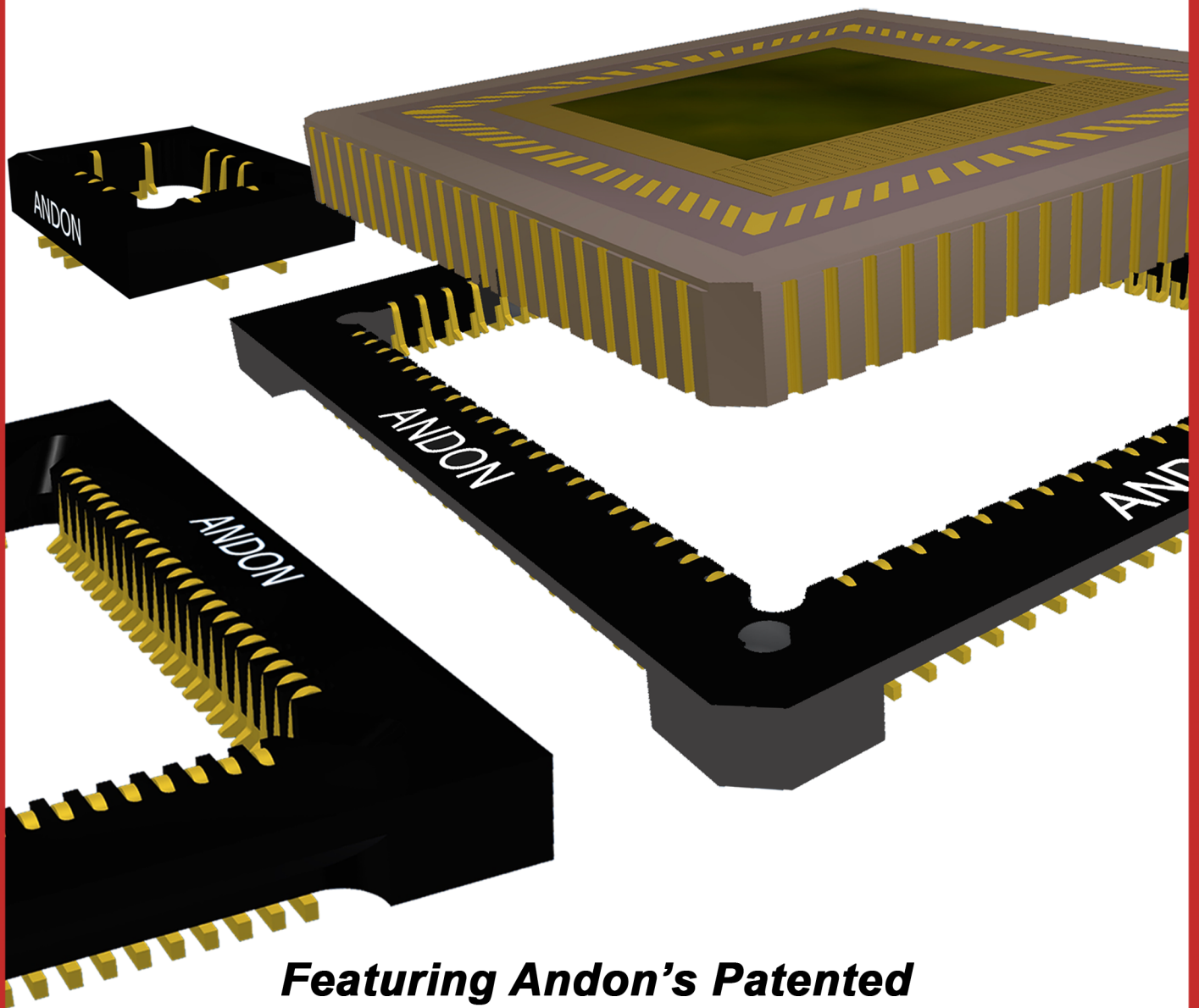




RoHS Compliant

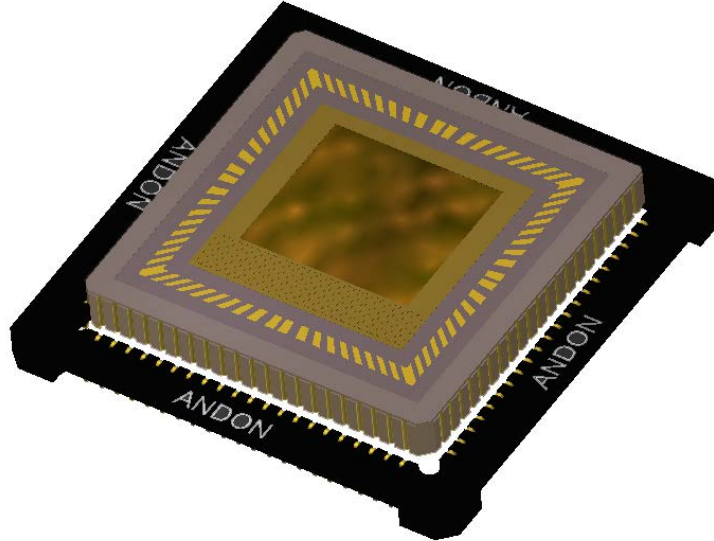


HIGH RELIABILITY LCC SOCKETS



**Featuring Andon's Patented
LCC Contact**

INTERESTED IN USING AN LCC SOCKET FOR IMAGE SENSORS?



US PAT# 5,588,847
US PAT# D772,818 S

The popularity of *LEADLESS CHIP CARRIER (LCC)* packages for image sensors is increasing, due to the large number of connections on a smaller surface area, as compared to leaded DIP CCD/CMOS image sensors. Historically, the LCC sensor is soldered directly on the printed circuit board (PCB), either by hand soldering each castellation or by convection soldering.

PROBLEM

A common problem occurs when soldering LCC image sensors directly on the PCB. The cracking of the solder joints is caused by the temperature build-up during hand soldering of the castellation or later, during the operation of the camera. The ceramic substrate expands, while the solder joints are fixed. The result is cracked ceramic or cracked solder joints. The problem is more severe with "Lead Free" soldering, requiring higher temperatures and longer soldering time.

