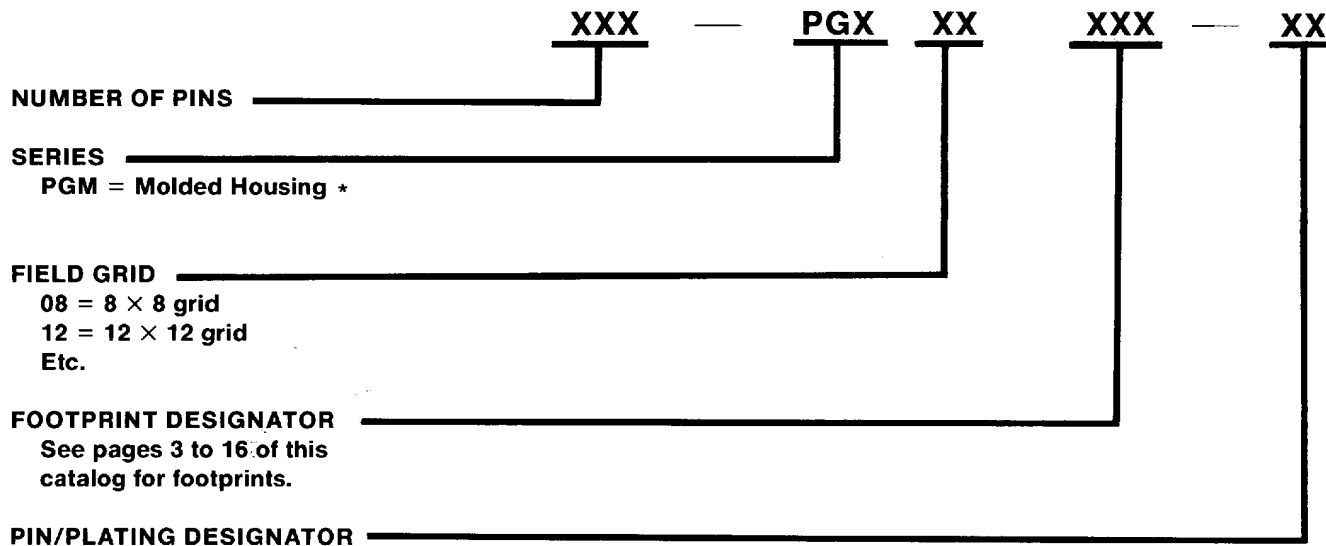


With the proliferation of pin grid packages on the market, there are a great number of options available on socket packages. Trying to incorporate these options into an easy to understand part numbering

structure is not an easy task. We have tried to make it as easy as possible with the following description.

**ARIES PIN GRID ARRAY PART NO. STRUCTURE**



\* PGG = Glass Epoxy Housing (Only used if footprint has not been molded.)

DASH #	TYPE	PLATING	SKETCH
-10T	Socket, Solder Tail	Tin Collet/Tin Shell (See Chart A)	#1
-10	Socket, Solder Tail	Gold Collet/Tin Shell (See Chart A)	#1
-10H	Socket, Solder Tail	Heavy Gold Collet/Tin Shell (See Chart A)	#1
-11	Socket, Solder Tail	Gold Collet/Gold Shell (See Chart A)	#1
-11H	Socket, Solder Tail	Heavy Gold Collet/Tin Shell (See Chart A)	#1
-20	Socket, 2-Level Wire Wrap	Gold Collet/Tin Shell (See Chart A)	#2
-21	Socket, 2-Level Wire Wrap	Gold Collet/Gold Shell (See Chart A)	#2
-30	Socket, 3-Level Wire Wrap	Gold Collet/Tin Shell (See Chart A)	#2
-31	Socket, 3-Level Wire Wrap	Gold Collet/Gold Shell (See Chart A)	#2
-40	Header, Post Solder Tail	200 Microinches Tin over 100 Microinches Nickel	#3
-41	Header, Post Solder Tail	10 Microinches Gold over 100 Microinches Nickel	#3

Certain of the Aries products shown herein are covered by U.S. and Foreign patents and/or pending patent applications.

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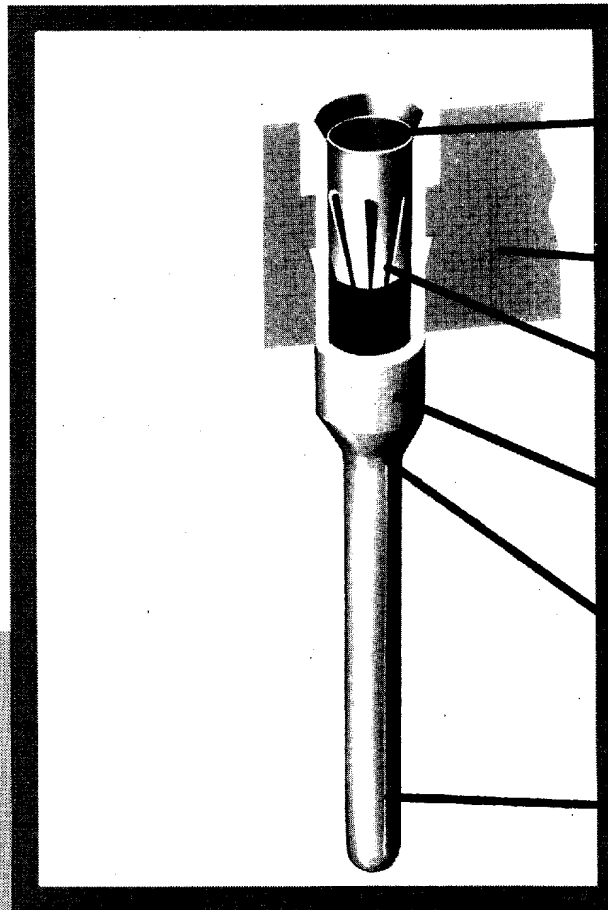
™ A Trademark of Aries Electronics, Inc.

® Registered™ Aries Electronics, Inc.

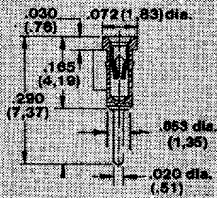
**ARIES COLLET CONTACT PINS**

These high quality, high performance-to-cost ratio contacts use gold plated beryllium copper contacts within a brass socket body available either tin or gold plated. Collet contacts accept .015-.022 dia. round leads.

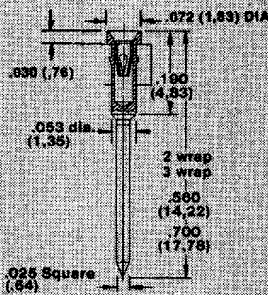
- Superior insertion-to-withdrawal ratios and low insertion force type for high pin count devices.
- Six point contact redundancy and gold plated spring clip contacts provide excellent mechanical and electrical performance.
- Collet contacts accept long or short leads.
- Machined from solid bar stock with closed bottom which prevents solder wicking.
- Socket body of glass filled thermoplastic or glass epoxy.



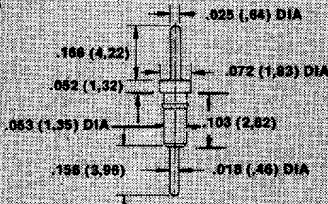
**SKETCH 1**



**SKETCH 2**



**SKETCH 3**



**Plating:** Table gives plating specifications by Termination Type and suffix Part Numbering of products using collet style pins.

Termination Type	Part No. Suffix	Specifications
Solder Tail	-10T	Contact: 100μ (2,54μm) tin minimum per MIL-T-10727 over 50μ (1,27μm) nickel per QQN-290. Body: 200μ (5,08μm) tin per MIL-T-10727 over 100μ (2,54μm) nickel per QQN-290.
	-10	Contact: 10μ (0,254μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 200μ (5,08μm) tin per MIL-T-10727 over 100μ (2,54μm) nickel per QQN-290.
	-10H	Contact: 30μ (0,76μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 200μ (5,08μm) tin per MIL-T-10727 over 100μ (2,54μm) nickel per QQN-290.
	-11	Contact: 10μ (0,254μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 10μ (0,254μm) gold minimum per MIL-G-45204 over 100μ (2,54μm) nickel per QQN-290.
	-11H	Contact: 30μ (0,76μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 10μ (0,254μm) gold minimum per MIL-G-45204 over 100μ (2,54μm) nickel per QQN-290.
Wire Wrap	-30	Contact: 30μ (0,76μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 200μ (5,08μm) tin per MIL-T-10727 over 100μ (2,54μm) nickel per QQN-290.
	-20	Contact: 30μ (0,76μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 200μ (5,08μm) tin per MIL-T-10727 over 100μ (2,54μm) nickel per QQN-290.
	-31	Contact: 30μ (0,76μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 10μ (0,254μm) gold minimum per MIL-G-45204 over 100μ (2,54μm) nickel per QQN-290.
	-21	Contact: 30μ (0,76μm) gold minimum per MIL-G-45204 over 50μ (1,27μm) nickel per QQN-290. Body: 10μ (0,254μm) gold minimum per MIL-G-45204 over 100μ (2,54μm) nickel per QQN-290.

