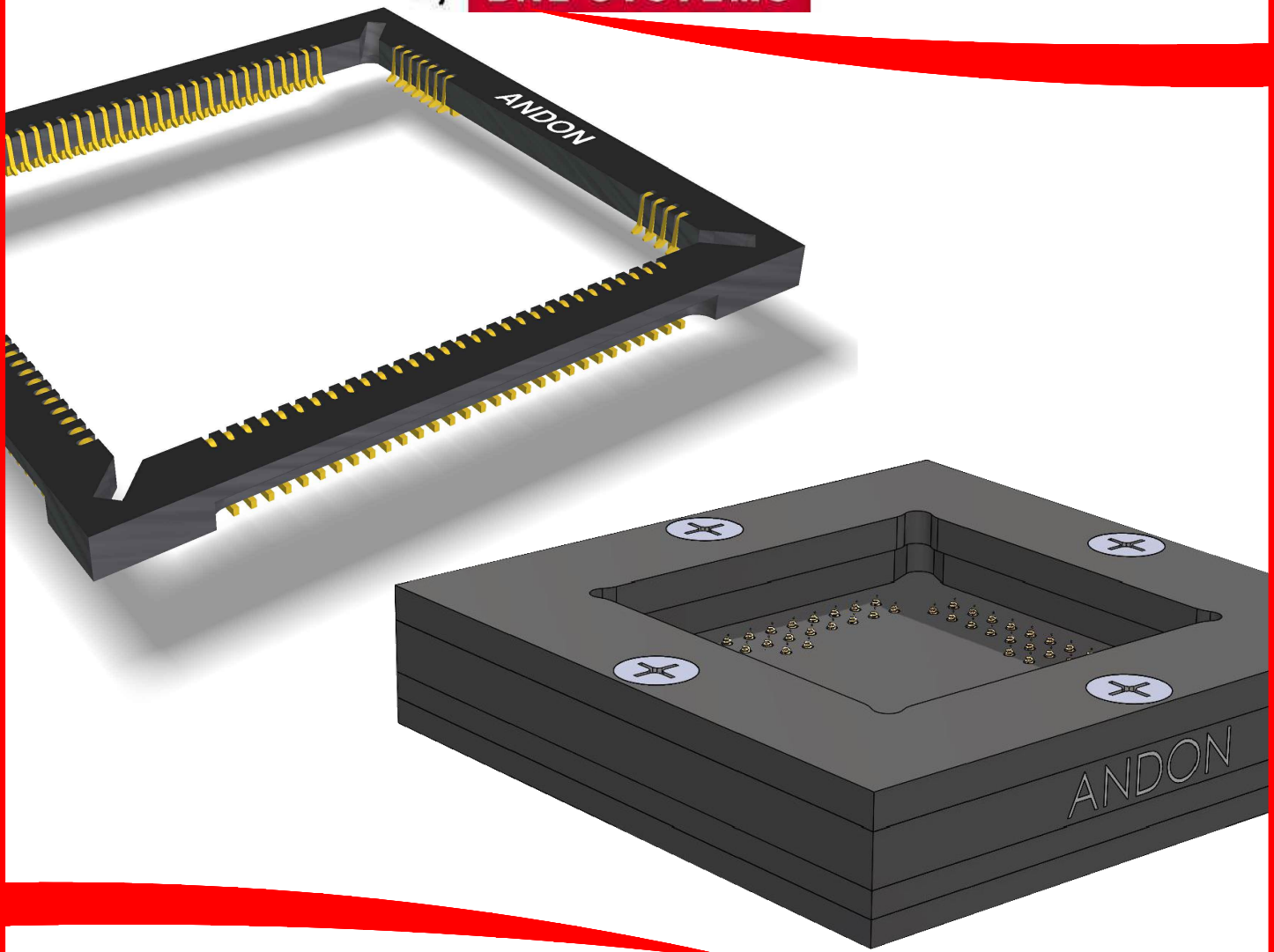
ANDON
INTERCONNECTION SPECIALISTS

# *High-Reliability Image Sensor Sockets for Fairchild Imaging*

Fairchild imaging
by BAE SYSTEMS




## *Featuring Andon's Patented LCC & Senstac Contacts*

## FAIRCHILD IMAGING

| Fairchild Imaging Part Number | Andon Part Number Replace "XXX" with Terminal Type | Terminal Type | | | Pin Ø [in] | Figure Number | Page Number |
|---|---|---|---|---|---|---|---|
| | | Thru-Hole | Surface Mount | Rollerball® | | | |
| CCD111ADC | IS229-318-XXX-R29-L14 | 01S | 93S | - | .018 | 1 | 1 |
| CCD111BDC | IS229-318-XXX-R29-L14 | 01S | 93S | - | .018 | 1 | 1 |
| CCD133ADC | IS229-624-XXX-R29-L14 | 80S | 93S | - | .018 | 1 | 1 |
| CCD134 | IS229-624-XXX-R29-L14 | 80S | 93S | - | .018 | 1 | 1 |
| CCD143ADC | IS229-628-XXX-R29-L14 | 01S | 93S | - | .018 | 1 | 1 |
| CCD153ADC | IS229-624-XXX-R29-L14 | 80S | 93S | - | .018 | 1 | 1 |
| CCD181DC | IS229-628-XXX-R29-L14 | 01S | 93S | - | .018 | 1 | 1 |
| CCD191DC | IS229-640-XXX-R29-L14 | 01S | 93S | - | .018 | 1 | 1 |
| CCD3041 | 585-23-04-046-XXX-R29-L14 | 211M | 265M | - | .018 | 4 | 2 |
| CCD3041 BI | 585-23-04-046-XXX-R29-L14 | 211M | 265M | - | .018 | 4 | 2 |
| CCD3041 FI | 585-23-04-046-XXX-R29-L14 | 211M | 265M | - | .018 | 4 | 2 |
| CCD424 | 575-23-03-072-XXX-R29-L14 | 01M | 93M | - | .018 | 3 | 2 |
| CCD485 | 575-21-14-168-XXX-R29-L14 | 80M | 93M | - | .018 | 2 | 2 |
| CCD486 BI | IS231-2054D-XXX-R29-L14-A | 01M | 93M | - | .018 | 5 | 2 |
| CCD486 FI | IS229-2654-XXX-R29-L14-A | 01M | 93M | - | .018 | 1 | 1 |
| CCD5045 | IS229-648-XXX-R29-L14 | 01S | 93S | - | .018 | 1 | 1 |
| CCD5061 | IS229-10264T-XXX-R29-L14-A | 01M | 93M | - | .018 | 7 | 3 |
| CCD525 | IS229-840-XXX-R29-L14-A | 01S | 93S | - | .018 | 1 | 1 |
| CCD8091 | IS229-8176D-XXX-R29-L14-A | 01M | 93M | - | .018 | 6 | 3 |
| CIS1910 (CMOS) | 681-120101A-SM-G10-L14-X | - | - | - | - | 9 | 4 |
| CIS1910 (sCMOS) | 683-105-XX-XXX-R27-L14-X | TH-491 | SM-500 | SM-RB593 | - | 8 | 3 |
| CIS1910F0111 (sCMOS) | 683-105-XX-XXX-R27-L14-X | TH-491 | SM-500 | SM-RB593 | - | 8 | 3 |
| CIS1910F0221/CIS1910F1221 (CMOS) | 681-120101A-SM-G10-L14-X | - | - | - | - | 9 | 4 |
| CIS2020 (CMOS) | 687-168-SM-G10-L14-X | - | - | - | - | 10 | 5 |
| CIS2020A (CMOS) | 687-168-SM-G10-L14-X | - | - | - | - | 10 | 5 |
| CIS2020 (sCMOS) | 690-168-SM-G10-L14-1 | - | - | - | - | 13 | 7 |
| CIS2020A (sCMOS) | 690-168-SM-G10-L14-1 | - | - | - | - | 13 | 7 |
| CIS2521 (CMOS) | 687-168-SM-G10-L14-X | - | - | - | - | 10 | 5 |
| CIS2521F (CMOS) | 687-168-SM-G10-L14-X | - | - | - | - | 10 | 5 |
| CIS2521 (sCMOS-40.89mm x 36.58mm package) | 690-168-SM-G10-L14-1 | - | - | - | - | 13 | 7 |
| CIS2521F (sCMOS-40.89mm x 36.58mm package) | 690-168-SM-G10-L14-1 | - | - | - | - | 13 | 7 |
| CIS2521 (sCMOS-41.18mm x 36.75mm package) | 690S-168A-SM-G10-L14-1 | - | - | - | - | 14 | 7 |
| CIS2521F (sCMOS-41.18mm x 36.75mm package) | 690S-168A-SM-G10-L14-1 | - | - | - | - | 14 | 7 |
| CIS2521 (sCMOS-41.4mm x 37.05mm package) | 690S-168B-SM-G10-L14-1 | - | - | - | - | 15 | 8 |
| CIS2521F (sCMOS-41.4mm x 37.05mm package) | 690S-168B-SM-G10-L14-1 | - | - | - | - | 15 | 8 |
| CMOI1421 (LCC) | CONTACT FACTORY | N/A | N/A | - | - | N/A | N/A |
| HWK1411 | 683-121-XX-XXX-R27-L14-1 | TH-491 | SM-500 | SM-RB593 | - | 17 | 9 |
| HWK1910A | 620-64-SM-G10-L14-X | - | - | - | - | 11 | 6 |
| HWK4123 | 683-256-XX-XXX-R27-L14 | TH-491 | SM-500 | SM-RB593 | - | 16 | 8 |
| LTN4323 | 683-256-XX-XXX-R27-L14 | TH-491 | SM-500 | SM-RB593 | - | 16 | 8 |
| LTN4625A | 690-194-SM-G10-L14-X | - | - | - | - | 12 | 6 |
| MST4323 | 683-256-XX-XXX-R27-L14 | TH-491 | SM-500 | SM-RB593 | - | 16 | 8 |
| MST4625A | 690-194-SM-G10-L14-X | - | - | - | - | 12 | 6 |

