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IPC-TM-650 TEST METHODS MANUAL

Number	
2.4.35	
Subject	
Solder Paste—Slump Test	
Date	Revision
1/95	
Originating Task Group	
Solder Paste Task Group (5-24b)	

1.0 Scope This procedure determines vertical and horizontal slump for solder pastes.

2.0 Applicable Documents None

3.0 Test Specimen A standard specimen shall be prepared using a clean frosted glass microscope slide measuring 7.6 cm x 2.5 cm, minimum 1 mm thick. An equivalent alumina or glass epoxy substrate may be used.

4.0 Equipment/Apparatus

Stencils

IPC-A-21, IPC-A-20

Steel Squeegee (razor blade)

Oven

Microscope

5.0 Procedure

5.1 Preparation

5.1.1 Specimen preparation using appropriate stencil pattern IPC-A-21 or IPC-A-20. (Figures 1 & 2) Deposit solder paste patterns on 2 substrates for each stencil pattern. The printed pattern shall be uniform in thickness with no solder particles separated from the pads. The vendor and user should use the same printing method.

5.1.2 One test specimen shall be marked as specimen #1 and one specimen as #2 and processed in accordance with paragraphs 5.2.1 and 5.2.2.

5.2 Test

5.2.1 The specimens shall be stored for 10 to 20 minutes at 25 +/–5°C and 50% relative humidity +/–10% and specimen #1 examined for slump.

5.2.2 Specimen #2 from 5.2.1 shall be heated to 150 +/–10°C for 10 to 15 minutes, cooled to ambient and examined for slump.

5.3 Evaluation Enter data in Table 1 and/or Table 2 by entering spacings which have bridged with a suitable check mark.

Table 1

Stencil IPC-A-21 (0.2 mm Thick)					
Pad size 0.63 x 2.03 mm			Pad size 0.33 x 2.03 mm		
Spacing mm	Hor.	Vert.	Spacing mm	Hor.	Vert.
0.79			0.45		
0.71			0.40		
0.63			0.35		
0.56			0.30		
0.48			0.25		
0.41			0.20		
0.33			0.15		
			0.10		
			0.08		

Table 2

Stencil IPC-A-20 (0.1 mm Thick)					
Pad size 0.33 x 2.03 mm			Pad sie 0.2 x 2.03 mm		
Spacing mm	Hor.	Vert.	Spacing mm	Hor.	Vert.
0.45			0.30		
0.40			0.25		
0.35			0.20		
0.30			0.175		
0.25			0.15		
0.20			0.125		
0.15			0.10		
0.10			0.075		
0.08					

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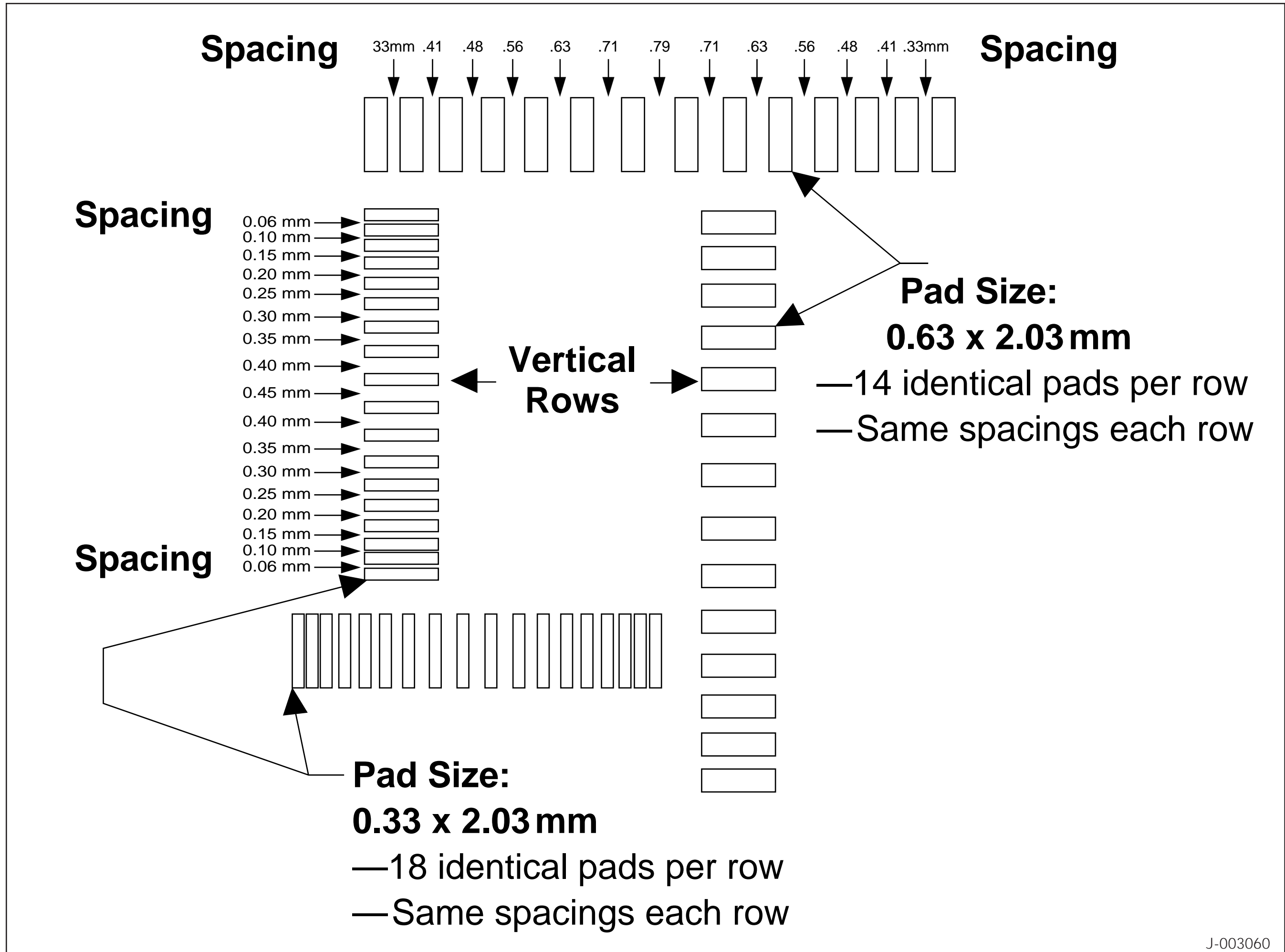

