

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0465564145](#)  
**Status:** **Active**  
**Description:** 1.27mm (.050") by 1.27mm (.050") Pitch SEARAY\* Slim Plug, 160 Circuits, 2.00mm (.078") Unmated Height, 4 Rows, With Pegs, Solder Charge™ Lead-free

**Documents:**

[3D Model](#) [Product Specification PS-45970-001 \(PDF\)](#)  
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

**Agency Certification**

CSA LR19980  
 UL E29179

**General**

Product Family PCB Headers  
 Series [46556](#)  
 Application Board-to-Board  
 MolexKits Yes  
 Product Name SEARAY\*

**Physical**

Breakaway No  
 Circuits (Loaded) 160  
 Circuits (maximum) 160  
 Circuits Detail 160  
 Color - Resin Black  
 Durability (mating cycles max) 100  
 First Mate / Last Break No  
 Flammability 94V-0  
 Glow-Wire Compliant No  
 Guide to Mating Part Yes  
 Keying to Mating Part None  
 Lock to Mating Part None  
 Material - Metal Copper Alloy  
 Material - Plating Mating Gold  
 Material - Plating Termination Tin  
 Material - Resin High Temperature Thermoplastic  
 Number of Rows 4  
 Orientation Vertical  
 PCB Locator Yes  
 PCB Retention Yes  
 PCB Thickness Recommended (in) 0.062 In  
 PCB Thickness Recommended (mm) 1.60 mm  
 Packaging Type Embossed Tape on Reel  
 Pitch - Mating Interface (in) 0.050 In  
 Pitch - Mating Interface (mm) 1.27 mm  
 Pitch - Term. Interface (in) 0.050 In  
 Pitch - Term. Interface (mm) 1.27 mm  
 Plating min: Mating (µin) 30  
 Polarized to Mating Part Yes  
 Polarized to PCB Yes  
 Robotic Placement Pick and Place Cap  
 Shrouded No  
 Stackable No  
 Surface Mount Compatible (SMC) Yes  
 Temperature Range - Operating -55°C to +125°C



Series

*image - Reference only*

**EU RoHS**

**ELV and RoHS Compliant**

**REACH SVHC**

Not Reviewed

**Halogen-Free**

**Status**

**Not Reviewed**

**China RoHS**



**Need more information on product environmental compliance?**

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

**Search Parts in this Series**

[46556Series](#)

**Mates With**

[46557](#) SEARAY\* Slim Receptacles

Termination Interface: Style

Surface Mount

### **Electrical**

Current - Maximum per Contact

1A

Voltage - Maximum

240V AC

### **Solder Process Data**

Duration at Max. Process Temperature (seconds)

20

Lead-free Process Capability

Reflow Capable (SMT only)

Max. Cycles at Max. Process Temperature

3

Process Temperature max. C

260

### **Material Info**

#### **Reference - Drawing Numbers**

Application Specification

AS-45970-001, AS-45970-002, AS-45970-990

Packaging Specification

PK-45970-002

Product Specification

PS-45970-001

Sales Drawing

SD-46556-001

Test Summary

TS-45970-001

\*SEARAY is a trademark of Samtec, Inc.

This document was generated on 06/07/2010

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4

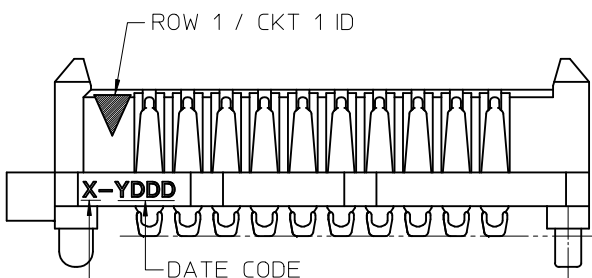
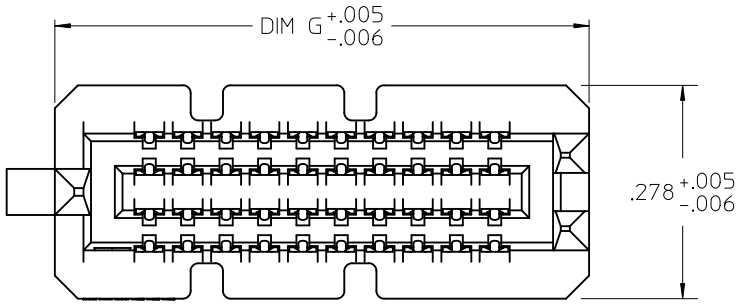
3