SOLUTION

Andon developed a patented beryllium copper contact for LCC sockets to enter into the castellation of the LCC image sensor. The contact design has one leg imbedded into the plastic housing for stability, while the other leg is the spring member, exerting contact force to provide mechanical security and electrical contact. As the temperature rises, the ceramic substrate of the image sensor expands. The contact adjusts to the expansion and prevents cracking of the ceramic or the solder joint.

INSTALLATION

The LCC Socket is convection soldered or hand soldered. The LCC image sensor is installed into the socket by pressing on top edge of the image sensor, all the way down, directly to the PCB surface. A snap can be heard, which indicates the contacts have made the proper connection with the castellations.

LCC IMAGE SENSOR SOCKETS

The image sensor is securely held within the centerline of the LCC socket due to the equal normal force of all the opposing contacts surrounding the plastic housing. This assures accurate positioning and focal length. The outstanding features of the

LCC socket were originally praised by the cell phone industry for being able to withstand a drop test in four axis, without movement of the device. millions of contacts have been in use with "ZERO" defects.

ADVANTAGES FOR USING LCC SOCKETS

- Reduce electro static discharge (ESD) due to less handling
- Eliminate soldering temperature which may affect the color array
- Eliminate need to de-solder
- Eliminate cleaning solution and scratches to glass plate
- Eliminate assembly line temperatures, humidity and shock

COST SAVINGS

Another cost savings feature is the economy achieved by soldering the Andon LCC image sensor socket directly on the PCB instead of soldering the image sensor on the PCB. This provides for production line assembly throughput, without the concern for ESD problems. After PCB assembly, the image sensor can be plugged-into the socket as required. It is not necessary to maintain a large inventory of image sensors already soldered on PCB's. This saves a considerable amount of money (cash flow). In the event of an up-grade, simply un-plug the old sensor and install the new one.

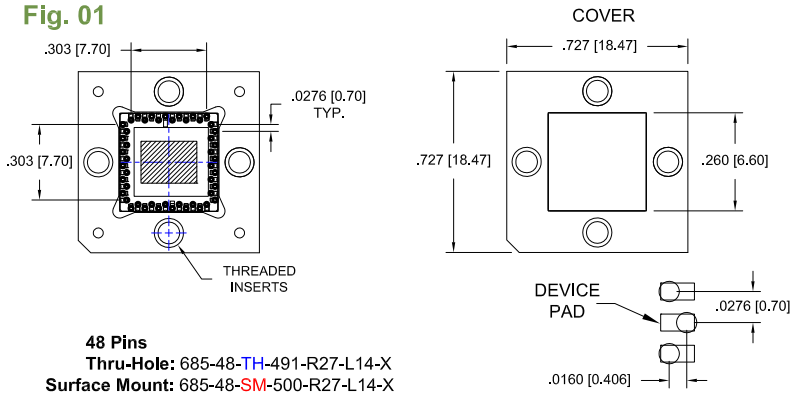
HIGH RELIABILITY

Image sensors sockets provide higher reliability because the sockets can be soldered to the motherboard in large quantities, later, as required, the sensors can be plugged-in or unplugged and upgraded easily. The sockets simplify re-work and replacement problems as well as eliminate de-soldering blistering of the PCB. For vision systems, down time is minimized by being able to replace a defective image sensor quickly, especially where high speed production line failures can be costly delays.

Andon's image sensor sockets provide product improvement and cost reduction.

.0276 [0.70] Pitch iLCC LGA Test Socket 48 PINS

Fig. 01



48 Pins
Thru-Hole: 685-48-TH-491-R27-L14-X
Surface Mount: 685-48-SM-500-R27-L14-X

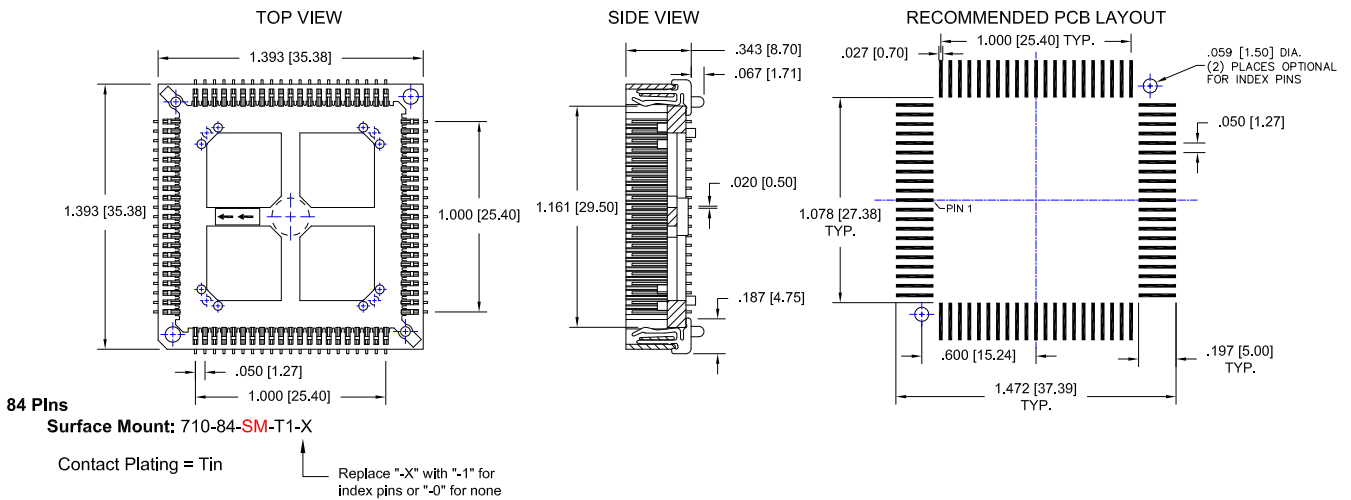
Replace "-X" with "-1" for index pins or "-0" for none