See last page for other mounting types including low profile options.
Heat sink socket available to reduce heat and noise. Contact Andon for details.

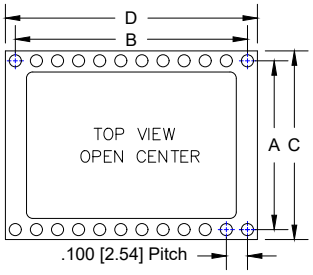



**Fig.1**

| Andon Part Number w/Thru-Hole Terminal | Surface Mount Terminal | Figure Number | Pin QTY. | A | B | C | D |
|---|---|---|---|---|---|---|---|
| IS229-318-01S-R29-L14 | 93S | 1 | 18 | .300 (7.62) | .800 (20.32) | .397 (10.08) | .897 (22.78) |
| IS229-624-80S-R29-L14 | 93S | 1 | 24 | .600 (15.24) | 1.100 (27.94) | .697 (17.70) | 1.197 (30.40) |
| IS229-628-80S-R29-L14 | 93S | 1 | 28 | .600 (15.24) | 1.300 (33.02) | .697 (17.70) | 1.397 (35.48) |
| IS229-640-01S-R29-L14 | 93S | 1 | 40 | .600 (15.24) | 1.900 (48.26) | .697 (17.70) | 1.997 (50.72) |
| IS229-648-01S-R29-L14 | 93S | 1 | 48 | .600 (15.24) | 2.300 (58.42) | .697 (17.70) | 2.397 (60.88) |
| IS229-840-01S-R29-L14 | 93S | 1 | 40 | .800 (20.32) | 1.900 (48.26) | .897 (22.78) | 1.997 (50.72) |
| IS229-2654-01M-R29-L14 | 93M | 1 | 54 | 2.600 (66.04) | 2.600 (66.04) | 2.697 (68.50) | 2.697 (68.50) |



RoHS Compliant

*Sockets are not drawn to scale **FAIRCHILD IMAGING 4**/11/2024

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*Email Info@andonelect.com*

## FAIRCHILD IMAGING *Continued*
## Image Sensor Socket Footprints
***Units: in [mm]***

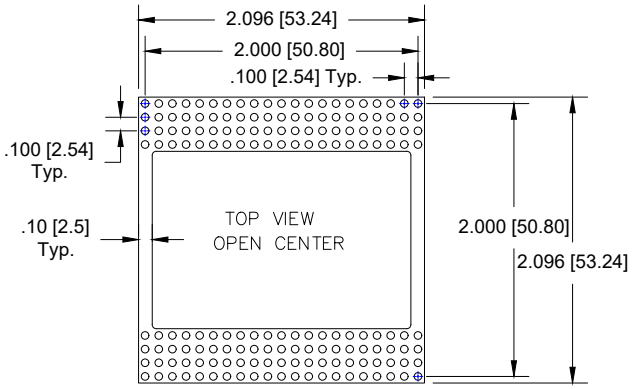


**Fig.2**
**Thru-Hole:** 575-21-14-168-80M-R29-L14
**Surface Mount:** 575-21-14-168-93M-R29-L14

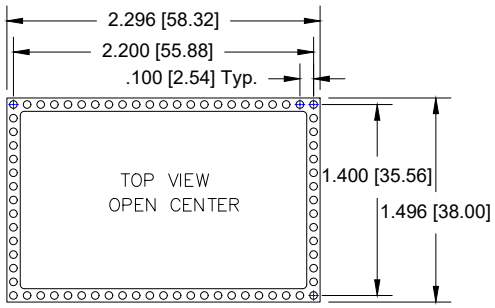


**Fig.3**
**Thru-Hole:** 575-23-03-072-01M-R29-L14
**Surface Mount:** 575-23-03-072-93M-R29-L14

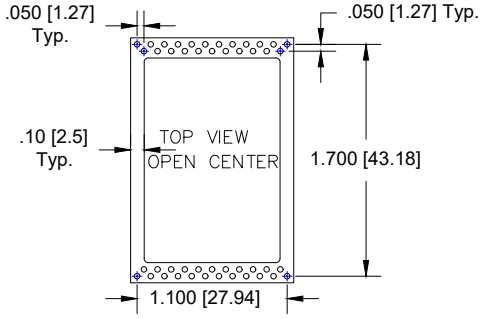


**Fig.4**
**Thru-Hole:** 585-23-04-046-211M-R29-L14
**Surface Mount:** 585-23-04-046-265M-R29-L14

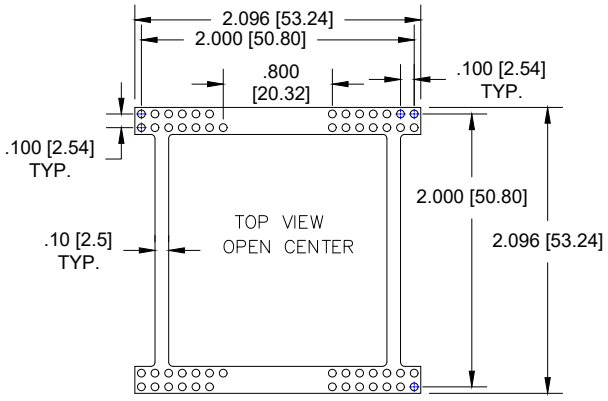


**Fig.5**
**Thru-Hole**: IS231-2054D-01M-R29-L14-A
**Surface Mount:** IS231-2054D-93M-R29-L14-A



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## FAIRCHILD IMAGING *Continued*
## Image Sensor Socket Footprints
***Units: in [mm]***