2

1

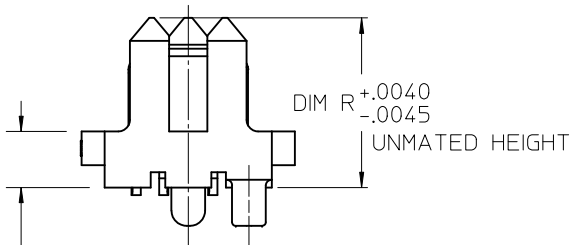
NOTES:

- 1. MATERIALS: HOUSING: LCP, UL94V-0, BLACK  
CONTACTS: COPPER ALLOY  
SOLDER CHARGE: SEE CHART
- 2. FINISH: ALL OPTIONS - SELECT GOLD IN CONTACT AREA: 30 MI MIN  
OPTIONS 2.0 & 2.5: SELECT GOLD FLASH IN TAIL, 7 MI MIN  
OPTIONS 3.0 THRU 7.0: SELECT TIN IN TAIL, 100 MI MIN  
ALL OPTIONS - OVER NICKEL
- 3. PRODUCT SPECIFICATION: PS-45970-001
- 4. PACKAGING SPECIFICATION: PK-45970-002
- 5. MATES WITH SEARAY RECPT ASSEMBLY 46557
- 6. APPLICATION SPECIFICATION: AS-45970-001
- 7. COSMETIC SPECIFICATION: PS-45499-002 CLASS B
- 8. PART STATUS: CONTACT MOLEX

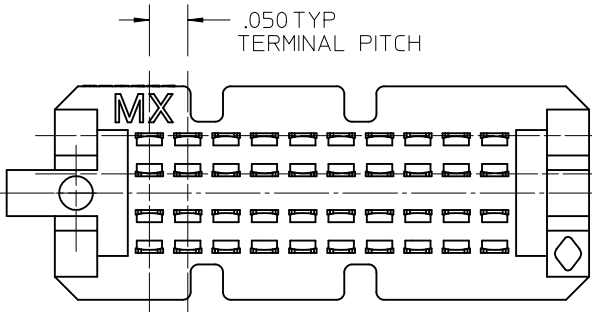


LEAD CODE:  
1 = TIN  
2 = TIN / LEAD

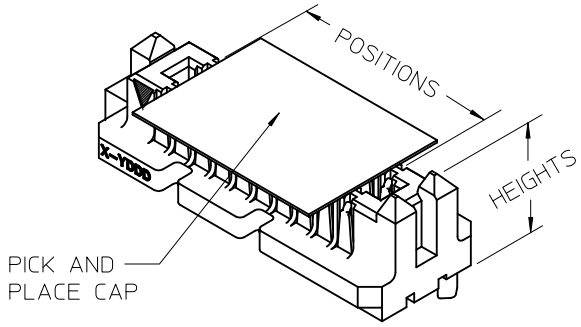
SEE TABLE  
ACROSS ALL  
SOLDER  
CHARGES



DIM P  
REF ONLY  
MATED STACK  
HEIGHT  
(MILLIMETERS)



.050 TYP  
TERMINAL PITCH



POSITIONS	DIM G	
10	.696	.006
15	.946	.006
20	1.196	.006
25	1.446	.006
30	1.696	.006
35	1.946	.006
40	2.196	.006
45	2.446	.009
50	2.696	.009