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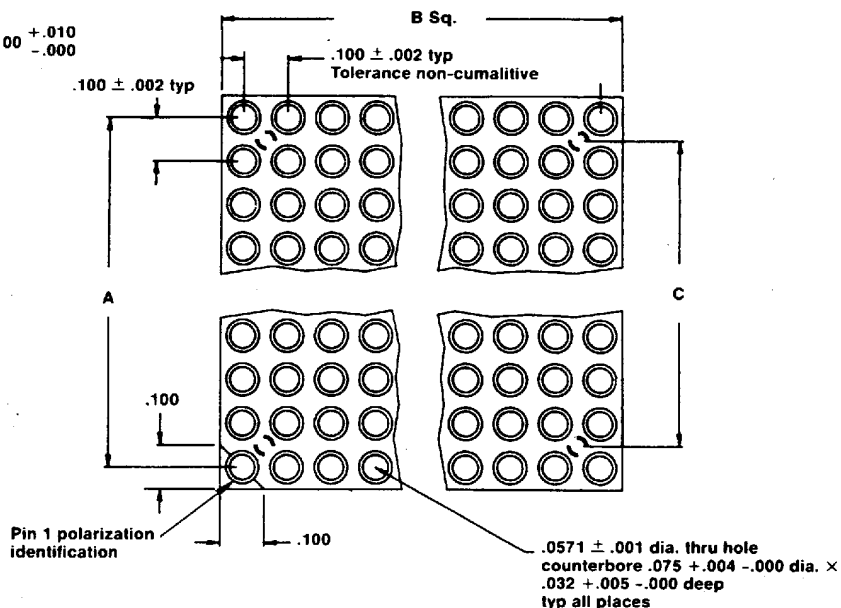
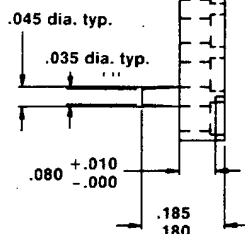
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ELECTRONICS, INC.

**NOTES:**

1. All ctr dimensions are to be centered within .002 of true centerline.
2. Material is to be black, glass filled thermoplastic polyester, UL94VO rated.

Optional Four Stand-Off Posts  
.085 deep x .045 dia.  
Consult factory.



**DIMENSIONS (inches)**

HOUSING SIZE	A ± .002	B +.000 / -.005*	C = A - .100 ± .005
9 × 9	.800	.900	.700
10 × 10	.900	1.000	.800
11 × 11	1.000	1.100	.900
12 × 12	1.100	1.200	1.000
13 × 13	1.200	1.300	1.100
14 × 14	1.300	1.400	1.200
15 × 15	1.400	1.500	1.300
16 × 16	1.500	1.600	1.400
17 × 17	1.600	1.700	1.500
18 × 18	1.700	1.800	1.600
19 × 19	1.800	1.900	1.700
20 × 20	1.900	2.000	1.800
21 × 21	2.000	2.100	1.900

\*Non-Cumulative

Consult factory for grids not listed. Grids such as 3 × 3 thru 8 × 8 can be achieved using glass epoxy housings (PGG version).

**PIN GRID PLASTIC**

**Specifications**

- Injection molded, glass reinforced thermoplastic polyester UL94VO rated. Other engineered resins available. Consult factory.
- All footprints on industry standard .100" × .100" grid.
- Color - black.
- Platform is precision molded with extremely tight

tolerances on all dimensions.

- Dimensions of plastic platform allow side-to-side stacking on .100" grid. (This is important for dense packaging of p.c. boards.)
- Pin 1 identified by chamfered corner.

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4

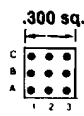
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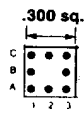
All footprints are topview.

**FOOTPRINTS**

**3x3**

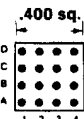


**9 PINS**  
Footprint 03001



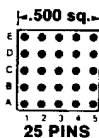
**8 PINS**  
Footprint 03002

**4x4**



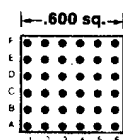
**16 PINS**  
Footprint 04001

**5x5**



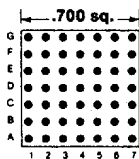
**25 PINS**  
Footprint 05001

**6x6**



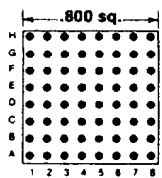
**36 PINS**  
Footprint 06001

**7x7**

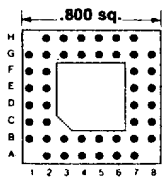


**49 PINS**  
Footprint 07001

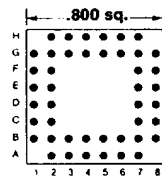
**8x8**



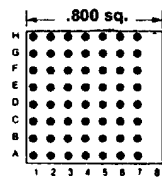
**64 PINS**  
Footprint 08001



**44 PINS**  
Footprint 08002

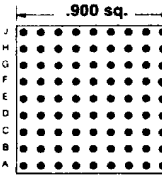


**44 PINS**  
Footprint 08003

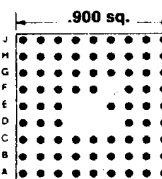


**56 PINS**  
Footprint 08004

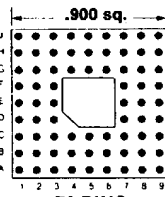
**9x9**



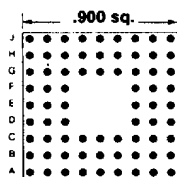
**81 PINS**  
Footprint 09001



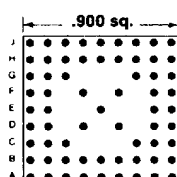
**75 PINS**  
Footprint 09002



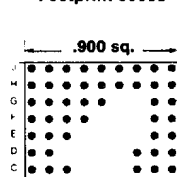
**72 PINS**  
Footprint 09003



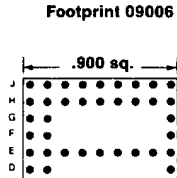
**72 PINS**  
Footprint 09004



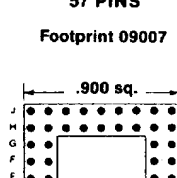
**65 PINS**  
Footprint 09005



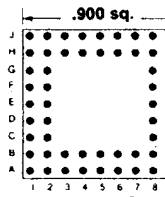
**65 PINS**  
Footprint 09006



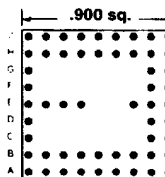
**57 PINS**  
Footprint 09007



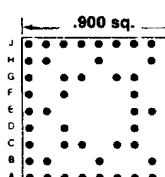
**56 PINS**  
Footprint 09008



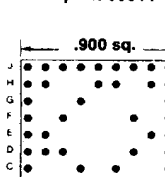
**56 PINS**  
Footprint 09009



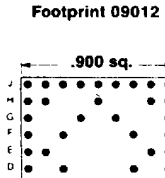
**55 PINS**  
Footprint 09010



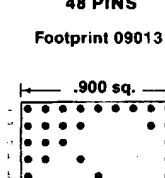
**53 PINS**  
Footprint 09011



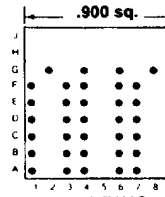
**49 PINS**  
Footprint 09012



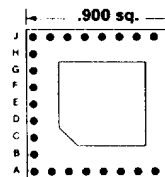
**48 PINS**  
Footprint 09013



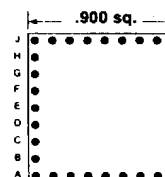
**48 PINS**  
Footprint 09014



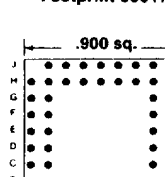
**40 PINS**  
Footprint 09015



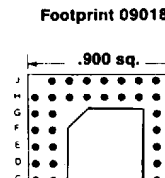
**32 PINS**  
Footprint 09016



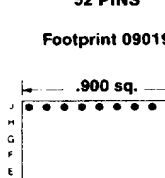
**32 PINS**  
Footprint 09017



**52 PINS**  
Footprint 09018



**52 PINS**  
Footprint 09019



**22 PINS**  
Footprint 09020

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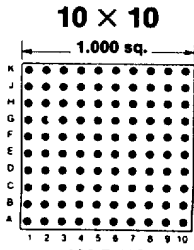


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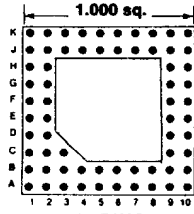


All footprints are topview.

