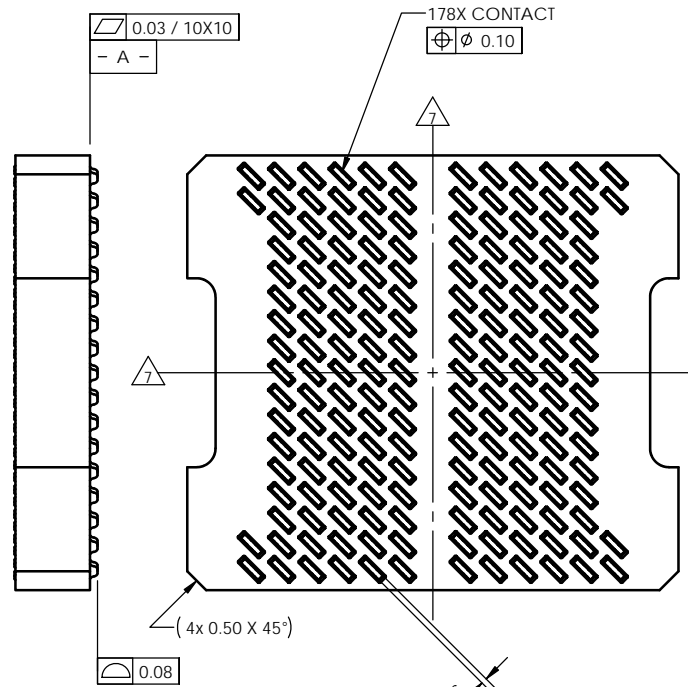
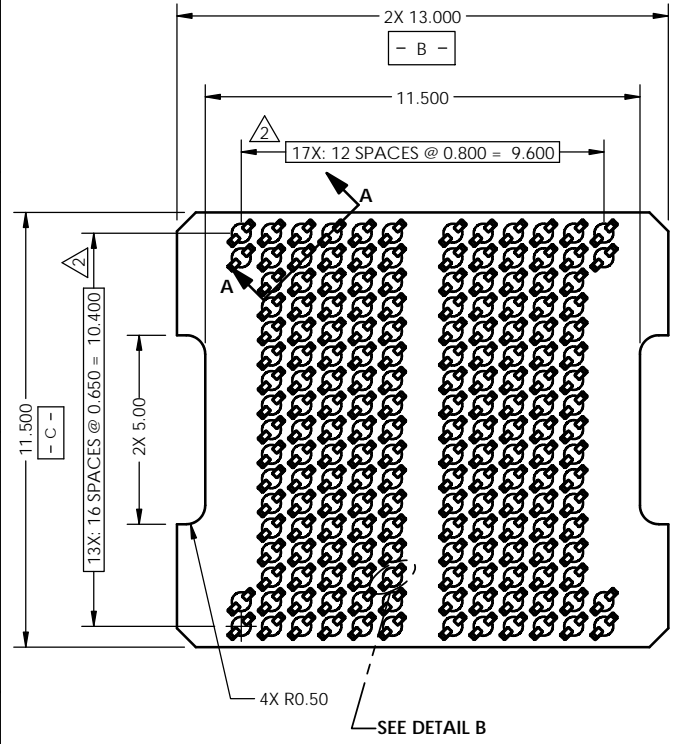
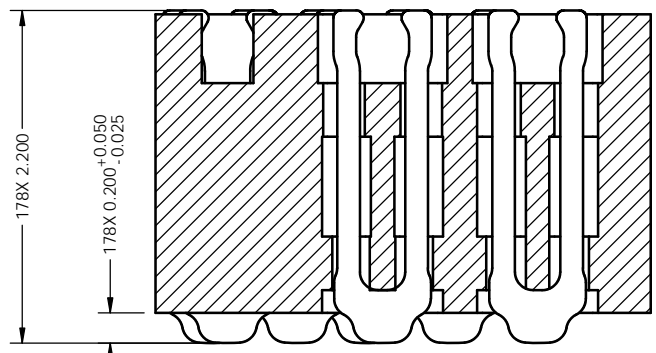


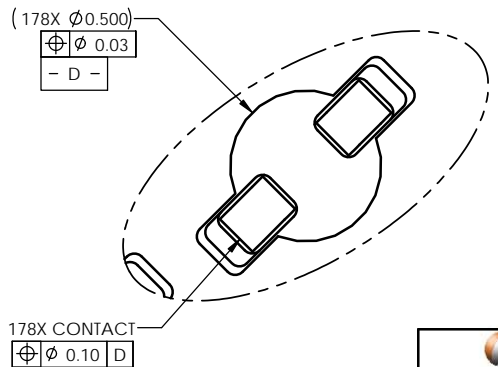
REV	ECO	BY	DESCRIPTION	APV	DATE
A	31064	KDW	Initial Design	KDW	04/17/12
B	31156	WDB	Updated to current standard	KDW	08/14/12
C	31357	PVW	Update P/N in part list for stencil	MP	09/12/13
D	31431	MP	Corrected typo on Stencil P/N	MP	11/26/13