UPDATED NOTE 2
EC NO: UCP2010-2270
DRWN: TREGORI 2010/03/05
CHKD: JCOMERCI 2007/05/17
APPR: JCOMERCI 2010/03/05
REV
DESCRIPTION

GENERAL TOLERANCES (UNLESS SPECIFIED)	
mm	INCH
4 PLACES ± ---	± ---
3 PLACES ± ---	± .005
2 PLACES ± ---	± ---
1 PLACE ± ---	± ---
ANGULAR ± 1/2°	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	

DIMENSION STYLE INCH ONLY	
DRAWN BY	DATE
TGREGORI	2007/05/17
CHECKED BY	DATE
JCOMERCI	2007/05/17
APPROVED BY	DATE
JCOMERCI	2010/03/05
MATERIAL NO.	SEE CHART
SIZE	A

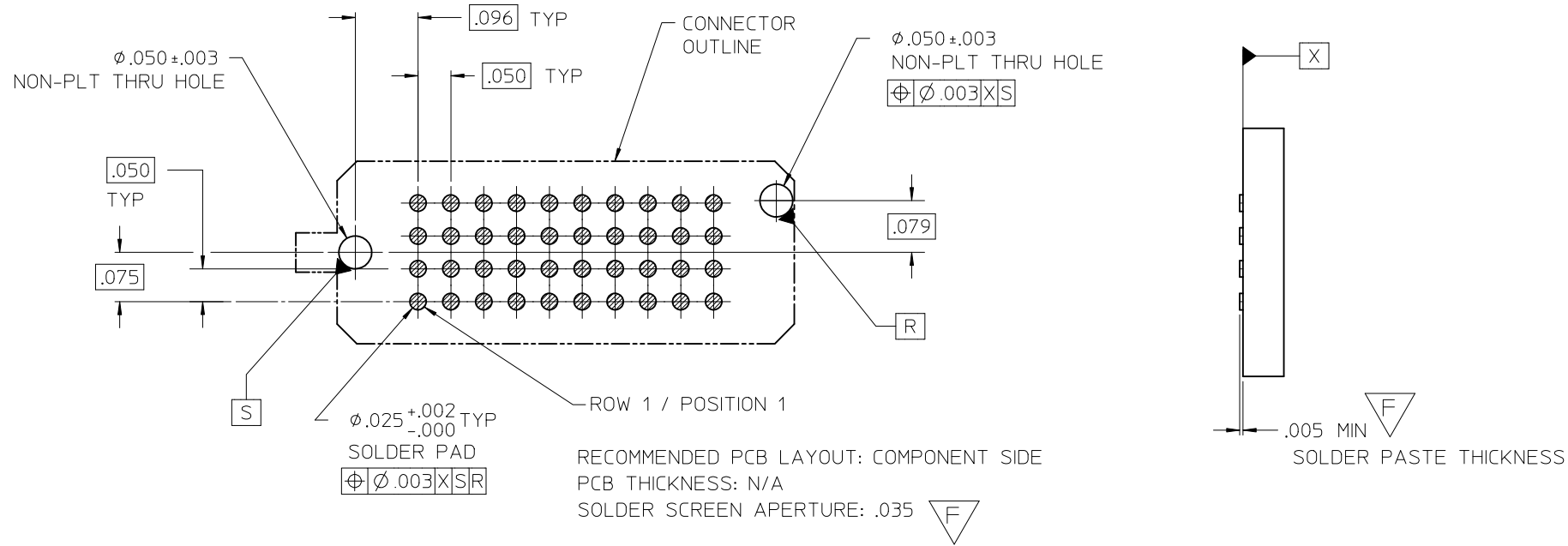
SCALE 4:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION
TITLE SEARAY SLIM PLUG ASSEMBLY .050 PITCH		
MOLEX INCORPORATED		
DOCUMENT NO. SD-46556-001	SHEET NO. 1 OF 4	