NON MAGNETIC PLATING AVAILABLE - G55

.050 [1.27] Pitch PLCC Socket 84 PINS

Fig. 02

EXTRACTION TOOL AVAILABLE



84 Pins
Surface Mount: 710-84-SM-T1-X

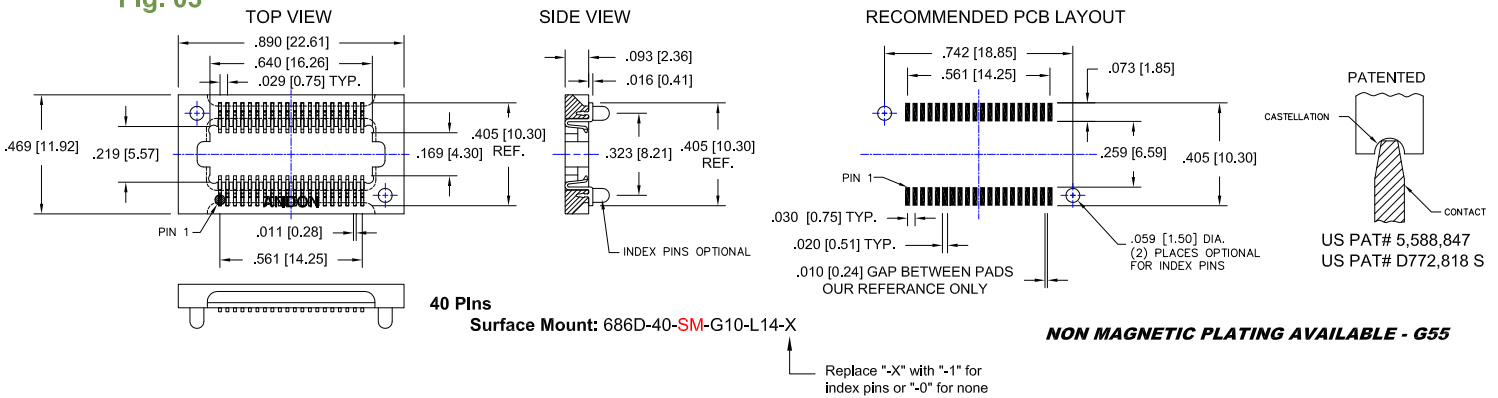
Contact Plating = Tin

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

Custom 20x2 .0295 [0.75] Pitch PLCC Socket

Fig. 03

EXTRACTION TOOL AVAILABLE



40 Pins
Surface Mount: 686D-40-SM-G10-L14-X

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

NON MAGNETIC PLATING AVAILABLE - G55

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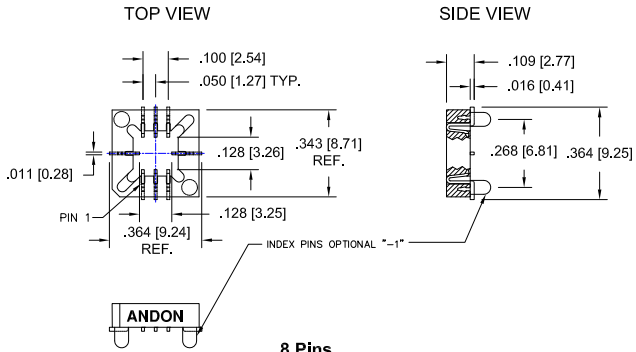
RoHS Compliant

Andon Proprietary Information

LCC Sockets "not drawn to scale" 04/09/2018

Custom .050 [1.27] Pitch LCC Sockets

Fig. 04



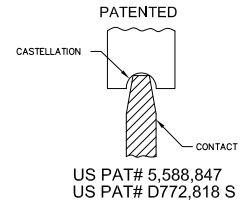
8 Pins

Surface Mount: 620-08B-SM-G10-L14-X

Contact Plating = Gold

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

EXTRACTION TOOL AVAILABLE

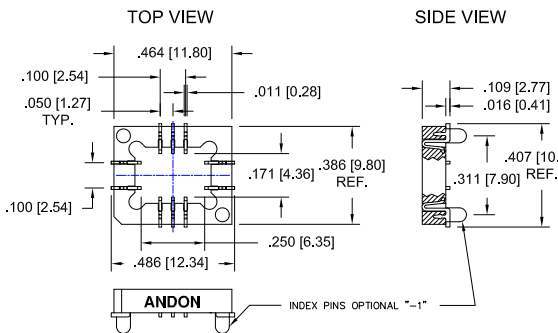


NON MAGNETIC PLATING AVAILABLE - G55

Fig. 05

Custom .050 [1.27] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

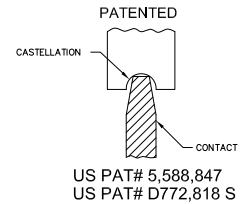


10 Pins

Surface Mount: 620-10A-SM-G10-L14-X

Contact Plating = Gold

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

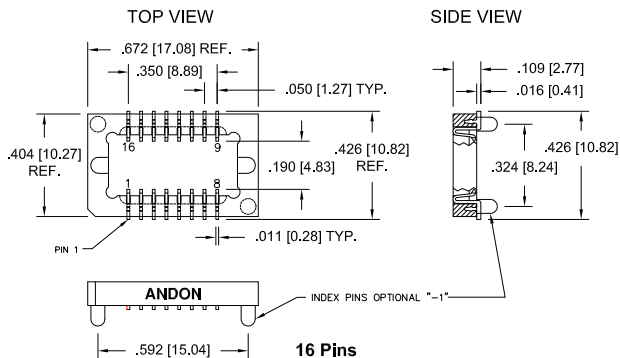


NON MAGNETIC PLATING AVAILABLE - G55

Fig. 06

Custom .050 [1.27] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

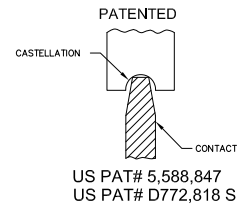


16 Pins

Surface Mount: 620-16A-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.