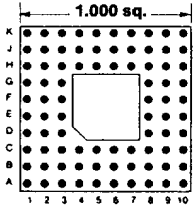
**FOOTPRINTS**



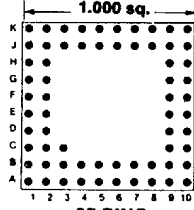
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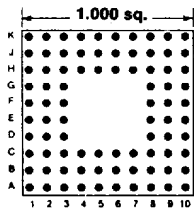
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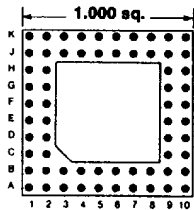
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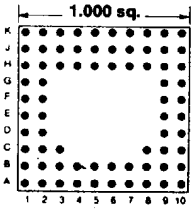
Footprint 10008



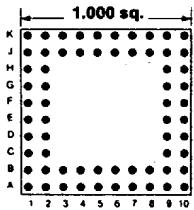
Footprint 10003



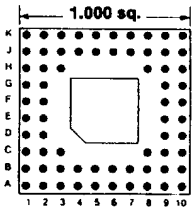
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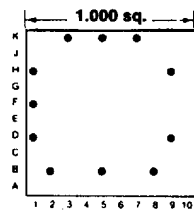
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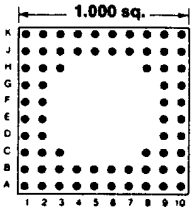
Footprint 10010



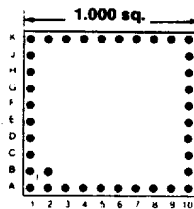
Footprint 10005



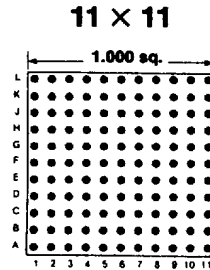
Footprint 10011



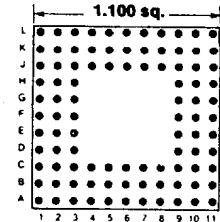
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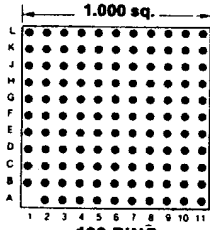
Footprint 10012



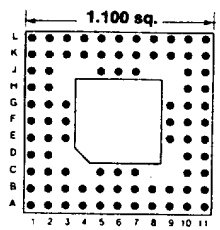
Footprint 11001



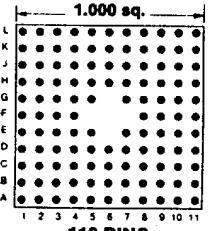
Footprint 11006



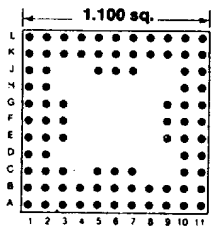
Footprint 11002



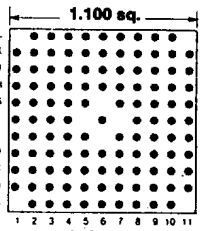
Footprint 11007



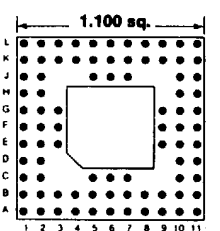
Footprint 11003



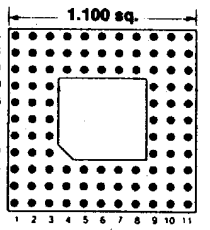
Footprint 11008



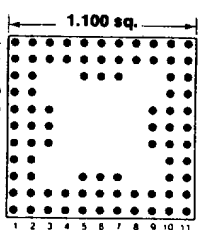
Footprint 11004



Footprint 11009



Footprint 11005



Footprint 11010

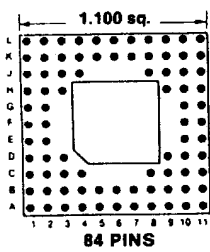


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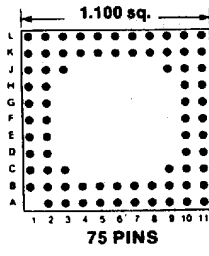


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Telephone: +44-908-260007  
Fax: +44-908-260008

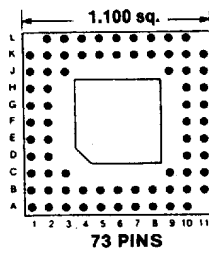
11 x 11 cont.



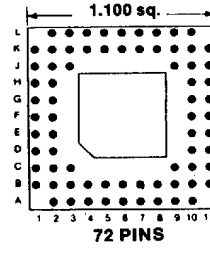
Footprint 11011



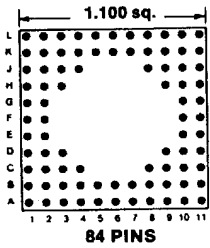
Footprint 11016



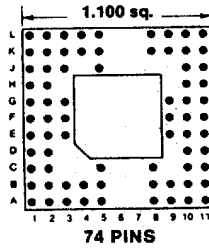
Footprint 11021



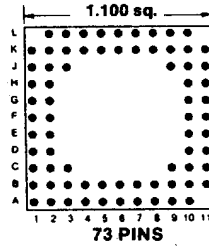
Footprint 11026



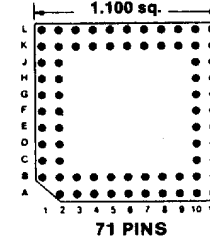
Footprint 11012



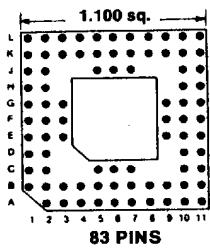
Footprint 11017



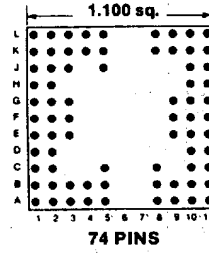
Footprint 11022



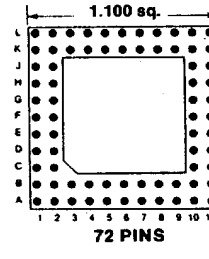
Footprint 11027



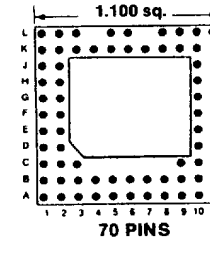
Footprint 11013



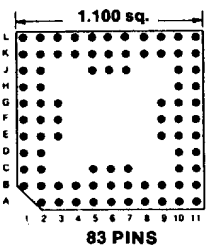
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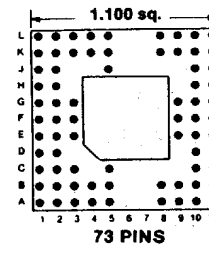
Footprint 11023



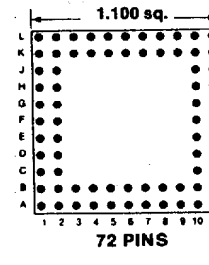
Footprint 11028



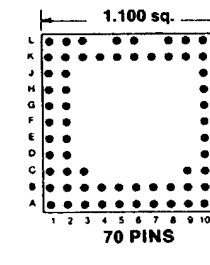
Footprint 11014



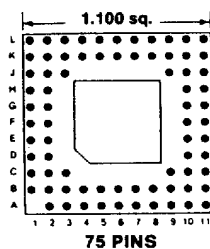
Footprint 11019



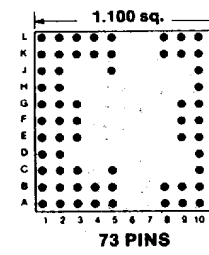
Footprint 11024



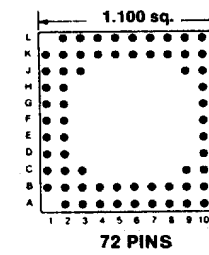
Footprint 11029



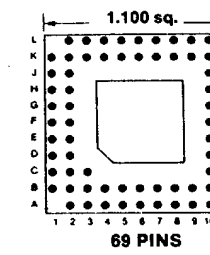
Footprint 11015



Footprint 11020



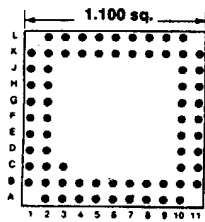
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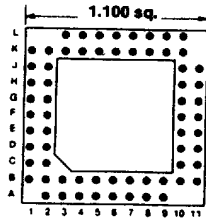
Footprint 11030

**FOOTPRINTS**

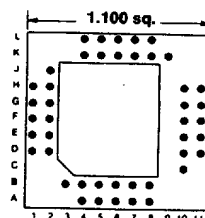
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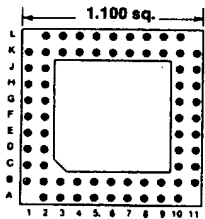
69 PINS  
Footprint 11031



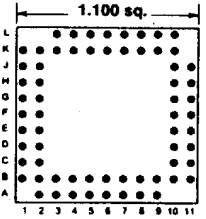
65 PINS  
Footprint 11036



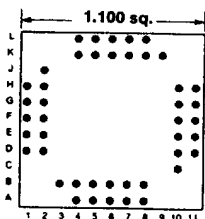
44 PINS  
Footprint 11041



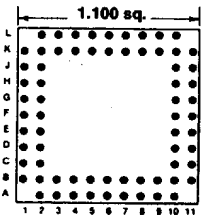
68 PINS  
Footprint 11032



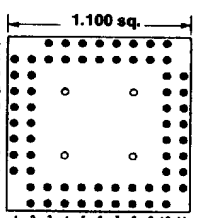
65 PINS  
Footprint 11037



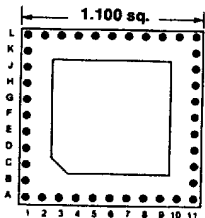
44 PINS  
Footprint 11042



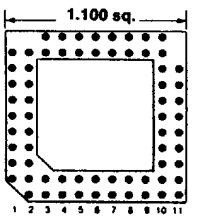
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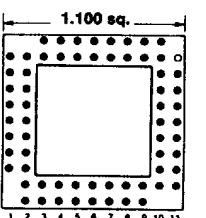
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Footprint 11038



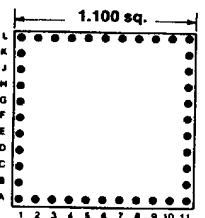
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Footprint 11043