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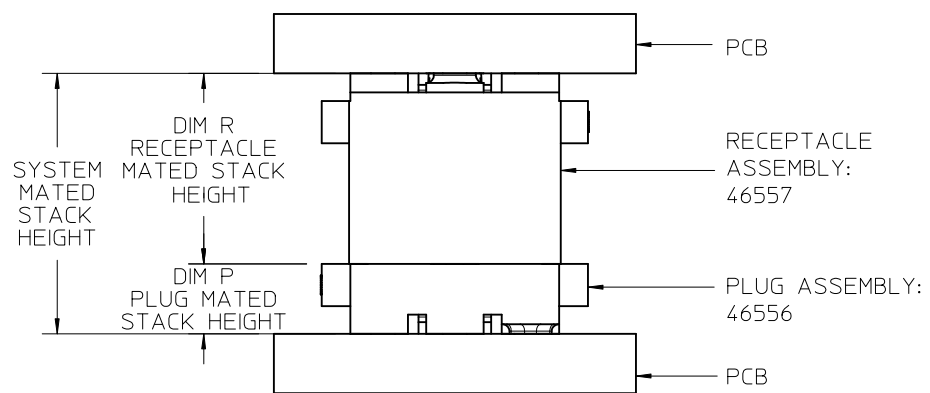
3

2



		DIM R RECEPTACLE STACK HEIGHT					
		MM	5.0	6.0	6.5	7.5	8.0
DIM P PLUG STACK HEIGHT	2.0	7.0	8.0	8.5	9.5	10.0	11.0
	3.0	8.0	9.0	9.5	10.5	11.0	11.0
	3.5	8.5	9.5	10.0	11.0	11.5	11.5
	2.5	7.5	8.5	9.0	10.0	10.5	10.5
	4.5	9.5	10.5	11.0	12.0	12.5	12.5
	5.0	10.0	11.0	11.5	12.5	13.0	13.0
	7.0	12.0	13.0	13.5	14.5	15.0	15.0

STACK HEIGHTS GIVEN IN MM FOR REF ONLY



SEE SHEET 1  
 EC NO: UCP2010-2270  
 DRWN: TGREGOR I 2010/03/05  
 CHKD: JCOMERC I 2007/05/17  
 APPR: JCOMERC I 2010/03/05

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± .005	± .0005
3 PLACES	± .005	± .0005
2 PLACES	± .005	± .0005
1 PLACE	± .005	± .0005

ANGULAR ±1/2°

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE  
**INCH ONLY**

DRAWN BY DATE  
 TGREGOR I 2007/05/17

CHECKED BY DATE  
 JCOMERC I 2007/05/17

APPROVED BY DATE  
 JCOMERC I 2010/03/05

MATERIAL NO.  
**SEE CHART**

SCALE  
**4:1**

DESIGN UNITS  
**INCH**

THIRD ANGLE PROJECTION

TITLE  
**SEARAY SLIM  
 PLUG ASSEMBLY  
 .050 PITCH**


**molex** MOLEX INCORPORATED

DOCUMENT NO.  
**SD-46556-001**

SHEET NO.  
**2 OF 4**


	6	5	4	3	2	1	
DIM P	2.0 MM	3.0 MM	3.5 MM	2.5 MM	4.5 MM	5.0 MM	7.0 MM
DIM R: HOUSING HEIGHT:	.221	.260	.280	.241	.319	.339	.418
D POSITIONS	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO
10	46556-1145	46556-1245	46556-1345	46556-1445	46556-1545	46556-1645	46556-1745
20	46556-2145	46556-2245	46556-2345	46556-2445	46556-2545	46556-2645	46556-2745
30	46556-3145	46556-3245	46556-3345	46556-3445	46556-3545	46556-3645	46556-3745
40	46556-4145	46556-4245	46556-4345	46556-4445	46556-4545	46556-4645	46556-4745
50	46556-5145	46556-5245	46556-5345	46556-5445	46556-5545	46556-5645	46556-5745
C 15	46556-6145	46556-6245	46556-6345	46556-6445	46556-6545	46556-6645	46556-6745
25	46556-7145	46556-7245	46556-7345	46556-7445	46556-7545	46556-7645	46556-7745
35	46556-8145	46556-8245	46556-8345	46556-8445	46556-8545	46556-8645	46556-8745
45	46556-9145	46556-9245	46556-9345	46556-9445	46556-9545	46556-9645	46556-974

