

Assembly DFN8/SOP8 with one Footprint

Summary

Application Note to inform ANVO Customers about the possibility to use SOP8 and DFN8 with one PCB Land Pattern.

Contents

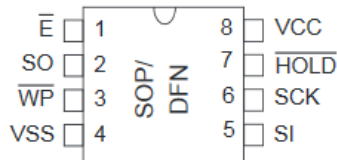
Summary.....	1
Contents.....	1
Introduction	2
SOP8 / DFN8	2
Package Outline	2
Package Dimensions	2
Recommended Footprint Design.....	3
Reflow Profile.....	3
Document Revision History	4

Introduction

For some Applications it will be useful to use SOP8 and DFN8 within the same footprint. Since both packages has exactly the same dimensions, pitch and pin out, it will be possible to use one footprint for DFN8 and SOP8 together.

SOP8 / DFN8

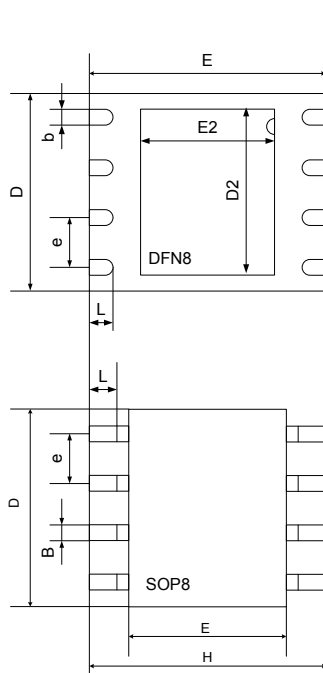
Package Outline



Top View

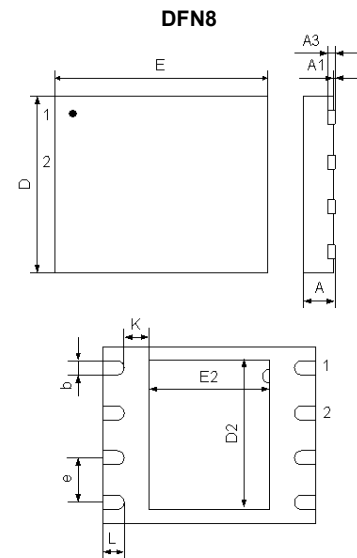
8-pin SOP 150 mil or DFN8

Package Dimensions



Symbol	Mm			Inches		
	typ.	min.	Max	typ.	min.	max.
A	0.85	0.8	0.9	0.0335	0.0315	0.0354
A1	0.02	0.00	0.05	0.0008	0.0000	0.0020
A2	0.20			0.0079		
A3		0.2			0.0079	
b	0.40	0.35	0.45	0.0157	0.0138	0.0177
D	5.00			0.1969		
D2	4.20	4.10	4.30	0.1654	0.1614	0.1693
E	6.00			0.2362		
E2	3.40	3.30	3.50	0.1339	0.1299	0.1378
e	1.27			0.0500		
L	0.50	0.45	0.55	0.0177	0.0197	0.0217

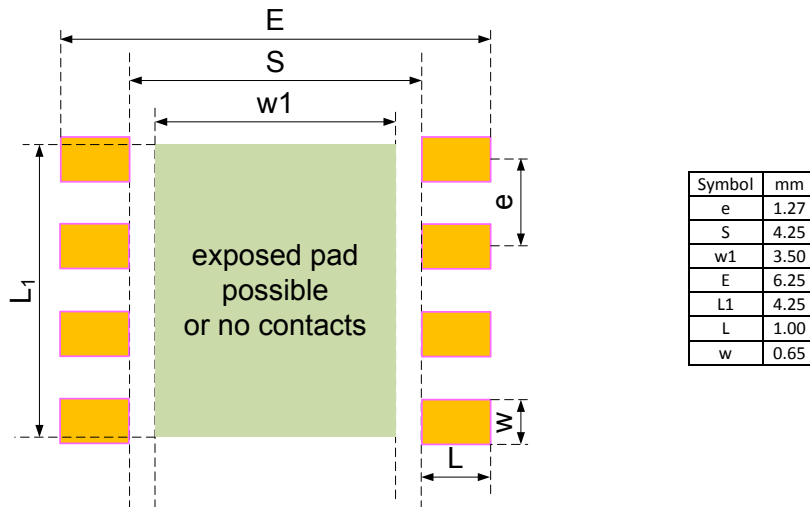
Symbol	mm			Inches		
	typ..	min.	max.	typ.	min.	max.
A		1.35	1.75		0.053	0.069
A1		0.1	0.25		0.004	0.010
B		0.33	0.51		0.013	0.020
C		0.19	0.25		0.007	0.010
D		4.80	5.00		0.189	0.197
E		3.80	4.00		0.150	0.157
e	1.27			0.050		
H		5.80	6.20		0.228	0.244
L		0.40	0.60		0.016	0.024
a		0°	8°		0°	8°