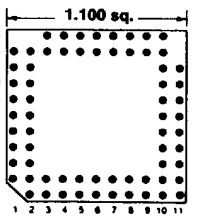
67 PINS  
Footprint 11034



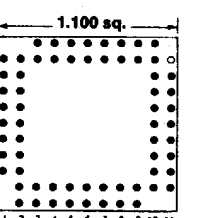
64 PINS  
Footprint 11039



40 PINS  
Footprint 11044

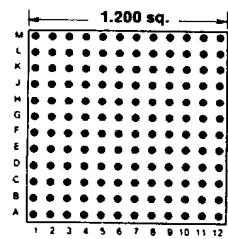


67 PINS  
Footprint 11035

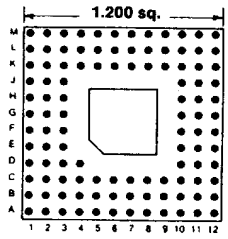


64 PINS  
Footprint 11040

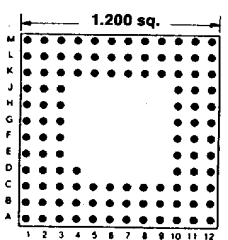
12 x 12



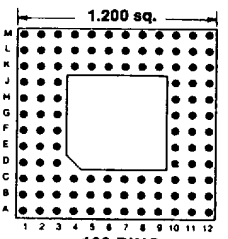
144 PINS  
Footprint 12001



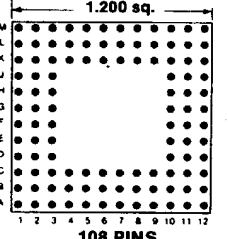
109 PINS  
Footprint 12002



109 PINS  
Footprint 12003



108 PINS  
Footprint 12004



108 PINS  
Footprint 12005

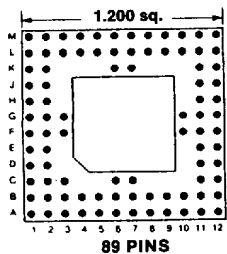


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Frenchtown, NJ 08825  
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FAX 908-996-3891

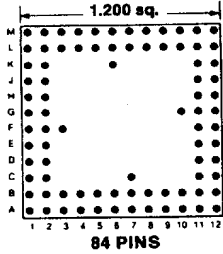


Unit 3, Furtho Court, Towcester Rd., Old Stratford  
Milton Keynes, England MK19 6AQ  
Telephone: +44-908-260007  
Fax: +44-908-260008

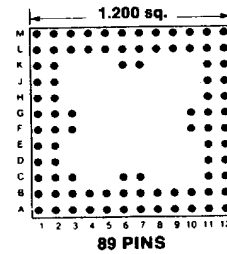
12 X 12 cont.



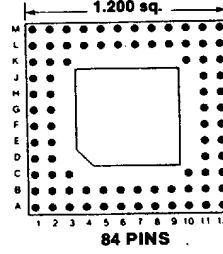
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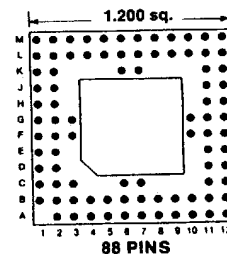
Footprint 12011



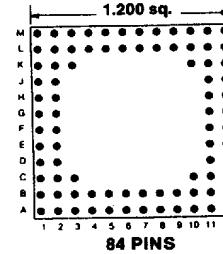
Footprint 12007



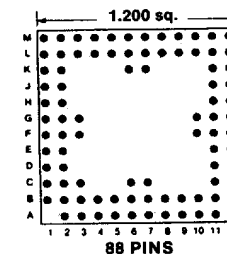
Footprint 12012



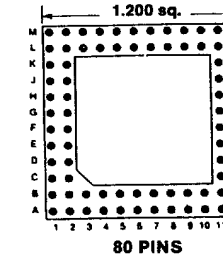
Footprint 12008



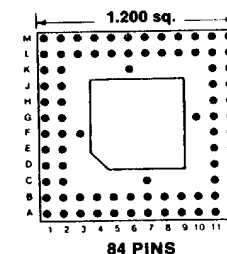
Footprint 12013



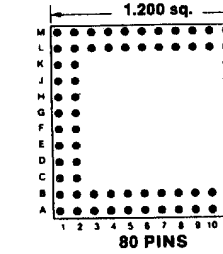
Footprint 12009



Footprint 12014

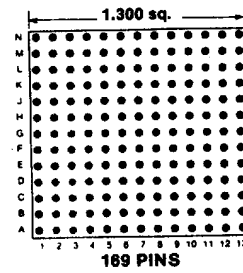


Footprint 12010

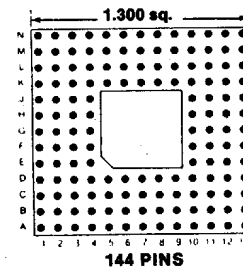


Footprint 12015

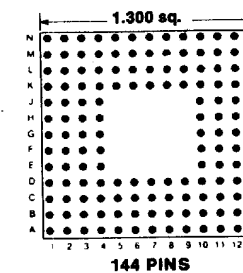
13 X 13



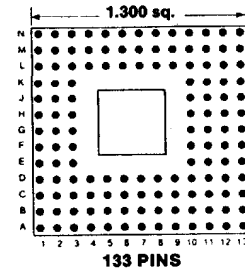
Footprint 13001



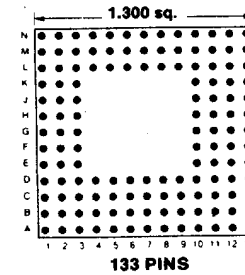
Footprint 13002



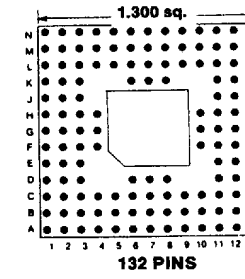
Footprint 13003



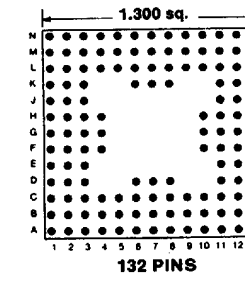
Footprint 13004



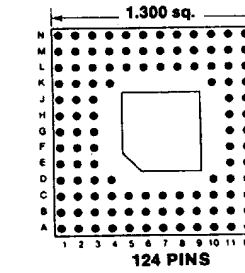
Footprint 13005



Footprint 13006



Footprint 13007

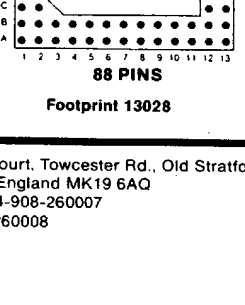
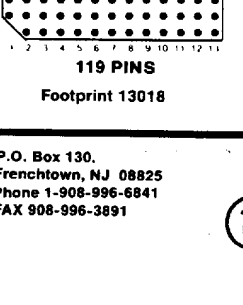
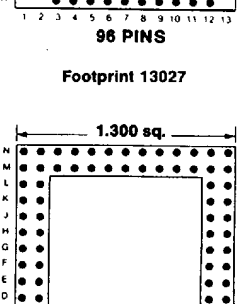
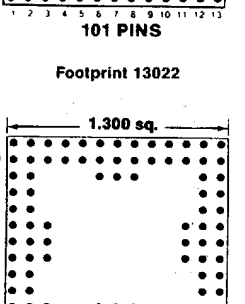
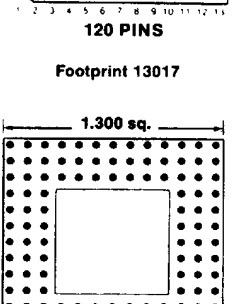
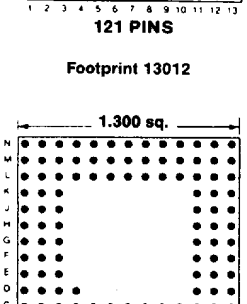
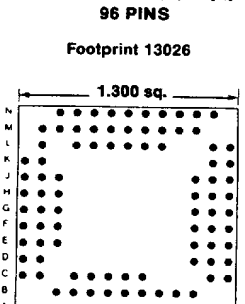
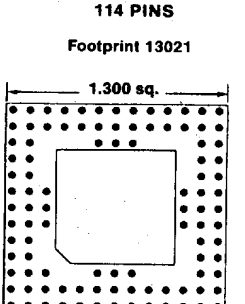
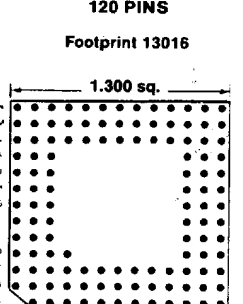
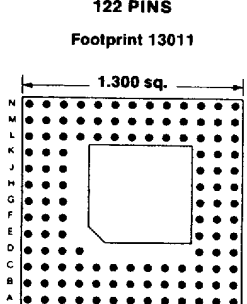
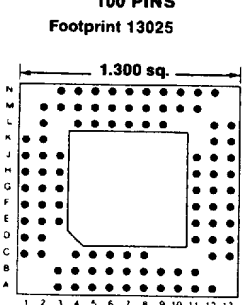
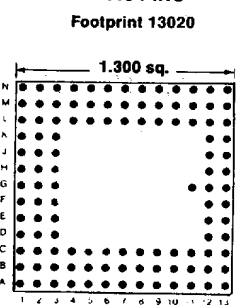
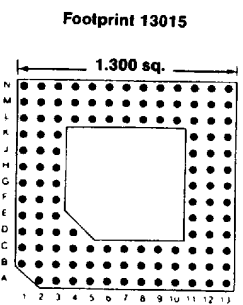
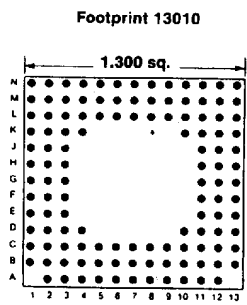
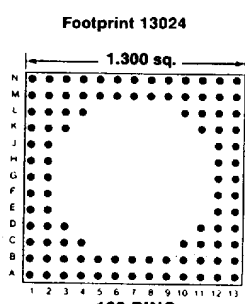
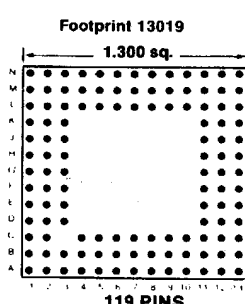
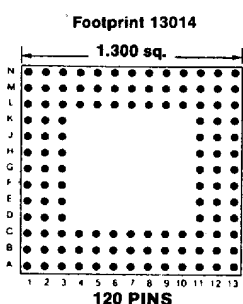
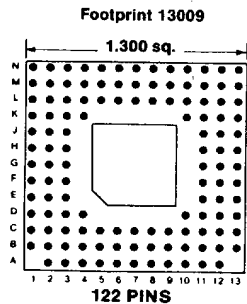
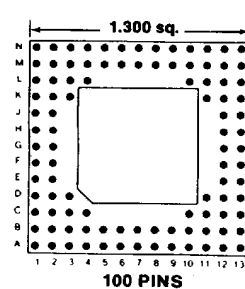
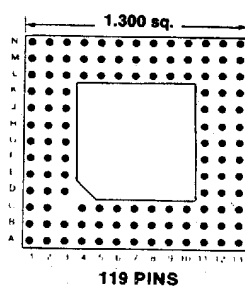
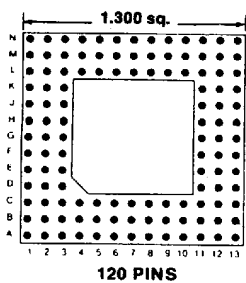
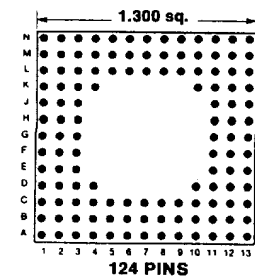