- Notes:
- Footprint part number is 104311-0318.
  - Dimension locates center of contact.
  - Press size is 11.50 X 13.00.
  - Unless otherwise noted, all features located  $\oplus 0.10$  A B C
  - Reference HSIO Technologies specification 700001-0002 for application notes.
  - Datums - B - and - C - are determined by  $\phi 0.500$  opening in corner slots.
  - E - center of contact pattern.
  - Reference HSIO Technologies specification 700001-0001 for solder attachment.



**SECTION A-A**  
SCALE 4:1



**DETAIL B**  
SCALE 8:1

PARTS LIST				
Item	Qty	Part Number	Description	
-	-	107022-0047	SCKT, 178GRY11.5X13-0.80X0.65	
1	1	106919-0010	CS, 178GRY11.5X13-0.80X0.65	
-	-	104553-0244	STENCIL (SOLD SEPARATELY)	
-	-	103864-0128	PRESS, DEV, 11.5 X 13.0 (SOLD SEPARATELY)	
-	-	105900-0004	EXTRACTION TOOL, 4X53 (SOLD SEPARATELY)	

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UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN MILLIMETERS  
TOLERANCES:  
ANGULAR:  $\pm 1^\circ$   
X.X  $\pm 0.25$   
X.XX  $\pm 0.10$   
X.XXX  $\pm 0.050$

NAME	DATE
DRAWN K. Wilson	04/17/12
CHECKED K. Wilson	04/17/12

LEGEND:  
 $\Delta$  NOTE CALLOUT  
 $\square$  REVISION CHANGE  
 $\circ$  ITEM NUMBER