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RoHS Compliant

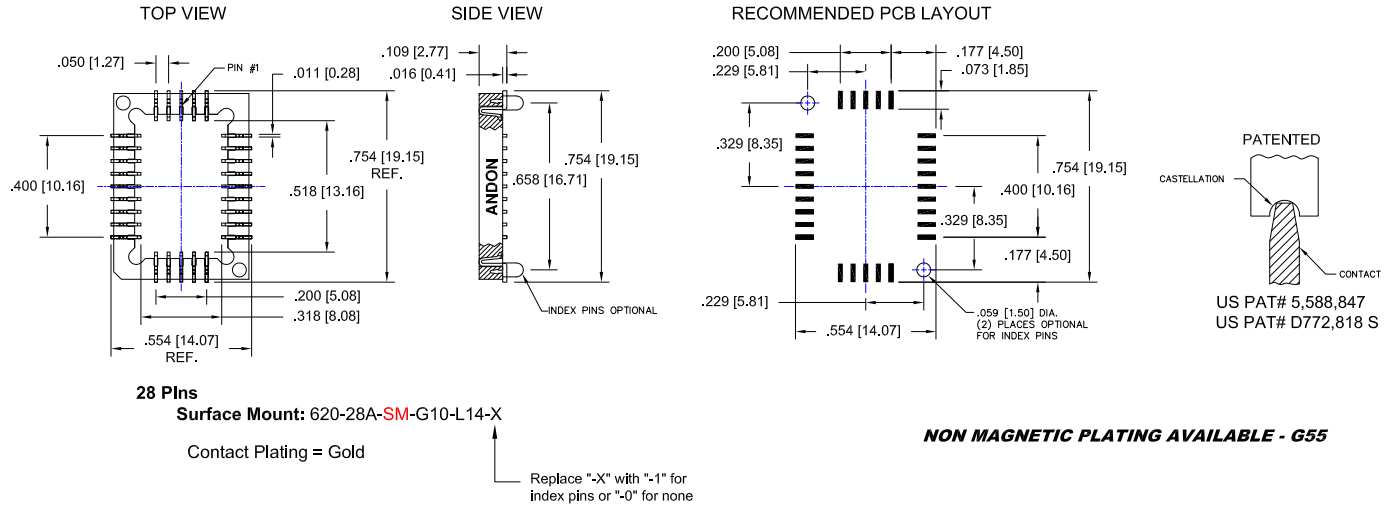
Andon Proprietary Information

LCC Sockets "not drawn to scale" 04/09/2018

Fig. 07

Custom .050 [1.27] Pitch LCC Sockets

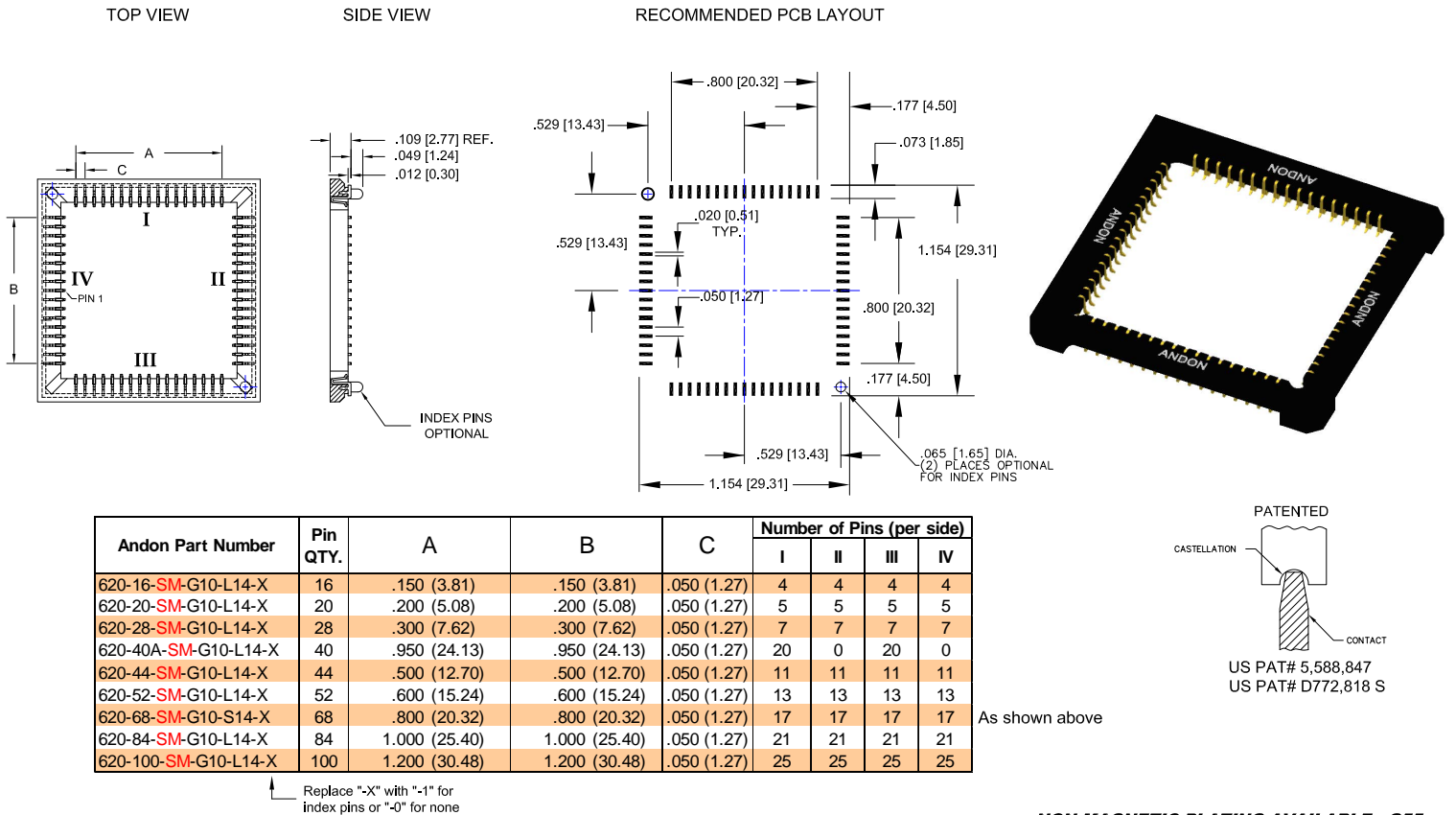
EXTRACTION TOOL AVAILABLE



.050 [1.27] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

Fig. 08



For Other Pin Configuration or Layouts, Contact Factory.