Footprint 13008



**FOOTPRINTS**

13 x 13 cont.



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FAX 908-996-3891

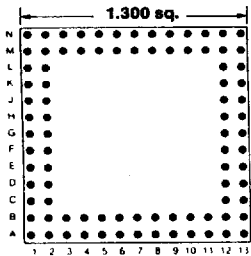


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Milton Keynes, England MK19 6AQ  
Telephone: +44-908-260007  
Fax: +44-908-260008

All footprints are topview.

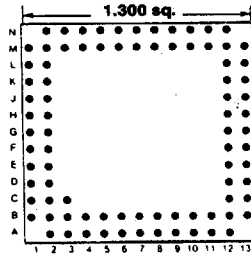
13 x 13 cont.

FOOTPRINTS



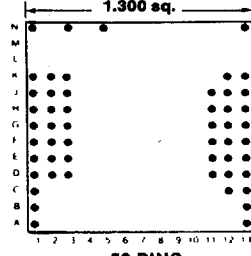
88 PINS

Footprint 13029



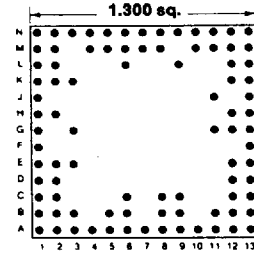
85 PINS

Footprint 13033



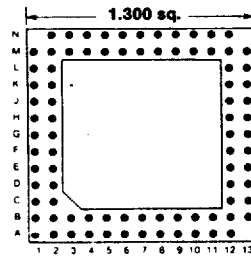
52 PINS

Footprint 13037



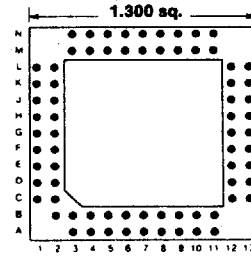
88 PINS

Footprint 13041



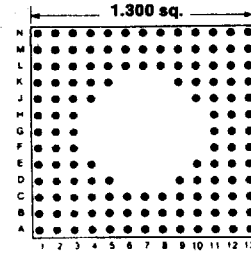
85 PINS

Footprint 13030



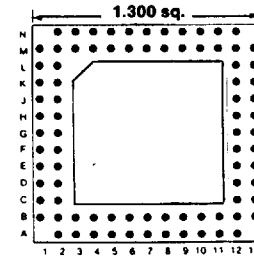
73 PINS

Footprint 13034



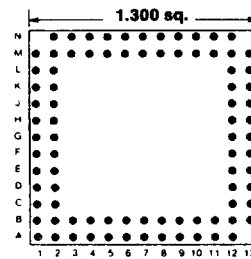
132 PINS

Footprint 13038



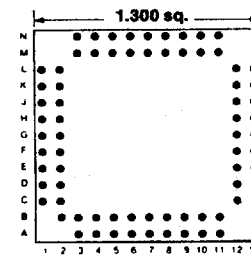
84 PINS

Footprint 13042



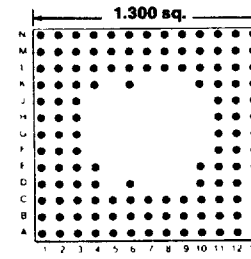
85 PINS

Footprint 13031



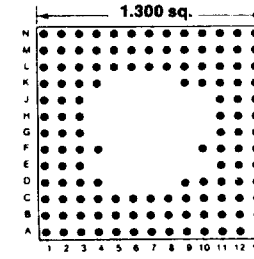
73 PINS

Footprint 13035



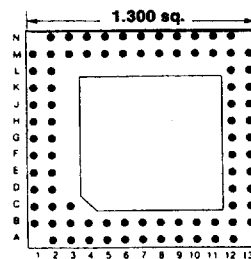
128 PINS

Footprint 13039



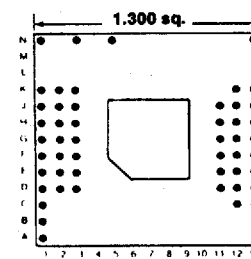
128 PINS

Footprint 13043



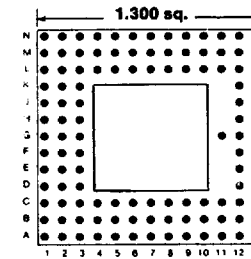
85 PINS

Footprint 13032



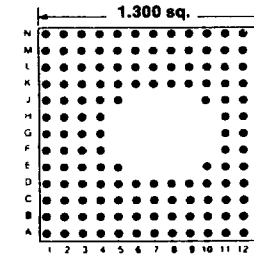
52 PINS

Footprint 13036



114 PINS

Footprint 13040



143 PINS

Footprint 13044

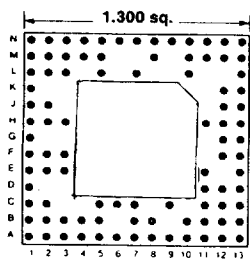
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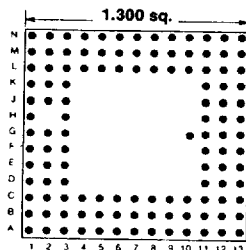
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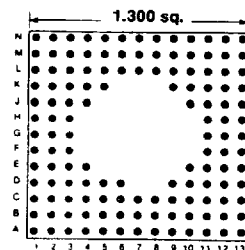
FOOTPRINTS