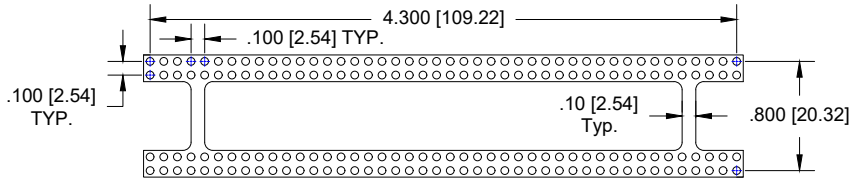


**Fig.6**
**Thru-Hole**: IS229-8176D-01M-R29-L14-A
**Surface Mount:** IS229-8176D-93M-R29-L14-A

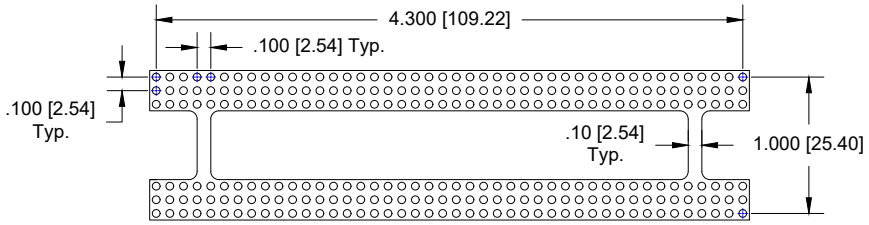


**Fig.7**
**Thru-Hole**: IS229-10264T-01M-R29-L14-A
**Surface Mount:** IS229-10264T-93M-R29-L14-A

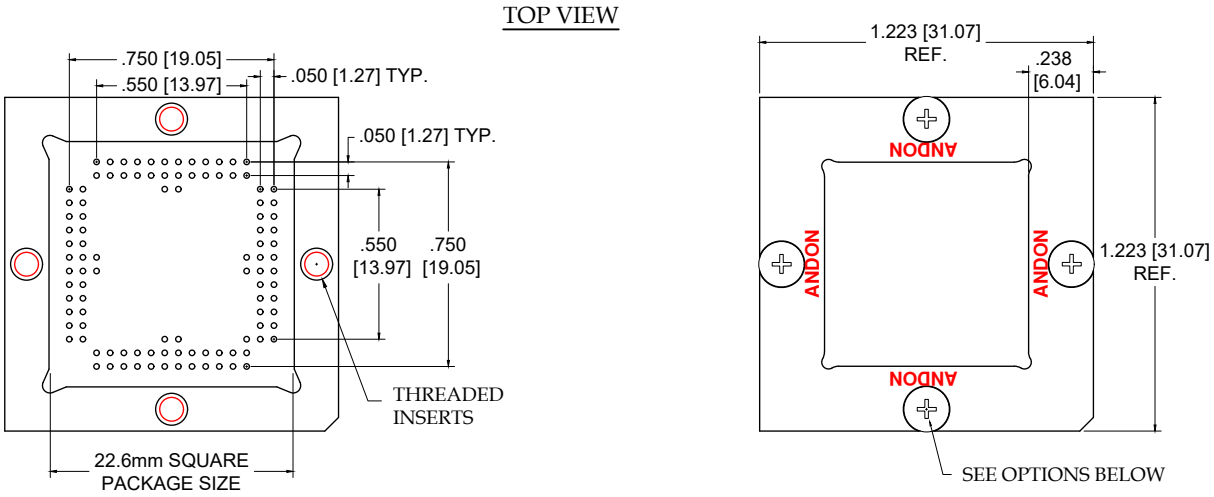


**Fig. 8**
**Thru-Hole:** 683-105-TH-491-R27-L14-X
**Surface Mount:** 683-105-SM-500-R27-L14-X
**Rollerball®:** 683-105-SM-RB593-R27-L14-X

Replace "X" with 1 for phillips screw or 2 for thumb screw



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## FAIRCHILD IMAGING *Continued*

## Image Sensor Socket Footprints

***Units: in [mm]***

## Custom .035 [0.89] Pitch LCC Sockets

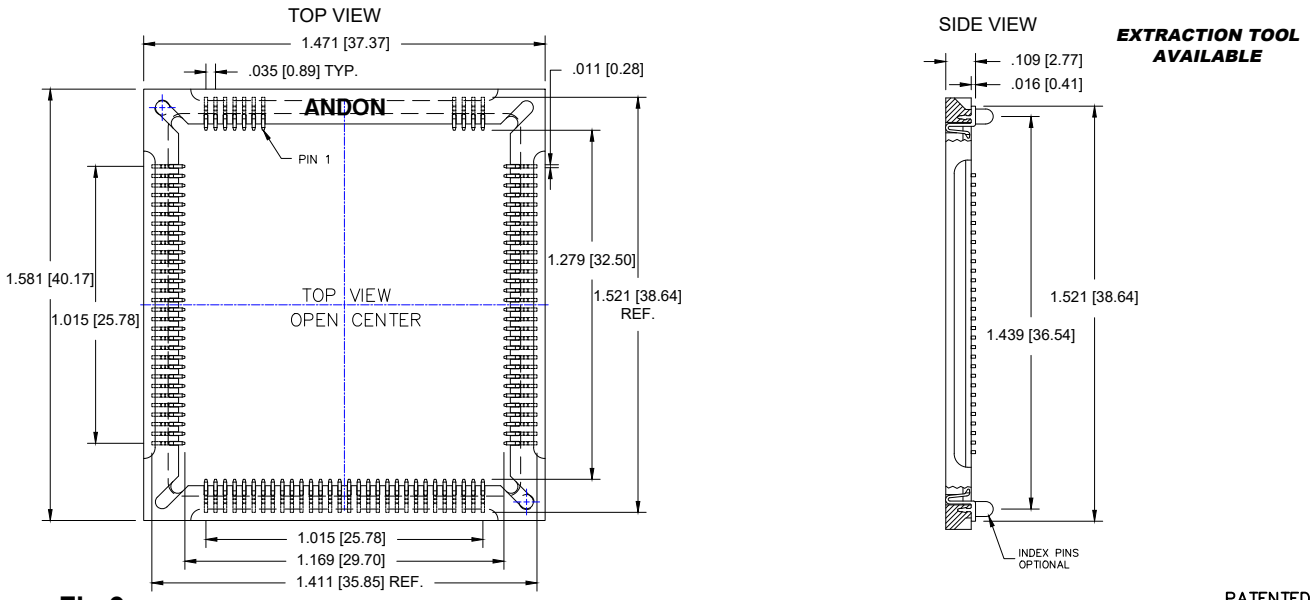
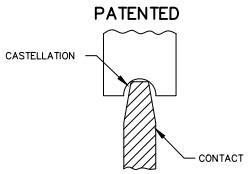