Contact Plating = Gold

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RoHS Compliant
Andon Proprietary Information
LCC Sockets "not drawn to scale" 04/09/2018

Fig. 09

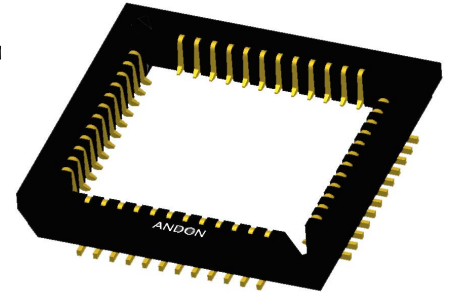
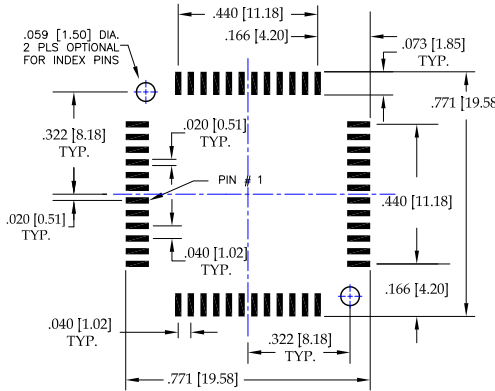
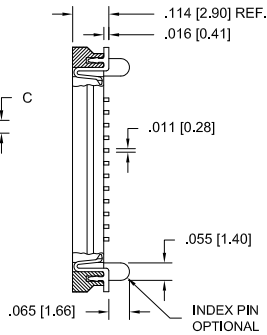
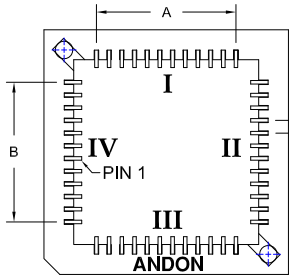
.040 [1.02] Pitch LCC Socket

EXTRACTION TOOL AVAILABLE

TOP VIEW

SIDE VIEW

RECOMMENDED PCB LAYOUT

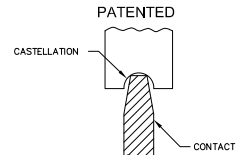


| Andon Part Number | Pin QTY. | A | B | C | Number of Pins (per side) | | | |
|----------------------|----------|---------------|--------------|-------------|---------------------------|----|-----|----|
| | | | | | I | II | III | IV |
| 680-32-SM-G10-L14-X | 32 | .280 (7.11) | .280 (7.11) | .040 (1.01) | 8 | 8 | 8 | 8 |
| 680-40-SM-G10-L14-X | 40 | .360 (9.14) | .360 (9.14) | .040 (1.01) | 10 | 10 | 10 | 10 |
| 680-44-SM-G10-L14-X | 44 | .520 (13.21) | .520 (13.21) | .040 (1.01) | 11 | 11 | 11 | 11 |
| 680-48-SM-G10-R14-X | 48 | .440 (11.18) | .440 (11.18) | .040 (1.01) | 12 | 12 | 12 | 12 |
| 680-64-SM-G10-R14-X | 64 | .600 (15.24) | .600 (15.24) | .040 (1.01) | 16 | 16 | 16 | 16 |
| 680-84-SM-G10-L14-X | 84 | .800 (20.32) | .800 (20.32) | .040 (1.01) | 21 | 21 | 21 | 21 |
| 680-100-SM-G10-L14-X | 100 | 1.120 (28.45) | .800 (20.32) | .040 (1.01) | 29 | 21 | 29 | 21 |

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

Contact Plating = Gold

As shown above



US PAT# 5,588,847
US PAT# D772,818 S

For Other Pin Configuration or Layouts, Contact Factory.

NON MAGNETIC PLATING AVAILABLE - G55

Fig. 10

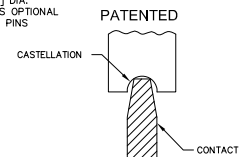
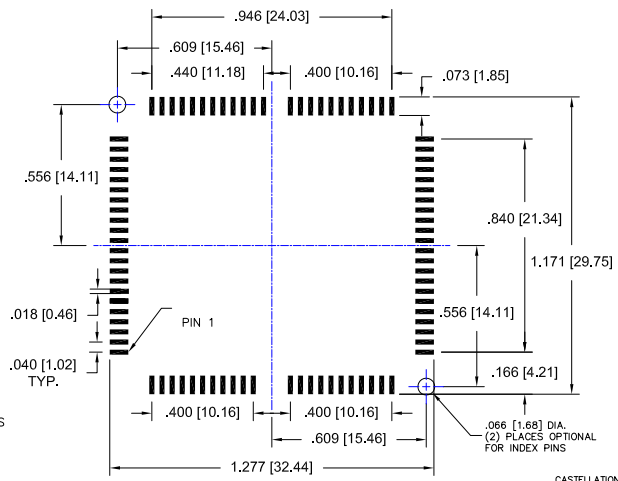
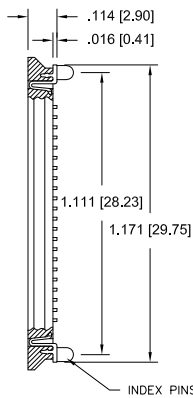
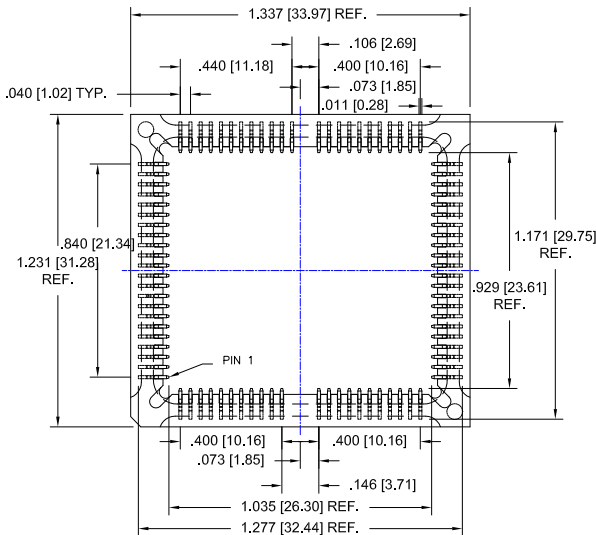
Custom .040 [1.02] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

TOP VIEW

SIDE VIEW

RECOMMENDED PCB LAYOUT



US PAT# 5,588,847
US PAT# D772,818 S

89 Pins
Surface Mount: 680-89A-SM-G10-L14-X

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

For Other Pin Configuration or Layouts, Contact Factory.