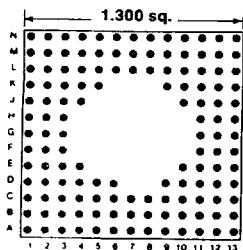
93 PINS  
Footprint 13045



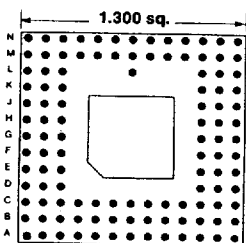
113 PINS  
Footprint 13050



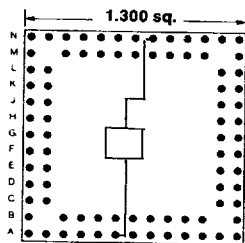
133 PINS  
Footprint 13055



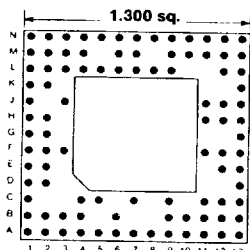
133 PINS  
Footprint 13046



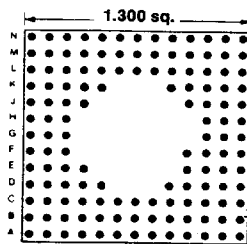
114 PINS  
Footprint 13051



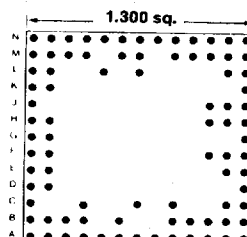
84 PINS  
Footprint 13056



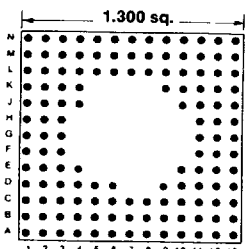
95 PINS  
Footprint 13047



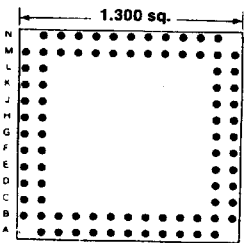
133 PINS  
Footprint 13052



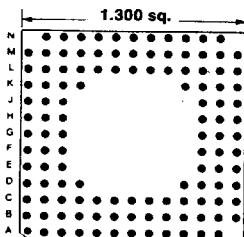
88 PINS  
Footprint 13057



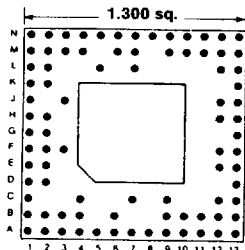
133 PINS  
Footprint 13048



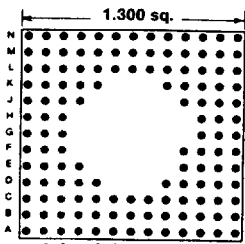
84 PINS  
Footprint 13053



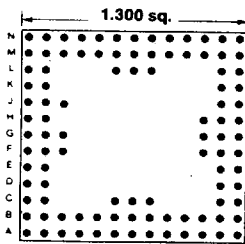
121 PINS  
Footprint 13058



88 PINS  
Footprint 13049



133 PINS  
Footprint 13054



100 PINS  
Footprint 13059

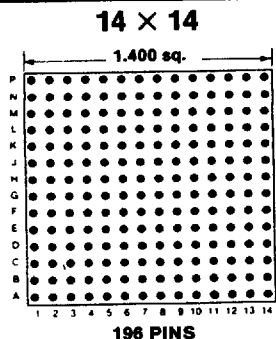


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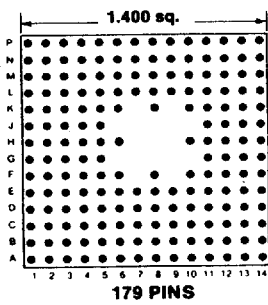


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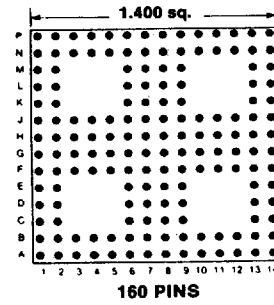
All footprints are topview



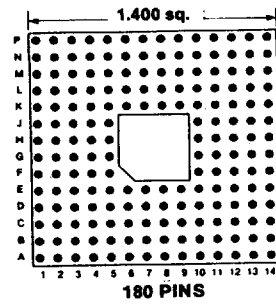
Footprint 14001



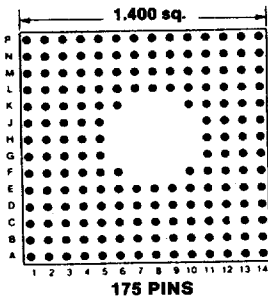
Footprint 14005



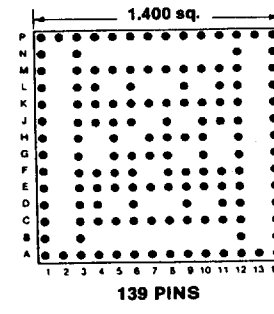
Footprint 14009



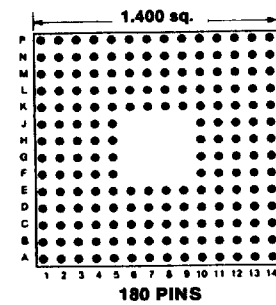
Footprint 14002



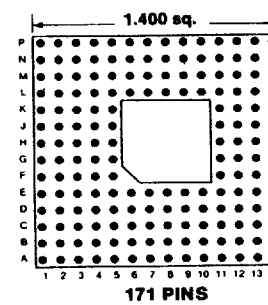
Footprint 14006



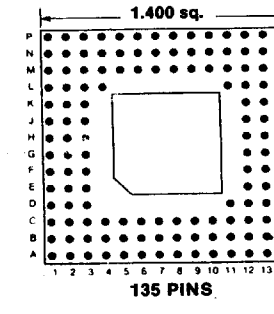
Footprint 14010



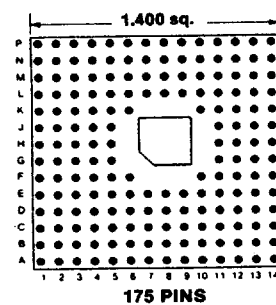
Footprint 14003



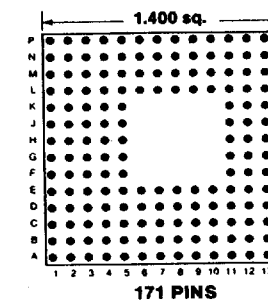
Footprint 14007



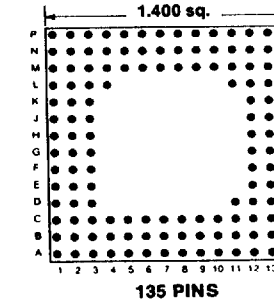
Footprint 14011



Footprint 14004



Footprint 14008



Footprint 14012

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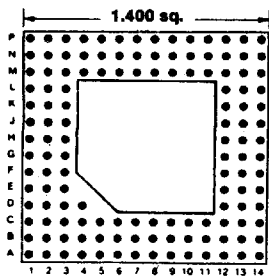
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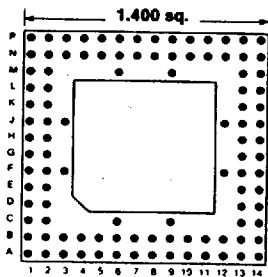
**FOOTPRINTS**

14 x 14 cont.



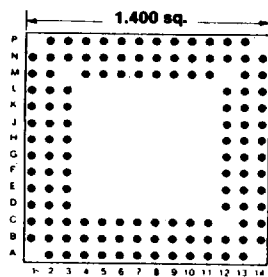
133 PINS

Footprint 14013



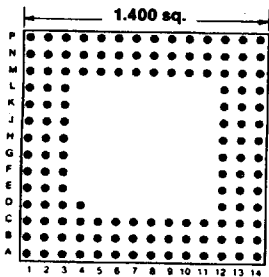
104 PINS

Footprint 14017



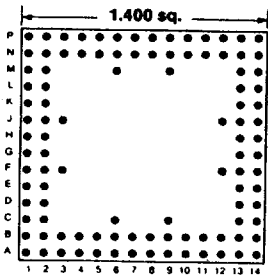
125 PINS

Footprint 14021



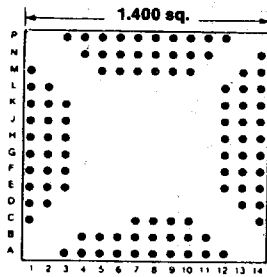
133 PINS

Footprint 14014



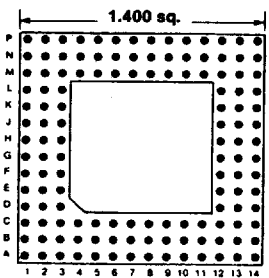
104 PINS

Footprint 14018



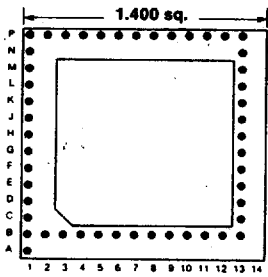
94 PINS

Footprint 14022



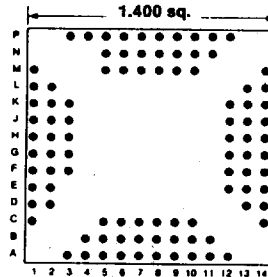
132 PINS

Footprint 14015



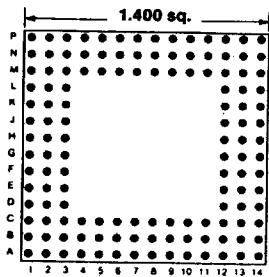
49 PINS

Footprint 14019



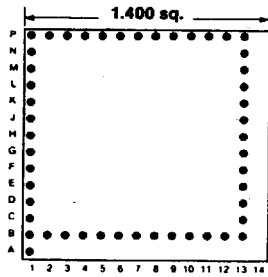
94 PINS

Footprint 14023



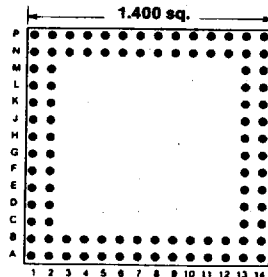
132 PINS

Footprint 14016



49 PINS

Footprint 14020



96 PINS

Footprint 14024

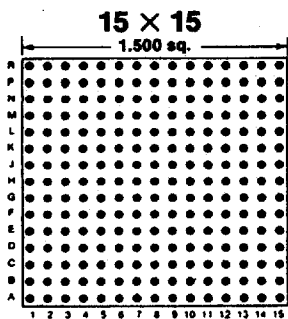


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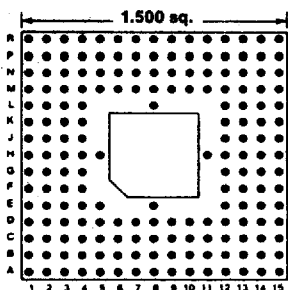
14



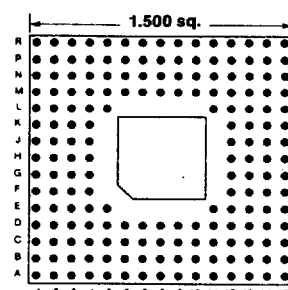
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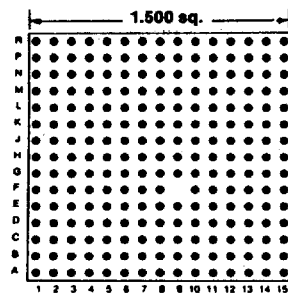
225 PINS  
Footprint 15001