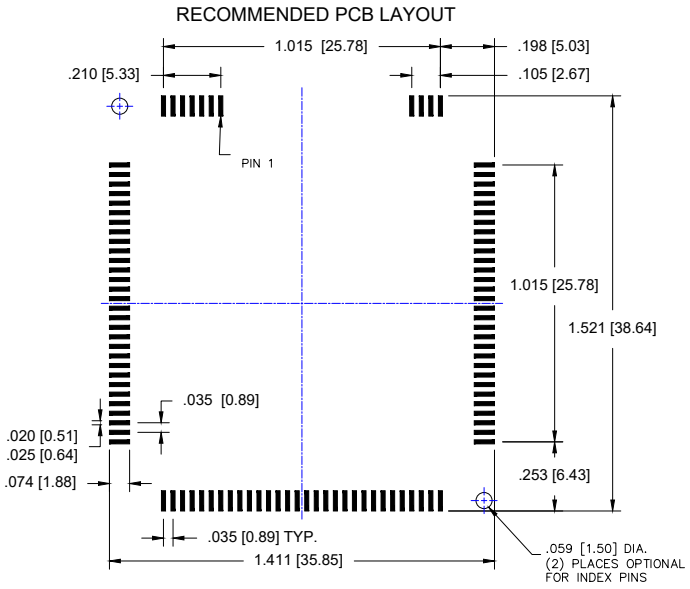

**Fig.9**

**Surface Mount:** 681-12010A-SM-G10-L14-X

Contact Plating = Gold

Replace "-X" with "-1" for index pins or "-0" for none




***NON MAGNETIC PLATING AVAILABLE - G55***

***For Other Pin Configuration or Layouts, Contact Factory.***



**RoHS Compliant**

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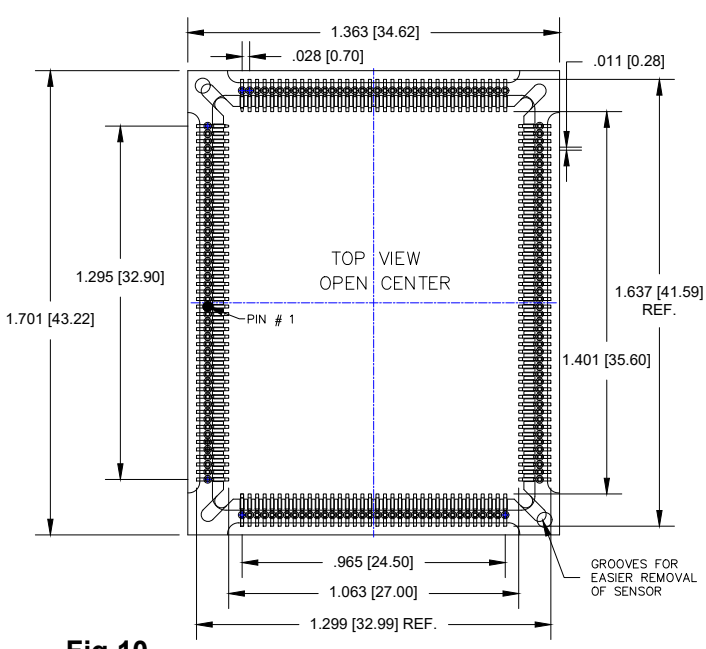
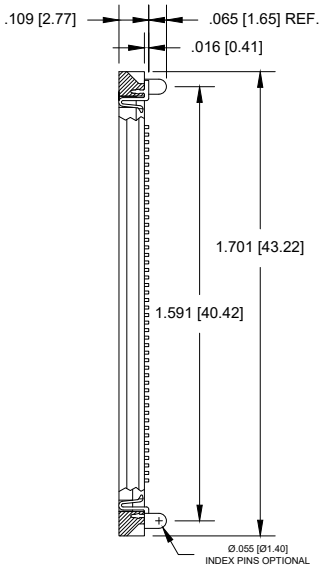
## FAIRCHILD IMAGING *Continued*