Contact Plating = Gold

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Andon Proprietary Information

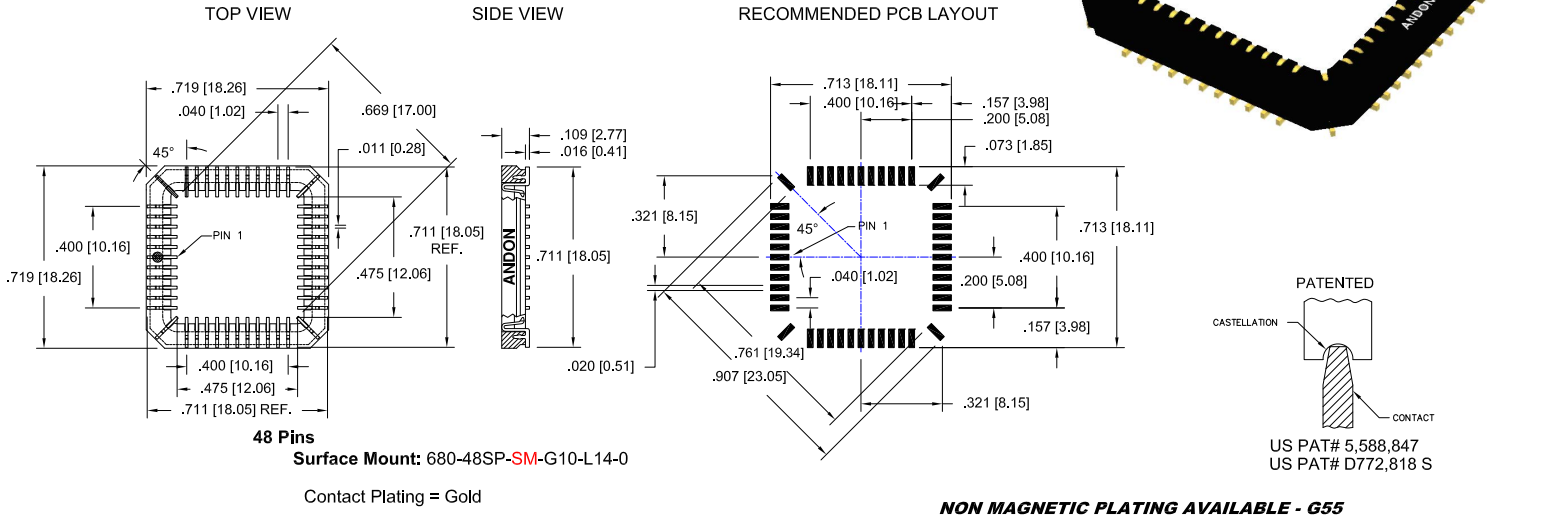
LCC Sockets "not drawn to scale" 04/09/2018

Custom .040 [1.02] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

Fig. 11

**DEVICE SIZE .500 X .500 OUTSIDE W/
.0079 CASTILATIONS**

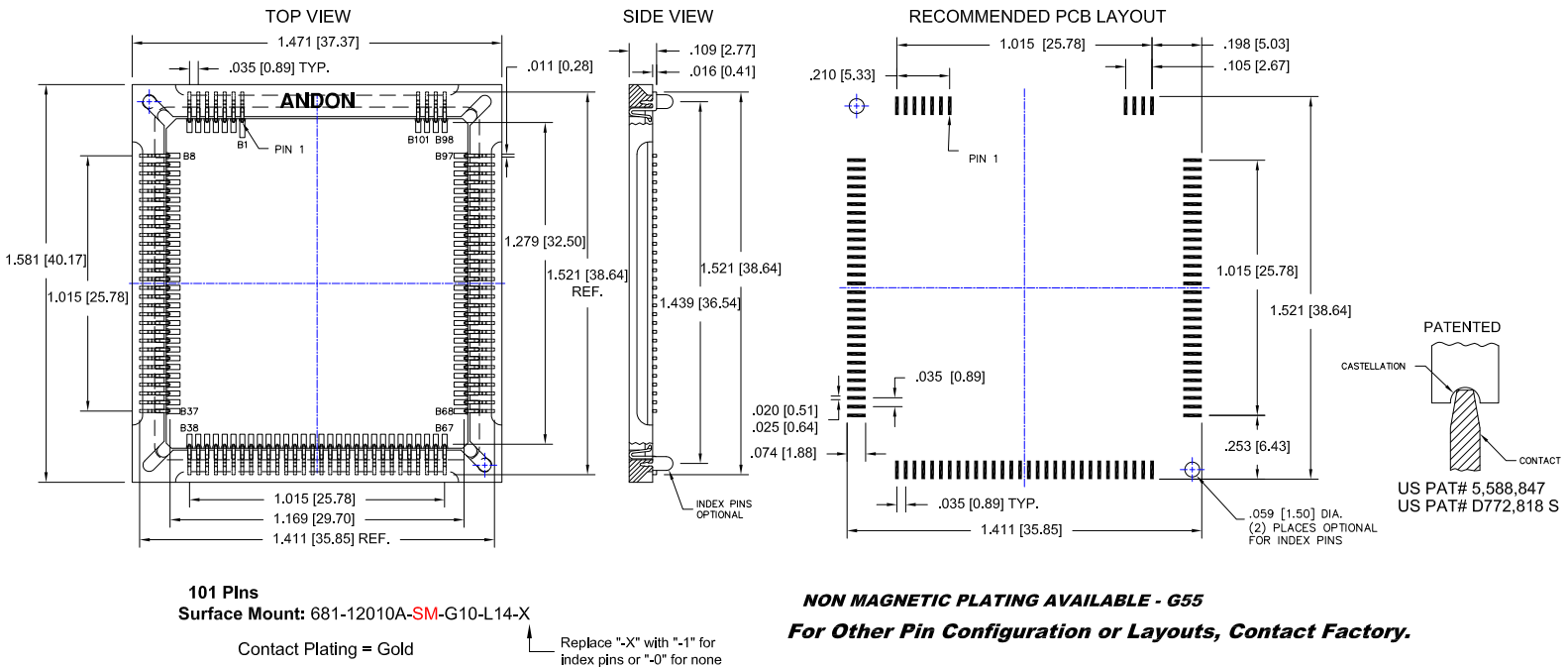


For Other Pin Configuration or Layouts, Contact Factory.

