

# EIA Standard Board Layout of Soldered Pad for QFP Devices and QFP Surface Mount Socket

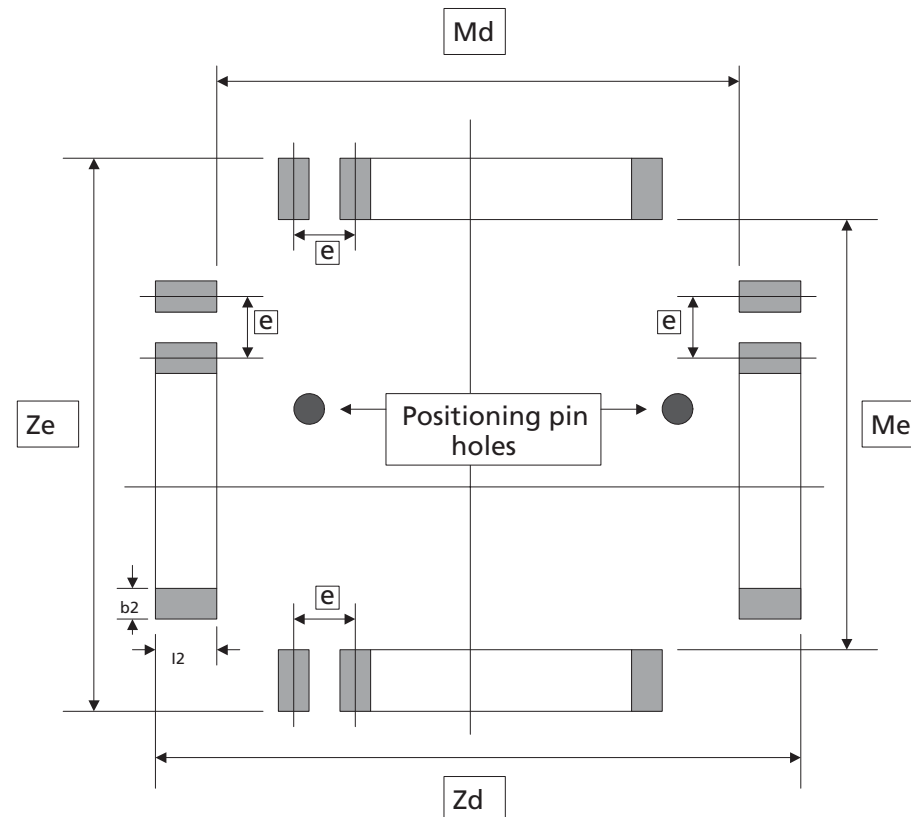


Figure 1: Board Layout of Solder Pad Dimension

Table 1 contains the board layout soldered pad dimensions for Actel Quad Flat Packs only. If you are using surface mount sockets for prototyping, see Table 2 for layout dimensions.

Table 1: QFP Package Layout Dimensions

Dim.	PQ100	PQ144	PQ160-3.2mm	PQ160-3.9mm	PQ/RQ208	PQ/RQ240	VQ80	VQ/TQ100	TQ64	TQ144	TQ176
Md	20.4	28.4	28.4	29.2	28.2	32.2	13.8	13.8	10.1	19.8	23.8
Me	14.4	28.4	28.4	29.2	28.2	32.2	13.8	13.8	10.1	19.8	23.8
e	0.65	0.65	0.65	0.65	0.5	0.5	0.65	0.5	0.5	0.5	0.5
b2	0.3-0.5	0.3-0.5	0.3-0.5	0.3-0.5	0.3-0.4	0.3-0.4	0.3-0.5	0.3-0.4	0.3-0.4	0.3-0.4	0.3-0.4
l2	1.8	1.8	1.8	1.8	1.6	1.6	1.8	1.6	1.6	1.6	1.6

Dimension = millimeters

Table 2 contains board layout soldered pad dimensions to be used if you are using surface mount sockets for prototyping and Actel Quad Flat Packs for production. These dimensions will accept both surface mount sockets and actual QFP packages. Refer to Figure 1 on page 1 for alignment pin location layout and overall dimensions. Actel recommends that different solder mask openings be used for prototype sockets and production QFP packages.

Table 2: Combined QFP Package and Socket Layout Dimensions

Dim.	PQ100	PQ144	PQ160-3.2mm	PQ160-3.9mm	PQ/RQ208	PQ/RQ240	VQ80	VQ/TQ100	TQ64	TQ144	TQ176
Md	20.4	28.4	28.4	29.2	28.2	32.2	13.8	13.8	10.1	19.8	23.8
Me	14.4	28.4	28.4	29.2	28.2	32.2	13.8	13.8	10.1	19.8	23.8
Zd	26.8	35.2	35.2	35.2	32.1	36.1	17.2	17.1	13.5	23.3	27.3
Ze	20.8	35.2	35.2	35.2	32.1	36.1	17.2	17.1	13.5	23.3	27.3
e	0.65	0.65	0.65	0.65	0.5	0.5	0.65	0.5	0.5	0.5	0.5
b2	0.3-0.5	0.3-0.5	0.3-0.5	0.3-0.5	0.3-0.4	0.3-0.4	0.3-0.5	0.3-0.4	0.3-0.4	0.3-0.4	0.3-0.4
Socket Part Number	SY-PQ100-1	SY-PQ144-1	SY-PQ160-1	SY-PQ160-1	SY-PQ208-2	SY-PQ240	SY-VQ80-2	SY-VQ100-1	SY-TQ64	SY-TQ144	SY-TQ176

Dimension = millimeters

1. If sockets other than those specified in Table 2 are used, make sure to check the socket drawing before finalizing the mount pad layout.
2. For positioning pin hole dimensions, refer to each socket drawing at: <http://www.actel.com/documents/MechDrwngSocket.html>

Table 3 contains board layout soldered pad dimensions to be used if you are using a prototype socket and a packaged device. It is recommended that different solder mask openings be used for prototype sockets and production QFP packages.

Table 3: Combined CQ208, QFP208 and Prototype socket/ Combined CQ256 and CQ256 - FG484 adapter socket/Combined CQ352 and CQ352 -FG896 adapter socket

Dim.	PQ/RQ208/CQ208*	CQ256*/CQ256-FG484 adapter socket	CQ352*/CQ352-FG896 adapter socket*
Md	28.2	40.5	51.50
Me	28.2	40.5	51.50
Zd	35.1	42.5	54.50
Ze	35.1	42.5	54.50
e	0.5	0.5	0.5
b2	0.3-0.4	0.3-0.4	0.3-0.4
Socket Part Number	SY-PQ208-2	1). SI-SX72-ACQ256SFG4842). SI-SX32-ACQ256SFG484	1). SK-AX1000-CQ352RTFG8962). SK-AX2000-CQ352RTFG896

*Dimension = millimeters*

*\*Note: Md, Me, Zd, and Ze dimensions are based on trim and form data from Fancort Industries Inc. If you are using trim and form from another vendor, Md, Me, Zd and Ze could be different. It is for PCB layout reference only.*

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