## Image Sensor Socket Footprints

***Units: in [mm]***



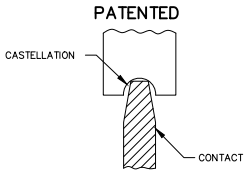



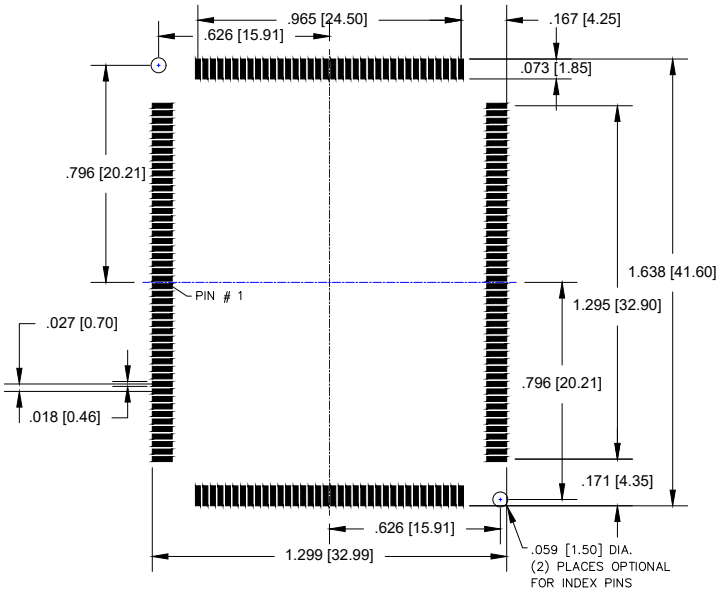

**Fig.10**

**Surface Mount:** 687-168-SM-G10-L14-X

Contact Plating = Gold

Replace "-X" with "-1" for index pins or "-0" for none

RECOMMENDED PCB LAYOUT






**RoHS Compliant**

*Sockets are not drawn to scale **FAIRCHILD IMAGING 4**/11/2024

## FAIRCHILD IMAGING *Continued*

## Image Sensor Socket Footprints

***Units: in [mm]***

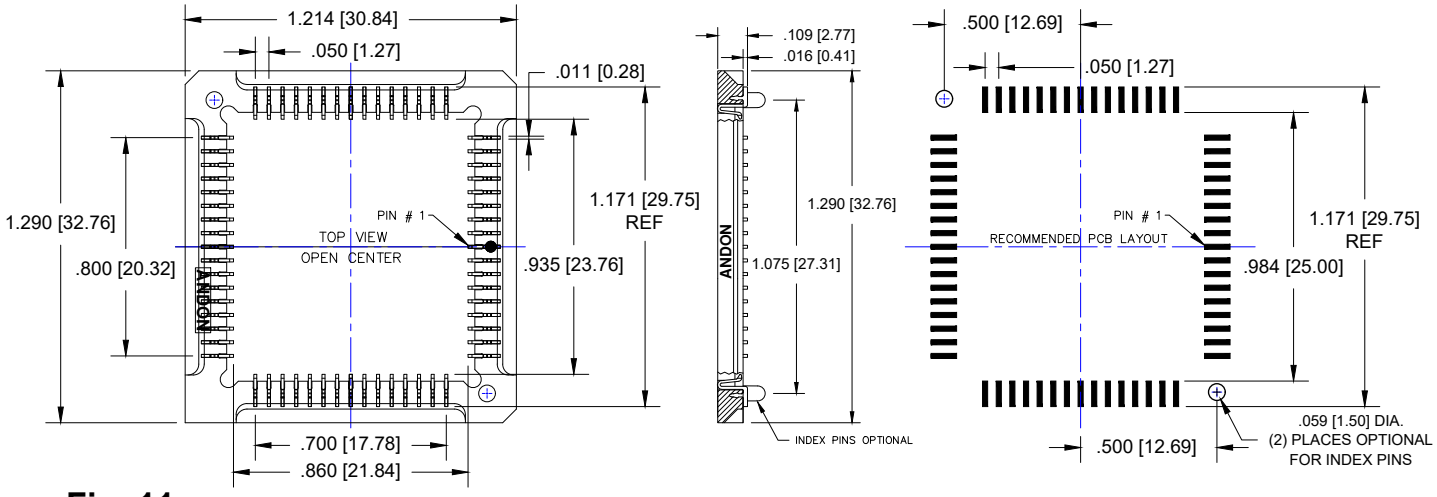



**Fig. 11**

**Surface Mount:** 620-64-SM-G10-L14-X

Replace "-X" with "-1" for index pins or "-0" for none

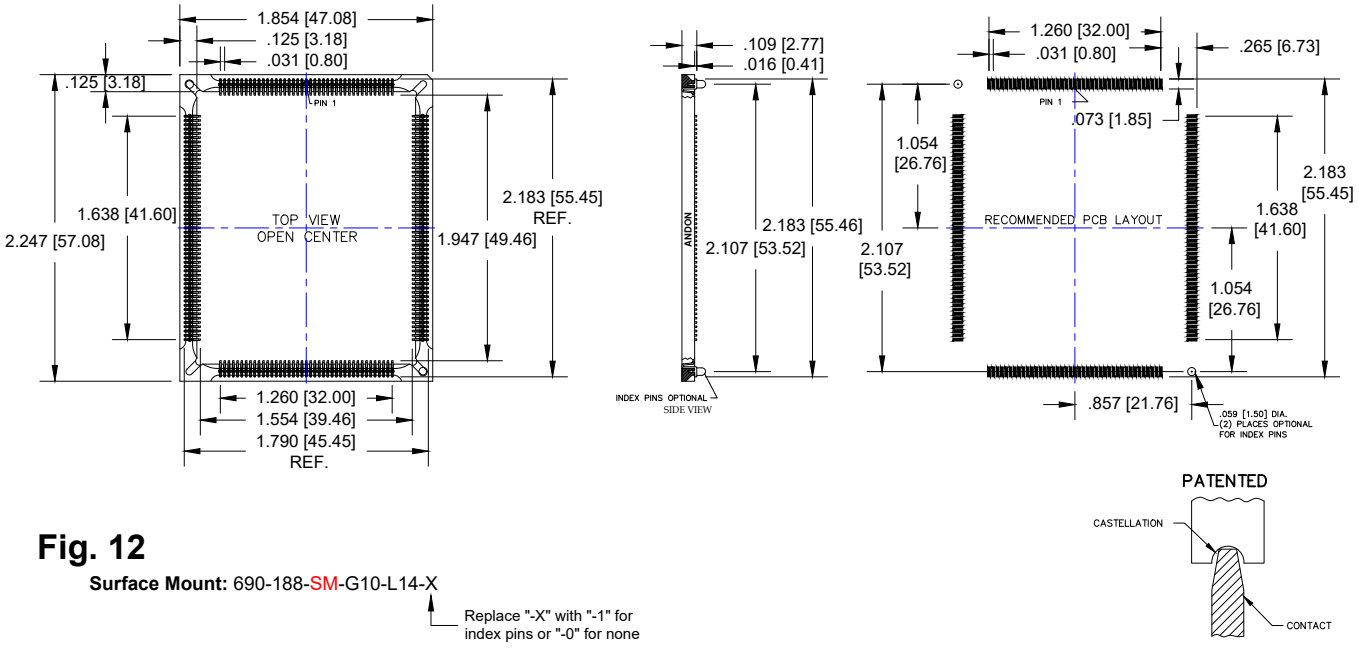



**Fig. 12**

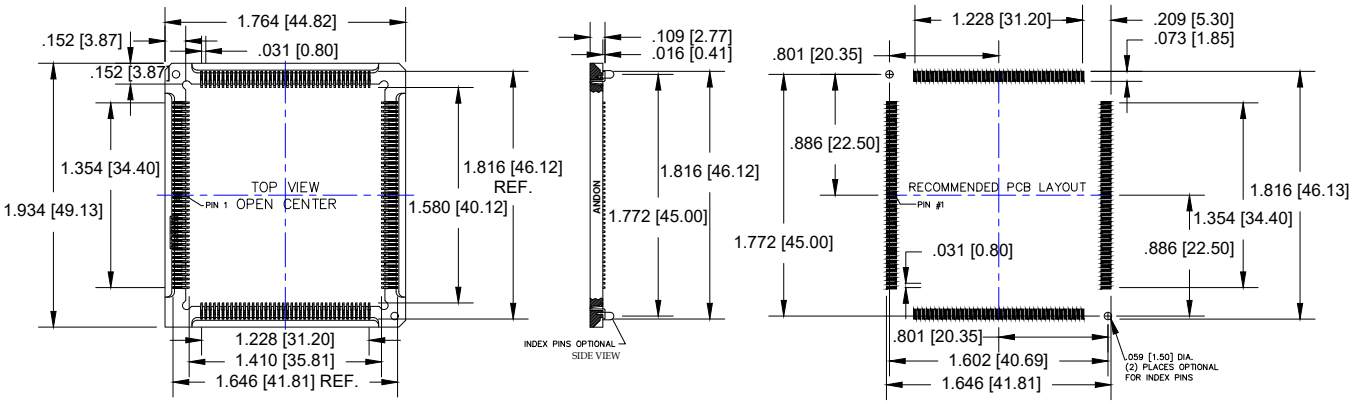
**Surface Mount:** 690-188-SM-G10-L14-X

Replace "-X" with "-1" for index pins or "-0" for none



*Sockets are not drawn to scale **FAIRCHILD IMAGING 4**/11/2024

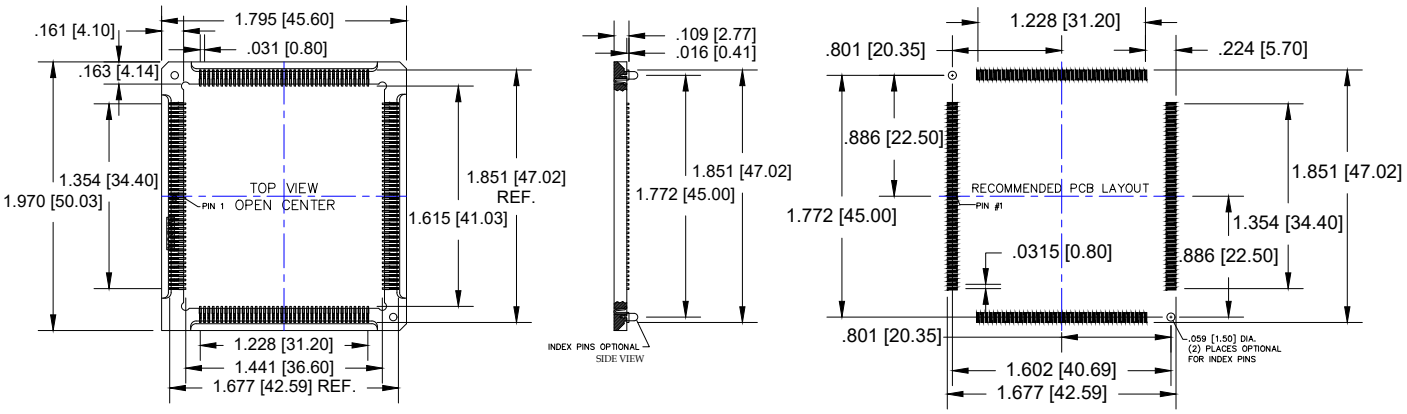
## FAIRCHILD IMAGING *Continued*
## Image Sensor Socket Footprints
***Units: in [mm]***




## Fig. 13

**Surface Mount:** 690-168-SM-G10-L14-X

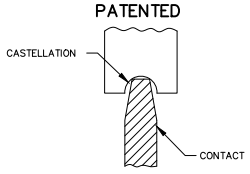