Figure 1 Slump test stencil, IPC-A-21

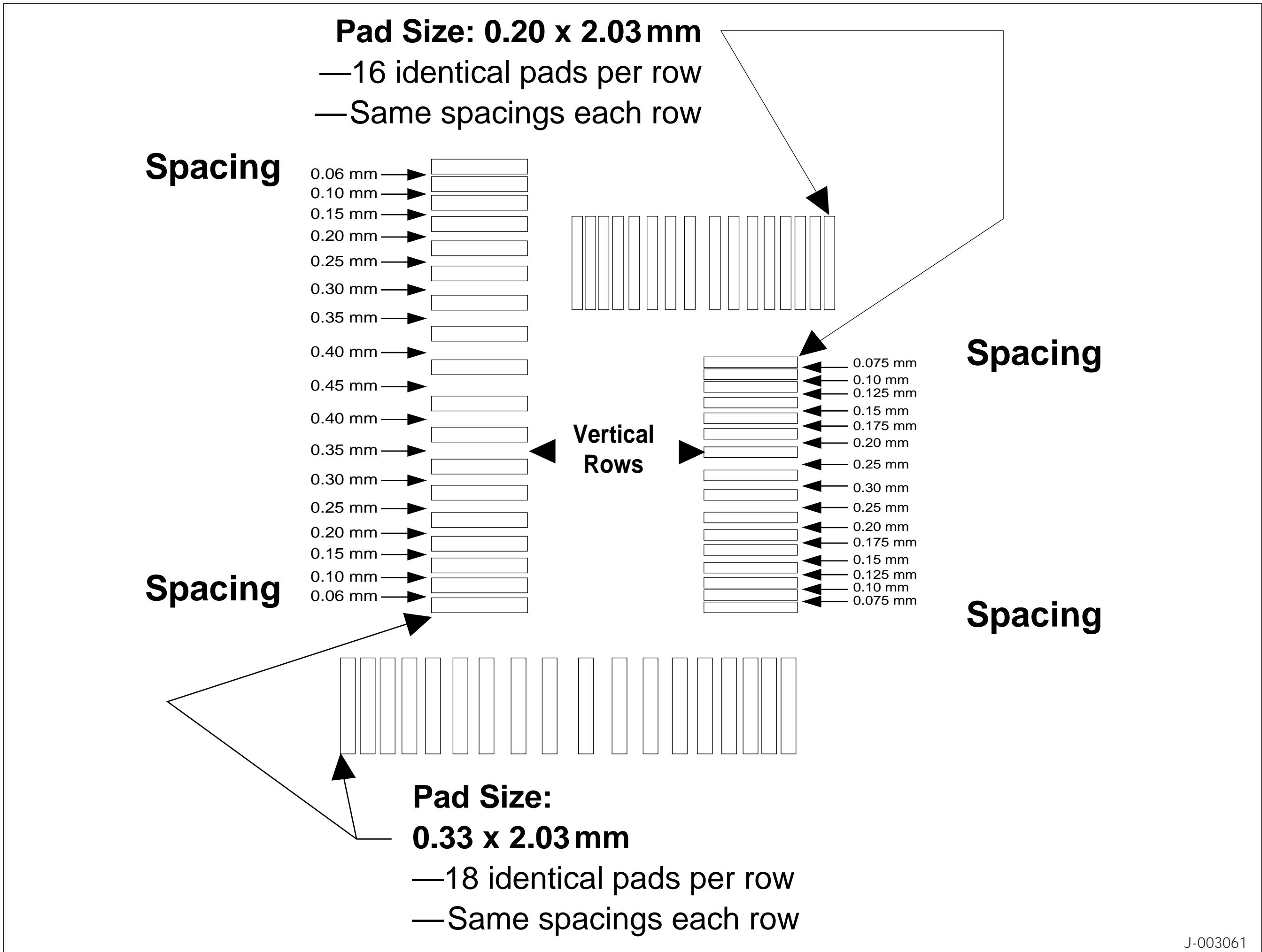

Figure 2 Slump test stencil, IPC-A-20