NOTES:  
1. THIS SHEET CONTAINS THE FOLLOWING OPTIONS  
SOLDER CHARGE: TIN

SEE SHEET 1 EC NO: UCP2010-2270 DRWN: TGREGOR I 2010/03/05 CHKD: JCOMERC I 2007/05/17 APPR: JCOMERC I 2010/03/05 REV DESCRIPTION	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE <b>INCH ONLY</b>		SCALE <b>1:1</b>	DESIGN UNITS <b>INCH</b>	THIRD ANGLE PROJECTION		
		mm	INCH	DRAWN BY TGREGOR I	DATE 2007/05/17	TITLE <b>SEARAY SLIM PLUG ASSEMBLY .050 PITCH</b>			
	4 PLACES	± ---	± ---	CHECKED BY JCOMERC I	DATE 2007/05/17				
	3 PLACES	± ---	± .005	APPROVED BY JCOMERC I		DATE 2010/03/05	 <b>MOLEX INCORPORATED</b> DOCUMENT NO. SD-46556-001 SHEET NO. 3 OF 4		
	2 PLACES	± ---	± ---	MATERIAL NO.		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			
1 PLACE	± ---	± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE <b>A</b>				

	6	5	4	3	2	1	
DIM P	2.0 MM	3.0 MM	3.5 MM	2.5 MM	4.5 MM	5.0 MM	7.0 MM
DIM R: HOUSING HEIGHT:	.221	.260	.280	.241	.319	.339	.418
D POSITIONS	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO	MATERIAL NO
10	46556-1147	46556-1247	46556-1347	46556-1447	46556-1547	46556-1647	46556-1747
20	46556-2147	46556-2247	46556-2347	46556-2447	46556-2547	46556-2647	46556-2747
30	46556-3147	46556-3247	46556-3347	46556-3447	46556-3547	46556-3647	46556-3747
40	46556-4147	46556-4247	46556-4347	46556-4447	46556-4547	46556-4647	46556-4747
50	46556-5147	46556-5247	46556-5347	46556-5447	46556-5547	46556-5647	46556-5747
C 15	46556-6147	46556-6247	46556-6347	46556-6447	46556-6547	46556-6647	46556-6747
25	46556-7147	46556-7247	46556-7347	46556-7447	46556-7547	46556-7647	46556-7747
35	46556-8147	46556-8247	46556-8347	46556-8447	46556-8547	46556-8647	46556-8747
45	46556-9147	46556-9247	46556-9347	46556-9447	46556-9547	46556-9647	46556-9747

NOTES:  
1. THIS SHEET CONTAINS THE FOLLOWING OPTIONS  
SOLDER CHARGE: TIN / LEAD

SEE SHEET 1 EC NO: UCP2010-2270 DRWN: TGREGOR I 2010/03/05 CHKD: JCOMERC I 2007/05/17 APPR: JCOMERC I 2010/03/05	DESCRIPTION REV	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE <b>INCH ONLY</b>		SCALE <b>1:1</b>	DESIGN UNITS <b>INCH</b>	THIRD ANGLE PROJECTION			
			mm	INCH	DRAWN BY TGREGOR I	DATE 2007/05/17	TITLE <b>SEARAY SLIM PLUG ASSEMBLY .050 PITCH</b>				
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		2 PLACES	± ---	± ---	MATERIAL NO.		SHEET NO.				
1 PLACE	± ---	± ---	ANGULAR ±1/2°		<b>SEE CHART</b> THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		<b>4 OF 4</b>				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS											