

CQFPs are hermetic packages consisting of true pieces of dry pressed ceramic surrounding a uniformed leadframe with tie bar attached. Lead counts for this package range from 14 to 304, with lead pitch ranging

from 15.7mil to 50mils. Package leads are gold or Kovar finish and can be solder-coated by special request. Lids are optional for CQFPs, which are sealed over the package cavity at temperatures from 400° to 460° C.

**CQFP Ceramic Quad Flat Pack**

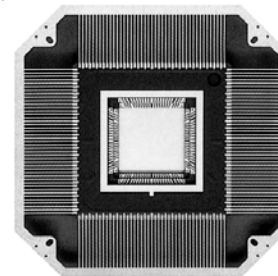
Part Description	Number of Pins	Body Size		Pitch
		(Inch)	(mm)	
52CQFP-19.0mm-1.27mm	52	.750" sq	19.0mm sq	1.27mm
68CQFP-24.1mm-1.27mm	68	.950" sq	24.1mm sq	1.27mm
84CQFP-16.5mm-.65mm	84	.650" sq	16.5mm sq	.65mm
100CQFP-19.0mm-.65mm	100	.750" sq	19.0mm sq	.65mm
132CQFP-24.1mm-.65mm	132	.950" sq	24.1mm sq	.65mm
144CQFP-26.6mm-.65mm	144	1.050" sq	26.6mm sq	.65mm
172CQFP-29.2mm-.65mm	172	1.150" sq	29.2mm sq	.65mm
196CQFP-32.0mm-.50mm	196	1.260" sq	32.0mm sq	.50mm

**Notes**

- CQFPs are available with or without combo lid.
- Pins are flat (sandwiched) with tie bar.
- Parts are packaged in non-JEDEC trays.
- Due to the custom nature of the package, body size and dimensions can change without notice.
- Parts available with a daisy-chain configuration upon request.
- Other ceramic packages available upon request.
- Glass or epoxy seal.
- Footprint compatible with plastic QFP packages.
- EIAJ and JEDEC standards.
- Lead-frames are embedded into the glass to create both internal die connection and external PCB connection.

**Part Description System**

I/O Count — 52CQFP — 19.0mm — 1.27mm — Lead Pitch  
Ceramic Quad Flat Pack — Body Size



This surface mount package consists of a ceramic base that has metalized castellations/pads on the sides and bottom of the package. LCC packages have pads on all four sides of the package. Lids for LCCs can be either

metal or ceramic. Lids are attached after die attach. This allows for a hermetically sealed environment for the die.

**LCC Leadless Ceramic Carrier**

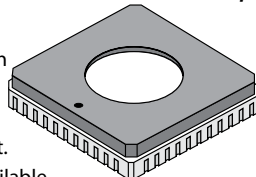
Part Description	Number of Castellations	Body Size		Pitch
		(Inch)	(mm)	
16LCC-1.27mm-7.36x8.96mm	16	.350" x .285"	7.36 x 8.96mm	1.27mm
20LCC-1.27mm-8.90mm	20	.350" sq	8.90mm sq	1.27mm
28LCC-1.27mm-11.5mm	28	.450" sq	11.50mm sq	1.27mm
32LCC-1.27mm-11.4x14.0mm	32	.550" x .450"	11.40 x 14.00mm	1.27mm
40LCC-1.00mm-10.1mm	40	.400" sq	10.10mm sq	1.00mm
44LCC-1.27mm-16.5mm	44	.650" sq	16.50mm sq	1.27mm
48LCC-1.00mm-14.2mm	48	.560" sq	14.20mm sq	1.00mm
52LCC-1.27mm-19.0mm	52	.750" sq	19.00mm sq	1.27mm
68LCC-1.27mm-24.11mm	68	.950" sq	24.11mm sq	1.27mm
84LCC-1.27mm-29.2mm	84	1.150" sq	29.20mm sq	1.27mm

**Notes**

- LCCs are available with or without combo lid.
- Gold castellations are standard, but can be solder-tinned with 100% Sn or SnPb alloy.
- Parts are packaged in non-JEDEC trays.
- Parts available with a daisy-chain configuration upon request.
- Other types of ceramic packages not listed in catalog are available upon request.

**Part Description System**

Number of Castellations — 20LCC — 1.27mm — 8.90mm — Body Size  
Leadless Ceramic Carrier — Pitch



**For recommended kit see page 87.**