Replace "-X" with "-1" for index pins or "-0" for none




## Fig. 14

**Surface Mount:** 690S-168A-SM-G10-L14-X

Replace "-X" with "-1" for index pins or "-0" for none






**RoHS Compliant**

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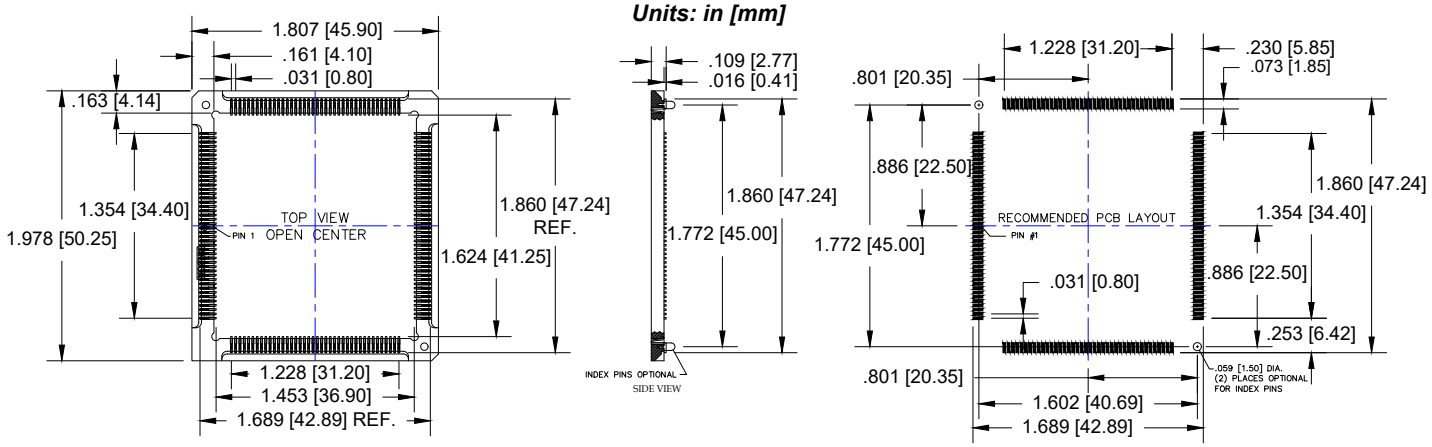
## FAIRCHILD IMAGING *Continued*

## Image Sensor Socket Footprints

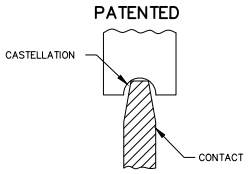
***Units: in [mm]***

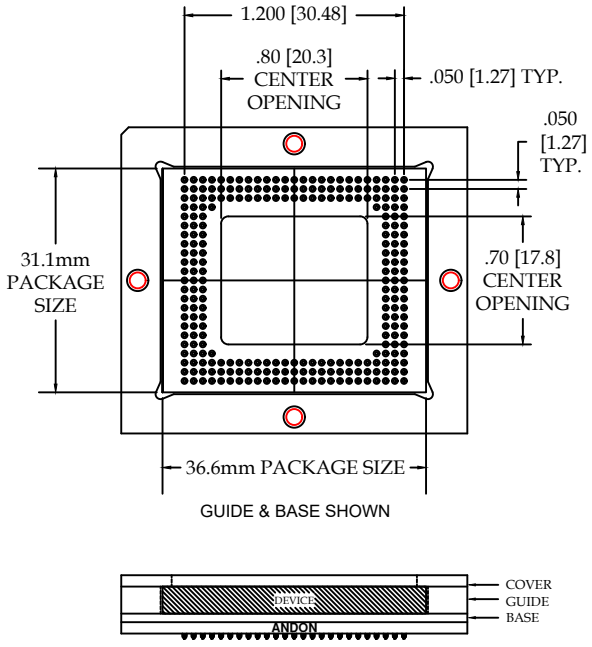


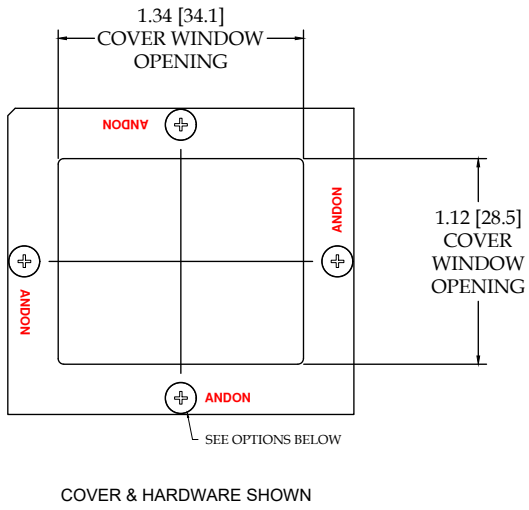

## Fig. 15

**Surface Mount:** 690S-168B-SM-G10-L14-X

Replace "-X" with "-1" for index pins or "-0" for none




## Fig. 16

**Thru-Hole:** 683-256-TH-491-R27-L14-X
**Surface Mount:** 683-256-SM-500-R27-L14-X
**Rollerball®:** 683-256-SM-RB593-R27-L14



RoHS Compliant

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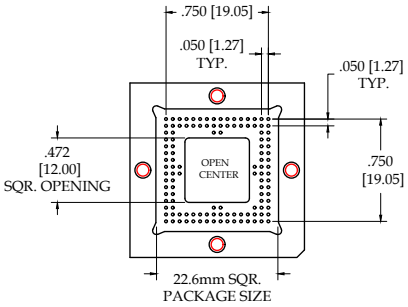
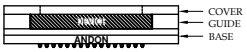
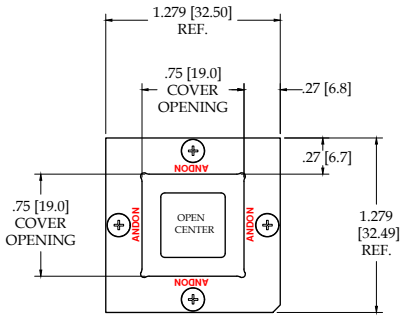
## FAIRCHILD IMAGING *Continued*
## Image Sensor Socket Footprints
***Units: in [mm]***