- Package Size in DFN8 and SOP8 is 5x6mm
- Both has a 1,27 Lead Pitch
- Only DNF8 has Exposed Pad (Connected to GND)
 - NOTE when the distance between the opposing pads is too low there is the possibility of a short circuit over the exposed pad

Recommended Footprint Design

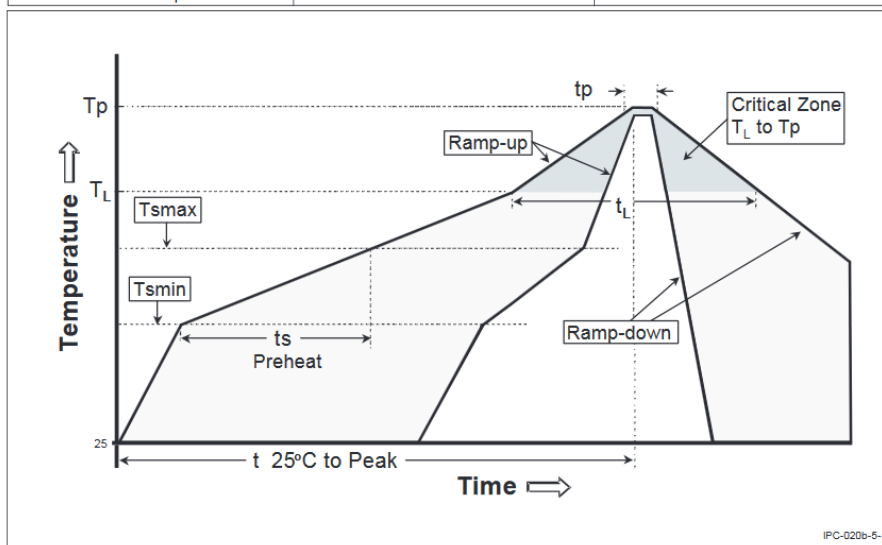
to avoid a short circuit over the exposed pad the footprint should be designed in according to the JEDEC Standard MO-220/MO-229 or the IPC 7351B



Reflow Profile

The below Reflow Profile is based on the IPC/JEDEC joint industry standard: J-STD-020B.

Profile Feature	Sn-Pb Eutectic Assembly		Pb-Free Assembly	
	Large Body	Small Body	Large Body	Small Body
Average ramp-up rate (T_L to T_p)	3°C/second max.		3°C/second max.	
Preheat				
- Temperature Min (T_{smin})	100°C		150°C	
- Temperature Max (T_{smax})	150°C		200°C	
- Time (min to max) (t_s)	60-120 seconds		60-180 seconds	
T_{smax} to T_L				
- Ramp-up Rate			3°C/second max	
Time maintained above:				
- Temperature (T_L)	183°C		217°C	
- Time (t_L)	60-150 seconds		60-150 seconds	
Peak Temperature (T_p)	225 +0/-5°C	240 +0/-5°C	245 +0/-5°C	250 +0/-5°C
Time within 5°C of actual Peak Temperature (t_p)	10-30 seconds	10-30 seconds	10-30 seconds	20-40 seconds
Ramp-down Rate	6°C/second max.		6°C/second max.	
Time 25°C to Peak Temperature	6 minutes max.		8 minutes max.	



Document Revision History

Revision	Date	Summary
1.0	June 2016	Initial version

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