Fig. 12

Custom .035 [0.89] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE



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Fig. 13

Custom .0276 [0.70] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

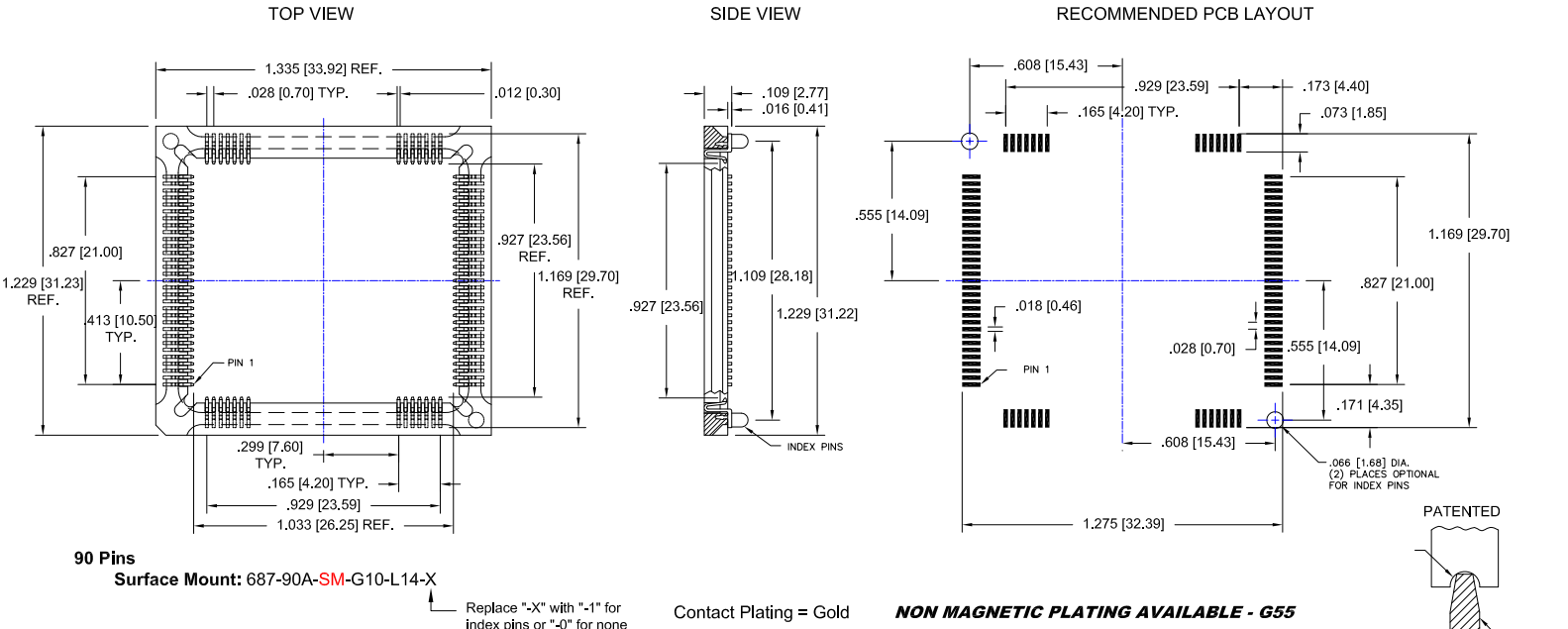
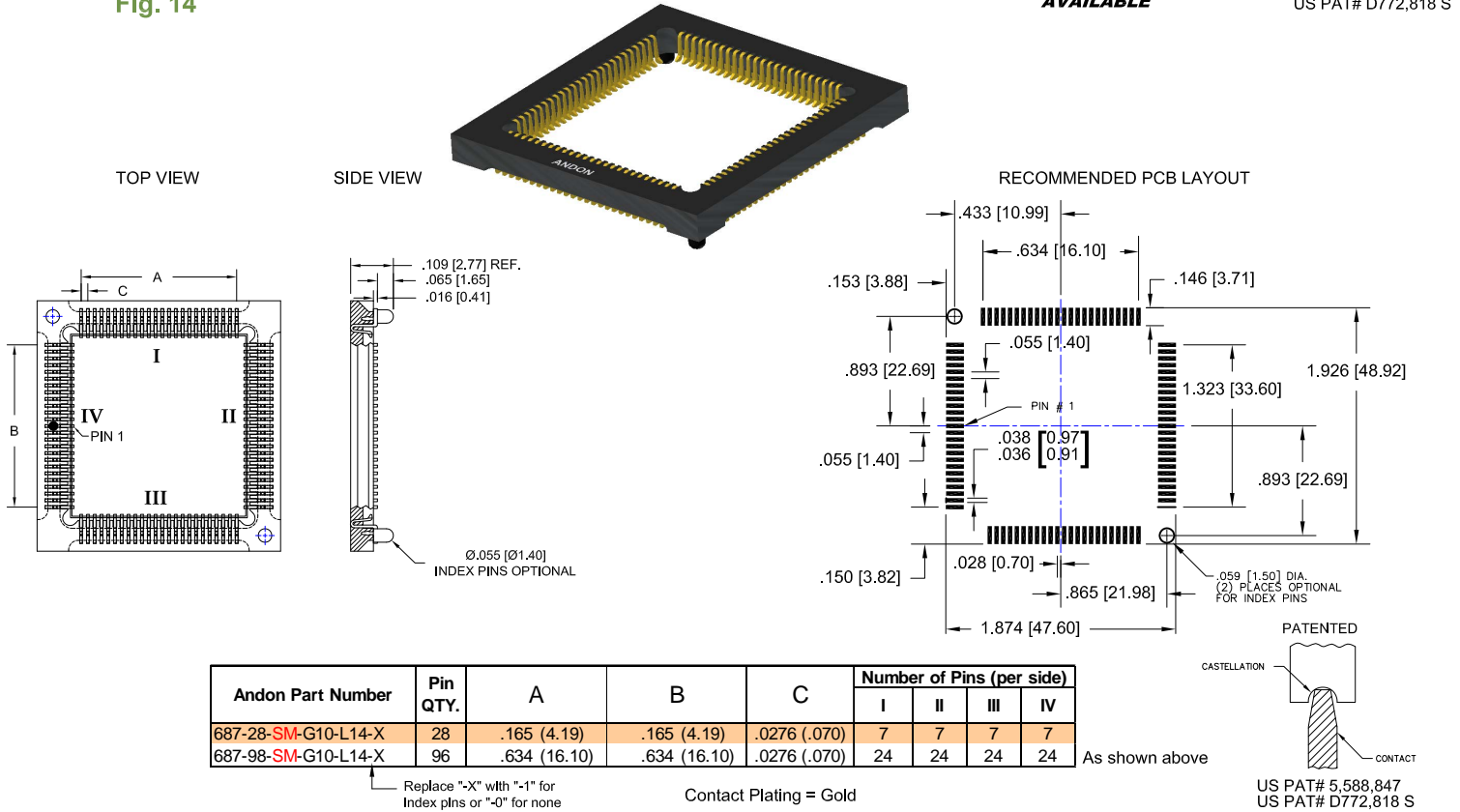


