ Conformance to JEDEC standard outlines
- ▶ Fine pitch wirebond capability

APPLICATIONS

Amkor's PLCC product family is engineered to meet JEDEC requirements for "J" leaded surface mount packages. This package is used for a wide variety of device types, including microcontrollers, ASICs, power controllers, etc. Typical applications include consumer and industrial products.

Thermal Performance

Multi-Layer PCB

Package	Body Size (mm)	Pad Size (mm)	θJA at (°C/W) by Velocity (LFPM)		
			0	200	500
28 Ld	11.5 x 11.5	6.6 x 6.6	37.8	32.1	29.4
44 Ld	16.6 x 16.6	8.89 x 8.89	29.6	24.4	22.0
84 Ld	29.3 x 29.3	10.8 x 10.8	22.2	19.4	18.1

JEDEC test board – 1S2P

Tested @ 1W, with drop-in heatspreader option

Electrical Performance

Simulated Results @ 100 MHz

Package	Body Size (mm)	Pad Size (mm)	Lead	Self Inductance (nH)	Bulk Capacitance (pF)	Self Resistance (mΩ)
20 Ld	8.9 x 8.9	3.7 x 3.7	Longest Shortest	2.110 1.780	0.596 0.583	13.5 11.1
44 Ld	16.6 x 16.6	8.89 x 8.89	Longest Shortest	2.900 2.140	0.893 0.681	17.8 13.7
84 Ld	29.3 x 29.3	10.8 x 10.8	Longest Shortest	10.900 6.840	1.780 1.750	57.6 43.2

Reliability Qualification

Amkor's PLCC packages are assembled in optimized package designs with proven reliable semiconductor materials to industry standard JEDEC test methods.

- ▶ Moisture sensitivity characterization: JEDEC Std D level 3, 30°C/60% RH, 192 hrs
- ▶ Temp cycle: -65°C/+150°C, 500 cycles
- ▶ uHAST: 130°C/85% RH, 1000 hours
- ▶ High temp storage: 50°C, 1000 hours

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Process Highlights

- ▶ Die thickness: 25 mils
- ▶ Strip plating: 100% Matte Sn
- ▶ Strip marking: Laser
- ▶ Lead inspection: Optical

Test Services

- ▶ Program generation/conversion
- ▶ Product engineering support
- ▶ Wafer sort
- ▶ -55°C to +165°C test available

Shipping

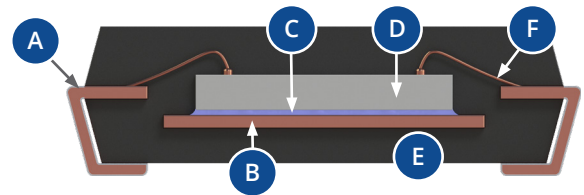
- ▶ Clear anti-static tubes

Configuration Options

PLCC Nominal Package Dimensions (mm)

Package Type	Lead Count	Body Size	Body Thickness	Lead Pitch	Lead Form	Amkor DWG #	JEDEC	Units Per Tube
Square	20	0.352 x 0.352	0.152	0.05	N/A	00060	MS-018	46
	28	0.452 x 0.452	0.152	0.05	N/A	00060	MS-018	37
	44	0.652 x 0.652	0.152	0.05	N/A	00060	MS-018	26
	52	0.752 x 0.752	0.152	0.05	N/A	00060	MS-018	23
	68	0.952 x 0.952	0.150	0.05	N/A	00060	MS-018	18
	84	1.152 x 1.152	0.150	0.05	N/A	00060	MS-018	15
Rectangular	32	0.452 x 0.552	0.109	0.05	N/A	00061	MS-016	30

Cross Section PLCC



- A** J-formed Cu leadframe
- B** Die attach pad
- C** Die attach adhesive
- D** Die
- E** Mold compound
- F** Wire



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