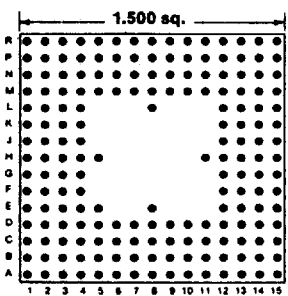
181 PINS  
Footprint 15005



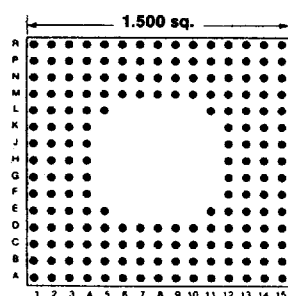
180 PINS  
Footprint 15009



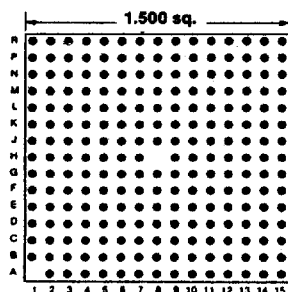
224 PINS  
Footprint 15002



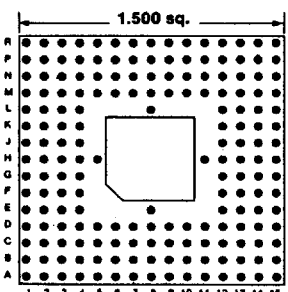
181 PINS  
Footprint 15006



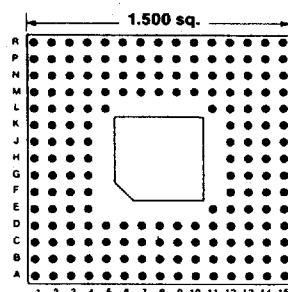
180 PINS  
Footprint 15010



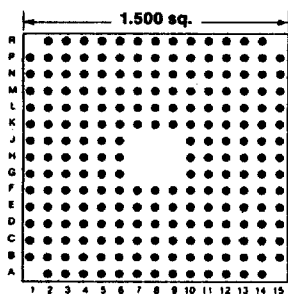
223 PINS  
Footprint 15003



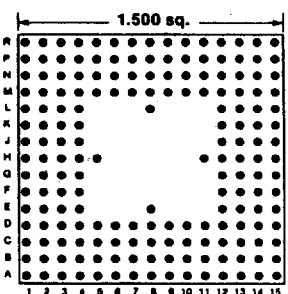
180 PINS  
Footprint 15007



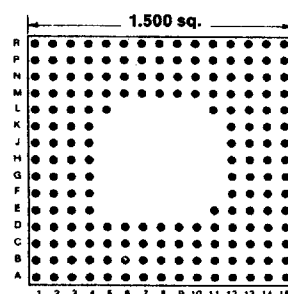
179 PINS  
Footprint 15011



212 PINS  
Footprint 15004



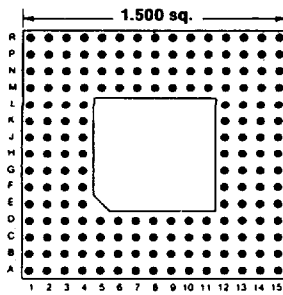
180 PINS  
Footprint 15008



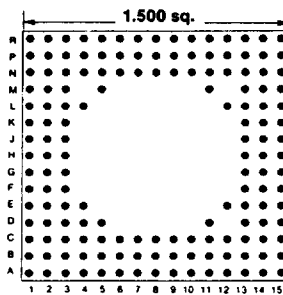
179 PINS  
Footprint 15012

FOOTPRINTS

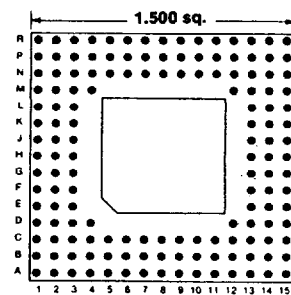
15 x 15 cont.



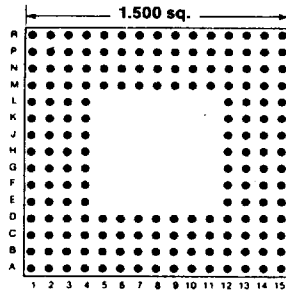
176 PINS  
Footprint 15013



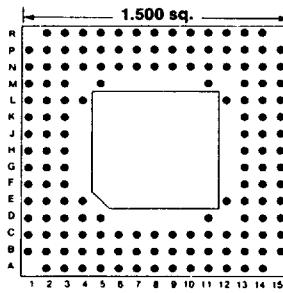
153 PINS  
Footprint 15017



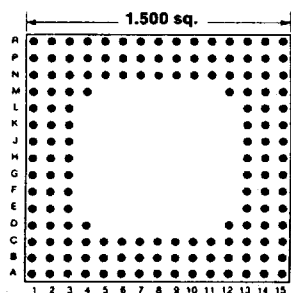
148 PINS  
Footprint 15021



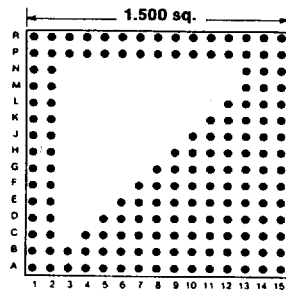
176 PINS  
Footprint 15014



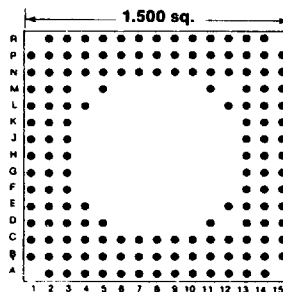
149 PINS  
Footprint 15018



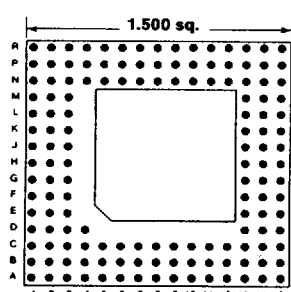
148 PINS  
Footprint 15022



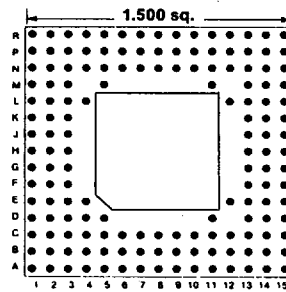
160 PINS  
Footprint 15015



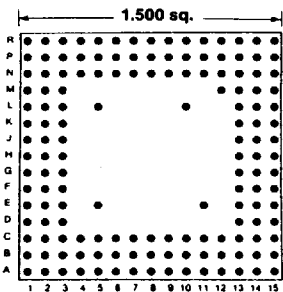
149 PINS  
Footprint 15019



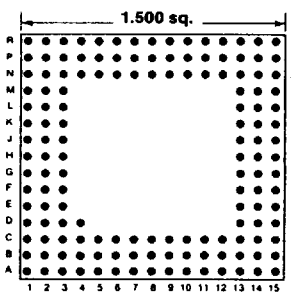
145 PINS  
Footprint 15023



153 PINS  
Footprint 15016



149 PINS  
Footprint 15020



145 PINS  
Footprint 15024



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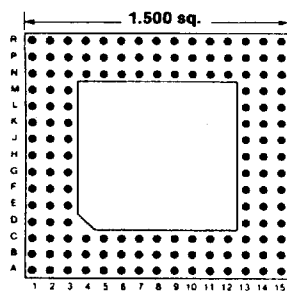


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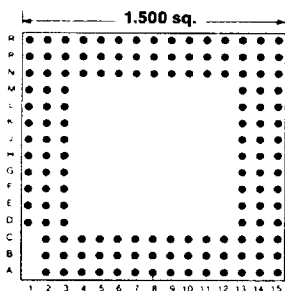
FOOTPRINTS

15 x 15 cont.