Fig. 14

.0276 [0.70] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

US PAT# 5,588,847
 US PAT# D772,818 S



For Other Pin Configuration or Layouts, Contact Factory.

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RoHS Compliant

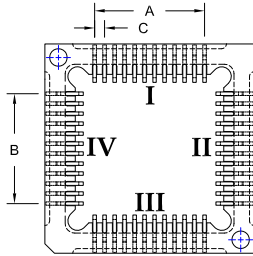
Andon Proprietary Information

LCC Sockets "not drawn to scale" 04/09/2018

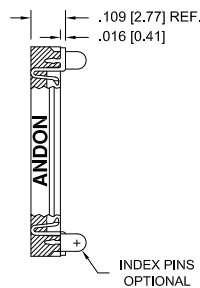
.0315 [0.80] Pitch LCC Socket

EXTRACTION TOOL AVAILABLE

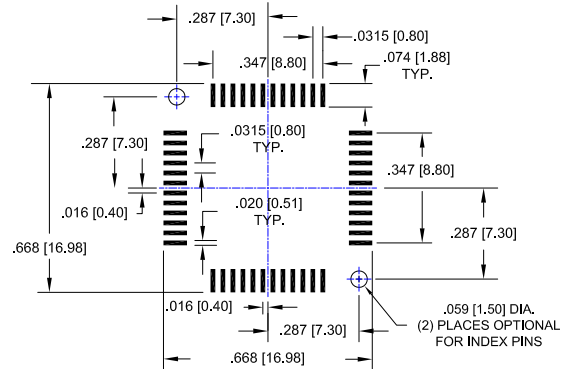
Fig. 15 TOP VIEW



SIDE VIEW



RECOMMENDED PCB LAYOUT



| Andon Part Number | Pin QTY. | A | B | C | Number of Pins (per side) | | | |
|----------------------|----------|---------------|---------------|--------------|---------------------------|----|-----|----|
| | | | | | I | II | III | IV |
| 690-48-SM-G10-L14-X | 48 | .346 (8.79) | .346 (8.79) | .0315 (0.80) | 12 | 12 | 12 | 12 |
| 690-168-SM-G10-L14-X | 168 | 1.228 (31.19) | 1.354 (34.39) | .0315 (0.80) | 40 | 44 | 40 | 44 |

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

Contact Plating = Gold

NON MAGNETIC PLATING AVAILABLE - G55

For Other Pin Configuration or Layouts, Contact Factory.

As shown above

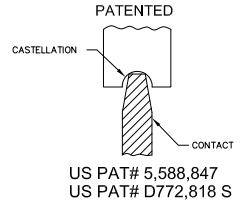
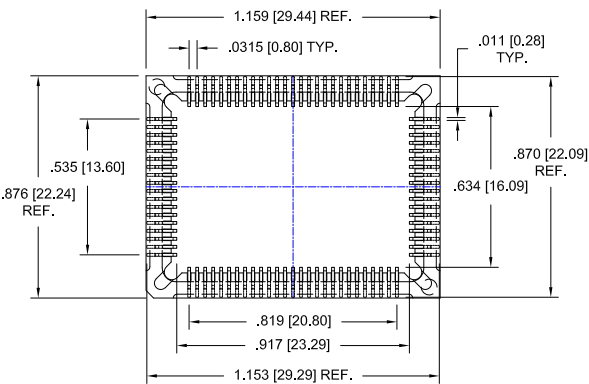


Fig. 16

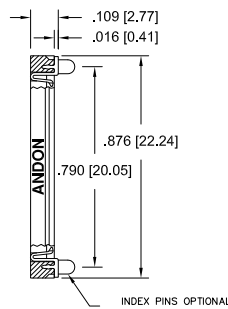
Custom .0315 [0.80] Pitch LCC Sockets

EXTRACTION TOOL AVAILABLE

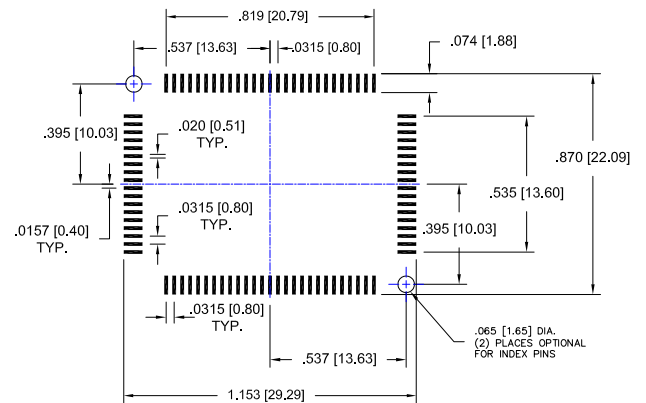
TOP VIEW



SIDE VIEW



RECOMMENDED PCB LAYOUT



101 Pins

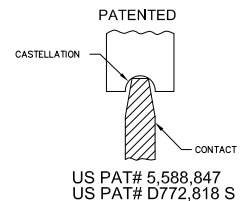
Surface Mount: 690-90-SM-G10-L14-X

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.



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LCC Sockets "not drawn to scale" 04/09/2018



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