GUIDE & BASE SHOWN




COVER & HARDWARE SHOWN

**Fig. 17**

**Thru-Hole:** 683-121-TH-491-R27-L14-1
**Surface Mount:** 683-121-SM-500-R27-L14-1
**Rollerball®:** 683-121-SM-RB593-R27-L14-1

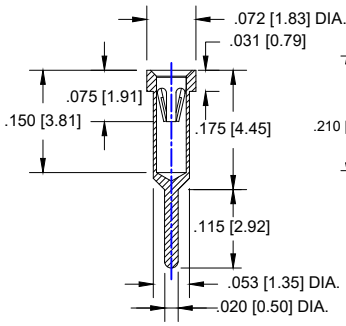
## FAIRCHILD IMAGING *Continued*

## Socket Terminal Details

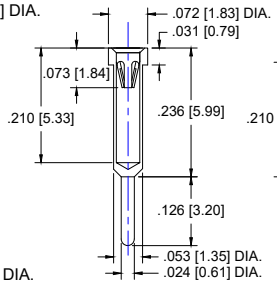
***Cross Section View Shown  Units: in[mm]***

### THRU HOLE OPTION

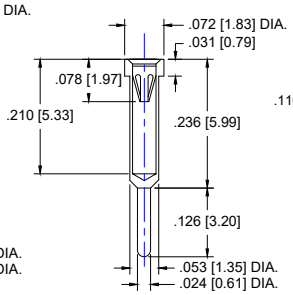
**-01S**



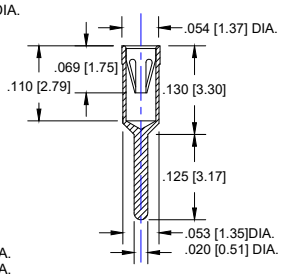

**- 80M**



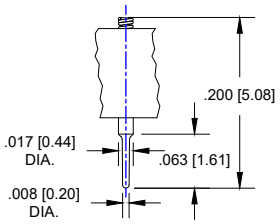

**- 80S**




**- 211M**

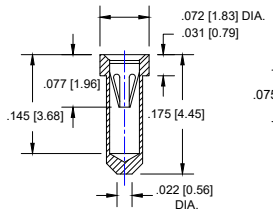



**- 491**

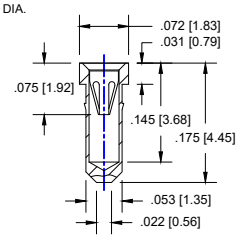



### SURFACE MOUNT OPTION

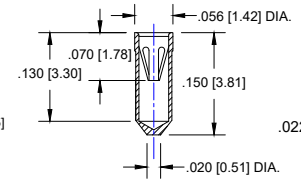
**-93M**



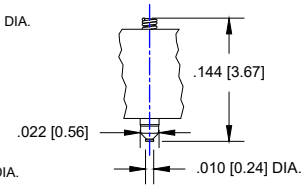

**- 93S**



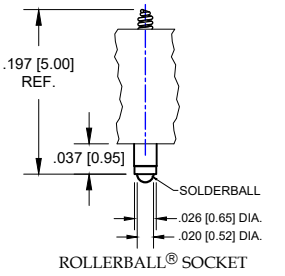

**-265M**




**-500**




**-RB593**




## Technical Information

SOCKET

**Material:**

Insulator:  Hi-Temp UL 94V-O
Terminal: Brass, per ASTM-B16
Contact: BeCu, Per ASTM-B194

**Plating**: RoHS COMPLIANT

**R15  TERMINAL: GOLD / CONTACT: GOLD**

**R17  TERMINAL: TIN / CONTACT: GOLD**

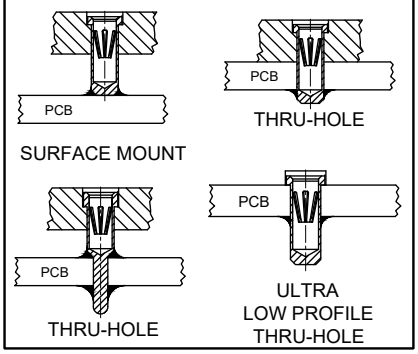
**OTHER PLATINGS AVAILABLE**

**Terminal Acceptance and Forces per Contact**

| Thru Hole Terminals | | | | Surface Mount Terminals | | | |
|---|---|---|---|---|---|---|---|
| Thru Hole Terminal | Accepts Pin Diameter | Insertion Force | Withdrawal Force | Surface Mount Terminal | Accepts Pin Diameter | Insertion Force | Withdrawal Force |
| -01S | Ø.018 [Ø0.46] | 9.0 oz Avg. | 2.0 oz Min | -93S | Ø.018 [Ø0.46] | 9.0 oz Avg. | 2.0 oz Min |
| -80S | Ø.018 [Ø0.46] | 9.0 oz Avg. | 2.0 oz Min | -93M | Ø.018 [Ø0.46] | 1.6 oz Avg. | 0.5 oz Min |
| -211M | Ø.018 [Ø0.46] | 1.6 oz Avg. | 0.5 oz Min | -265M | Ø.018 [Ø0.46] | 1.6 oz Avg. | 0.5 oz Min |
| -80M | Ø.018 [Ø0.46] | 1.6 oz Avg. | 0.5 oz Min | | | | |