**HSIO TECHNOLOGIES, LLC.**  
13300 67th AVENUE NORTH  
MAPLE GROVE, MINNESOTA 55311  
763-447-6260

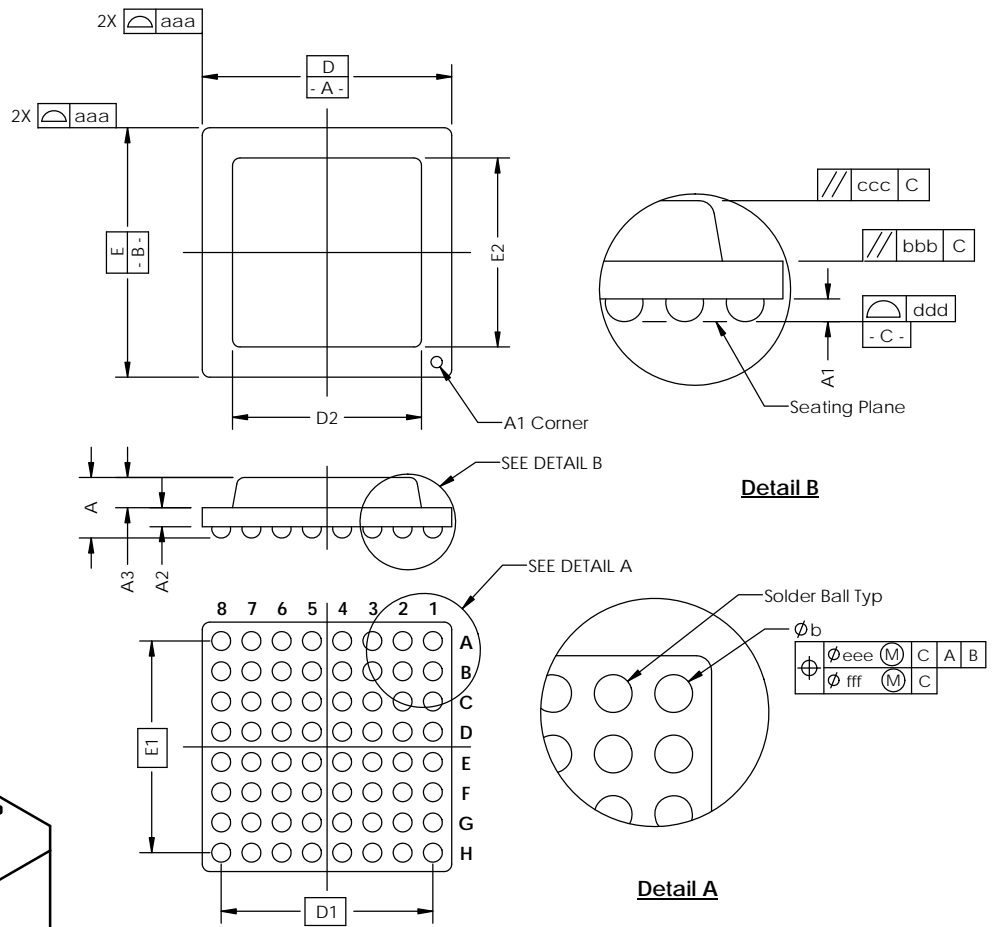
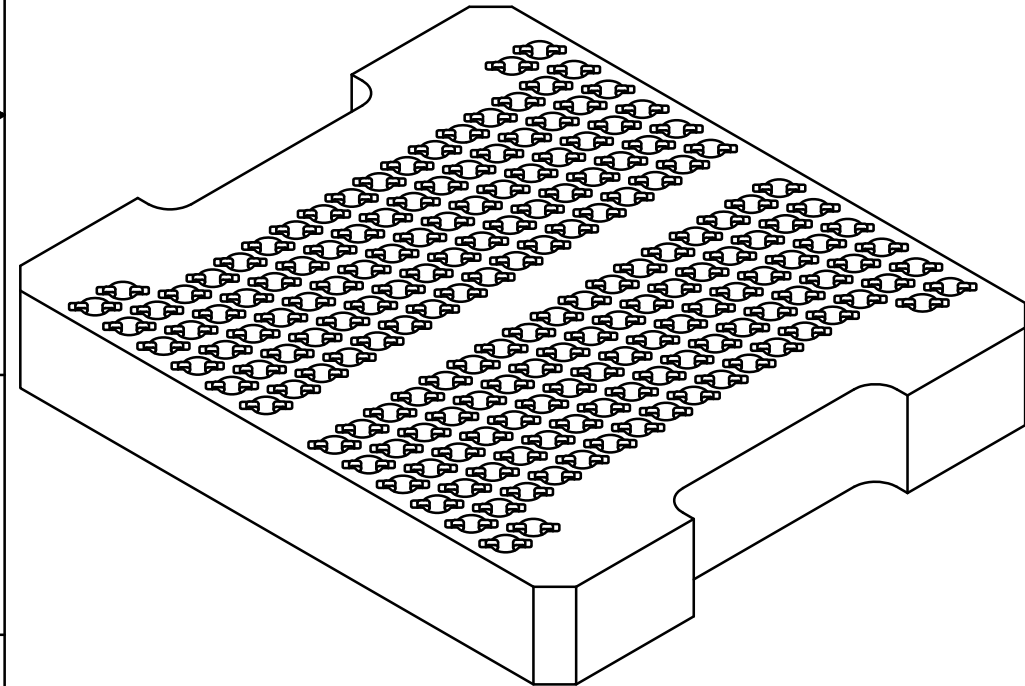
TITLE:  
SCKT, 178GRY11.5X13-0.80X0.65

DWG. NO.	REV
107022-0047	D

SCALE: 10:1 SIZE: C SHEET 1 OF 2

SOCKET FOR DEVICES WITHIN THESE SPECIFICATIONS					
Lead Count	<b>N</b>	178	Package Size	<b>D</b>	13.00
Columns	<b>ND</b>	13		<b>E</b>	11.50
Rows	<b>NE</b>	17	Ball Spacing	<b>D1</b>	9.600
Pitch	<b>e</b>	0.800 X 0.650		<b>E1</b>	10.400
Ball Size	<b>b</b>	0.40±0.05	Encapsulant/ Top Size	<b>D2</b>	n/a
Total Thickness	<b>A</b>	1.10		<b>E2</b>	n/a
Ball Height	<b>A1</b>	0.275 min	Pattern Style	IRREGULAR*	
Substrate Thickness	<b>A2</b>	n/a	Perimeter Rows	n/a	
Top Thickness	<b>A3</b>		Center Array	n/a	
Form Tolerances					
Edge	<b>aaa</b>	0.20	Bottom	<b>ddd</b>	0.15
Substrate	<b>bbb</b>	0.20	Position	<b>eee</b>	0.20
top	<b>ccc</b>	0.20	Position	<b>fff</b>	0.08

\* See footprint for pattern details.  
All dimensions are in millimeters.



**Generic Representation with Full Grid Array**

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	INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED K. Wilson	04/17/12	
	MATERIAL SEE BOM	LEGEND: △ NOTE CALLOUT ○ REVISION CHANGE ○ ITEM NUMBER		
	FINISH DO NOT SCALE DRAWING	SCALE: 10:1    SIZE: C    SHEET 2 OF 2		