PCB

**MOUNTING OPTIONS**



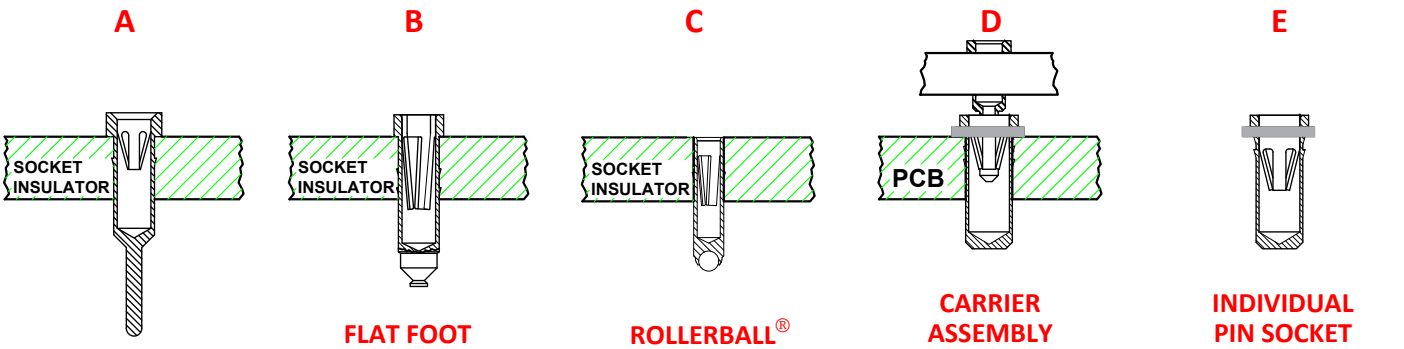



**RoHS Compliant**

*Sockets are not drawn to scale **FAIRCHILD IMAGING 4**/11/2024

# Socket Terminal Options






**THRU-HOLE**

**FLAT FOOT SURFACE MOUNT**

**ROLLERBALL® SURFACE MOUNT**
(see description below)[1]

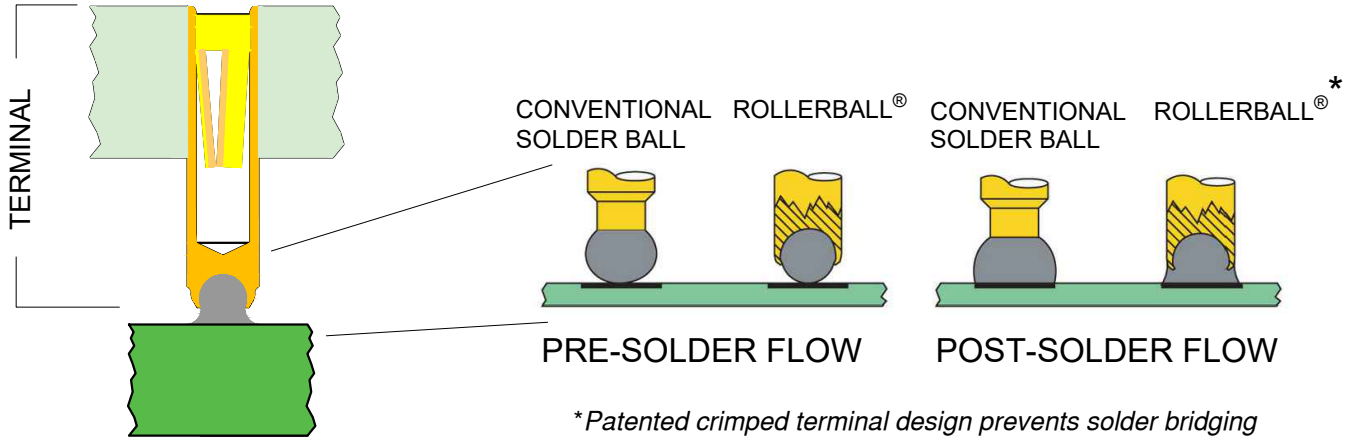
**CARRIER ASSEMBLY WITH OR WITHOUT SOLDER WASHER**

**INDIVIDUAL PIN SOCKET WITH OR WITHOUT SOLDER WASHER**

[1]Andon's patented Rollerball® socket terminal option provides more accurate soldering, a stronger connection, and improved electrical connectivity - especially under shock and vibration - than other solder ball terminal designs. Better yet, it can enable you to avoid expensive rework and scrap - especially with larger PCBs where coplanarity is an inherent challenge.

The bottom of these terminals has a radiused hole, to prevent gas entrapment. The terminal is crimped over the solder ball beyond its hemisphere, encapsulating it - leaving just enough of the solder ball exposed to provide sufficient solder without the solder bridging common in conventional solder ball terminal designs.

With this unique design, the critical distance between the terminal and the PC board pad is typically reduced from .036”-.040” to .018”-.022”. As such, the solder becomes part of the “anchor” cross-section - providing additional mechanical strength to the connection, as well as improved electrical connectivity. Because it also provides controlled dispersion of solder, this encapsulated solder ball reduces the risk of solder bridging inherent in conventional solder ball terminal designs.




*Patented crimped terminal design prevents solder bridging



**RoHS Compliant**

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***ANDON ELECTRONICS CORPORATION***
***4 Court Drive, Lincoln RI 02865, United States of America***
***www.andonelectronics.com or www.andonelect.com***
***Phone 401-333-0388 Fax 401-333-0287***
***Email Info@andonelect.com***

ANDON
INTERCONNECTION SPECIALISTS

# Carrier Assembly Configurations

*For fast, accurate placement of SIP sockets and ultra-low profile terminals*

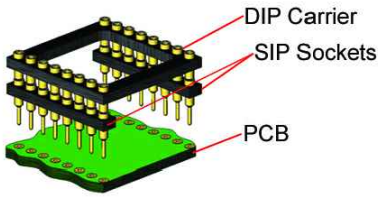
**Phase 1**:
Receive Carrier Assemblies designed to your pin layout.

**Phase 2**:
Place carrier assemblies onto PCB; run through your soldering process.

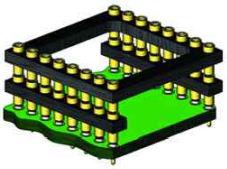
**Phase 3**:
Remove carrier and plug in your device; discard carrier.

## DIP

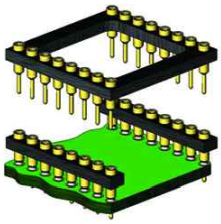
**Before Soldering**




**During Soldering**

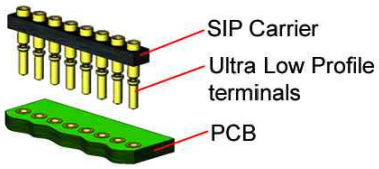


**After Soldering**

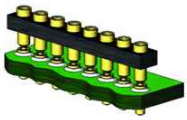


## ULTRA-LOW PROFILE SIP

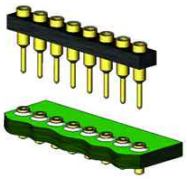
**Before Soldering**




**During Soldering**

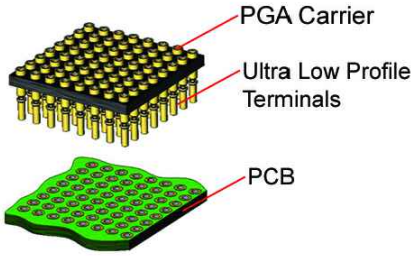


**After Soldering**

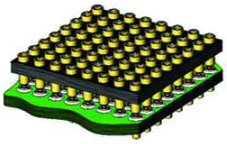


## ULTRA-LOW PROFILE PGA

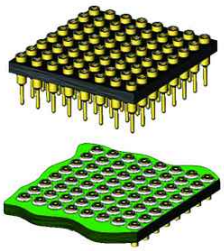
**Before Soldering**




**During Soldering**

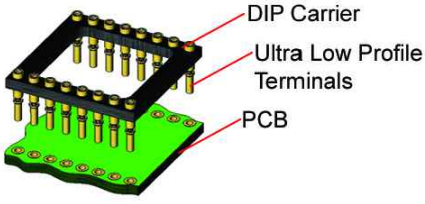


**After Soldering**

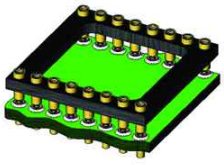


## ULTRA LOW PROFILE DIP

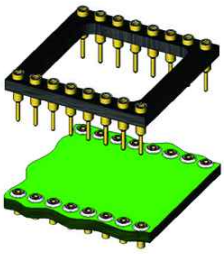
**Before Soldering**




**During Soldering**



**After Soldering**





Rollerball® U.S. PATENT
CANADIAN PATENT

"ANDON PROPRIETARY INFORMATION"

RoHS Compliant

*Sockets are not drawn to scale **FAIRCHILD IMAGING 4**/11/2024

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