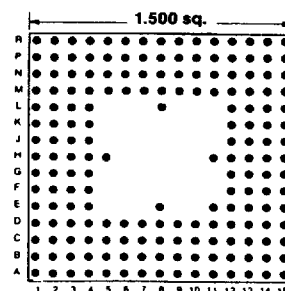
144 PINS

Footprint 15025



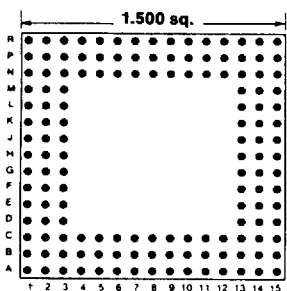
141 PINS

Footprint 15029



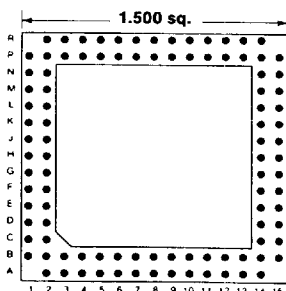
181 PINS

Footprint 15033



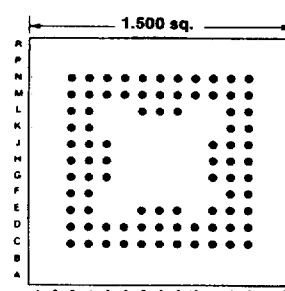
144 PINS

Footprint 15026



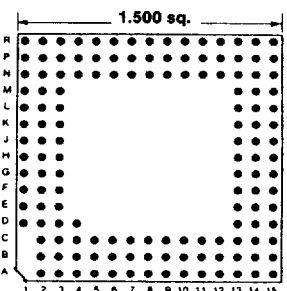
100 PINS

Footprint 15030



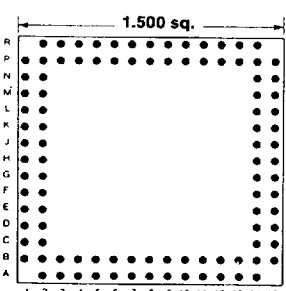
85 PINS

Footprint 15034



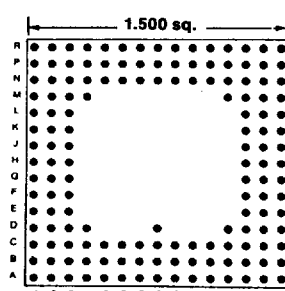
142 PINS

Footprint 15027



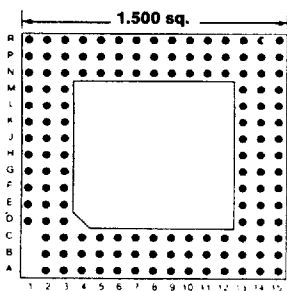
100 PINS

Footprint 15031



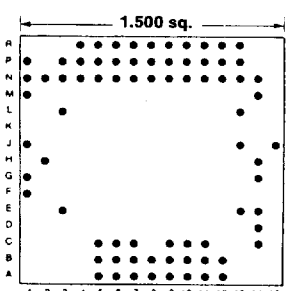
149 PINS

Footprint 15035



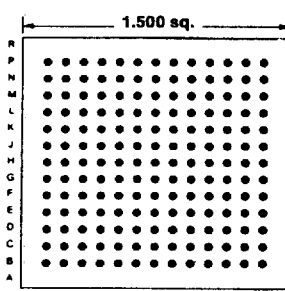
141 PINS

Footprint 15028



75 PINS

Footprint 15032



169 PINS

Footprint 15036

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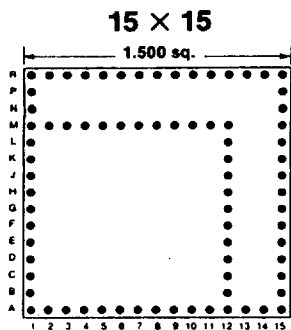
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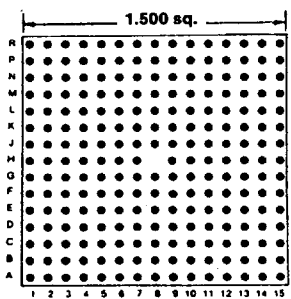


All footprints are topview.

FOOTPRINTS

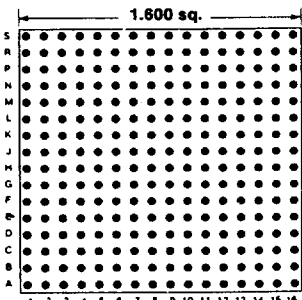


77 PINS  
Footprint 15037

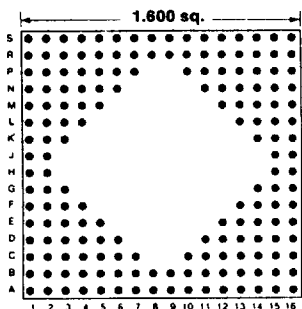


224 PINS  
Footprint 15038

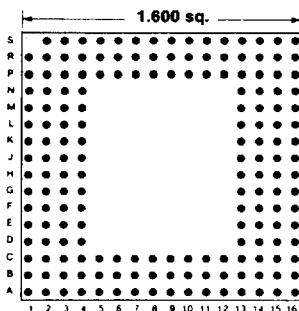
16 x 16



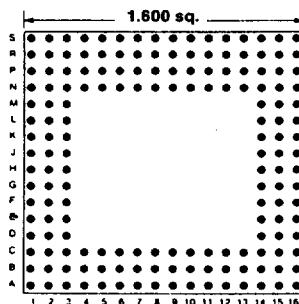
256 PINS  
Footprint 16001



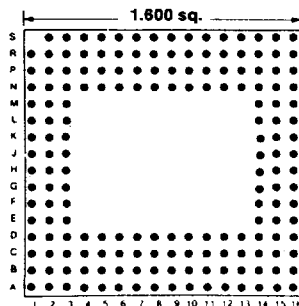
172 PINS  
Footprint 16002



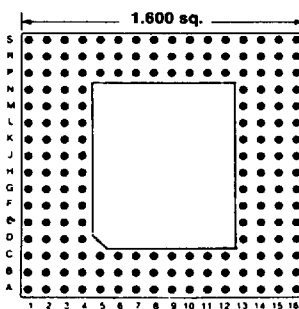
175 PINS  
Footprint 16003



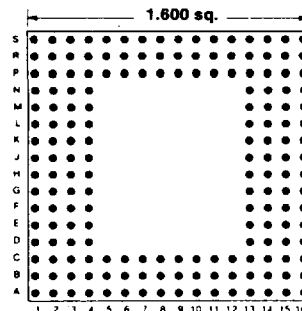
166 PINS  
Footprint 16004



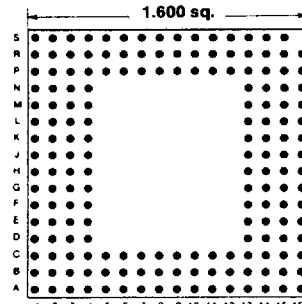
175 PINS  
Footprint 16005



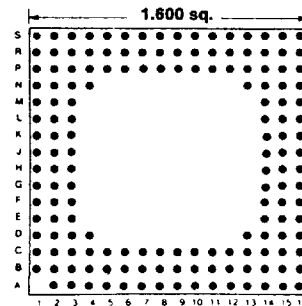
176 PINS  
Footprint 16006



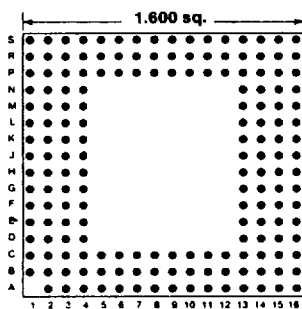
176 PINS  
Footprint 16007



175 PINS  
Footprint 16008



159 PINS  
Footprint 16009



175 PINS  
Footprint 16010



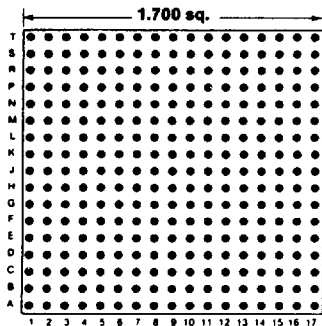
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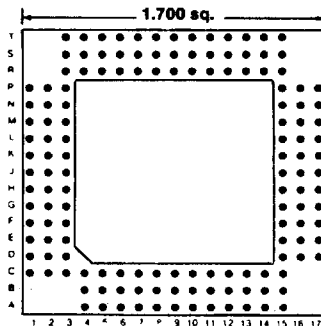
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17 x 17

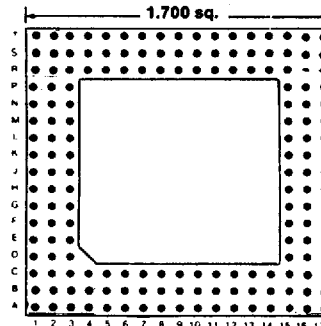
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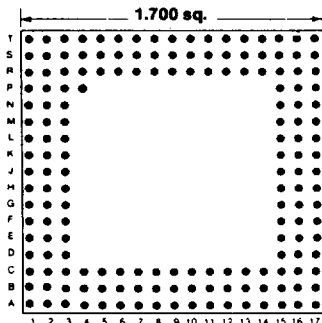
**289 PINS**  
Footprint 17001



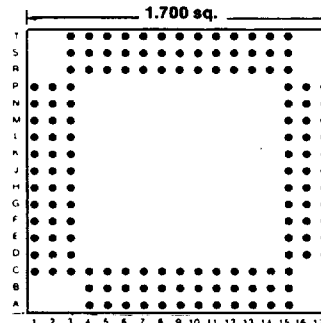
**144 PINS**  
Footprint 17005



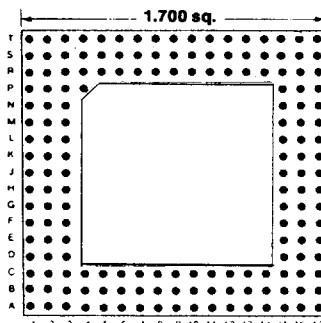
**168 PINS**  
Footprint 17009



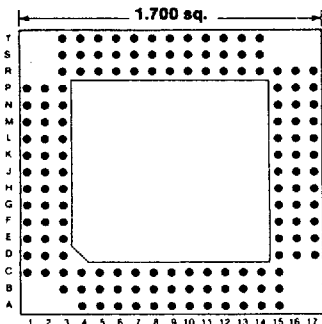
**169 PINS**  
Footprint 17002



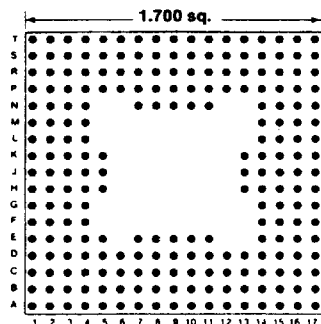
**144 PINS**  
Footprint 17006



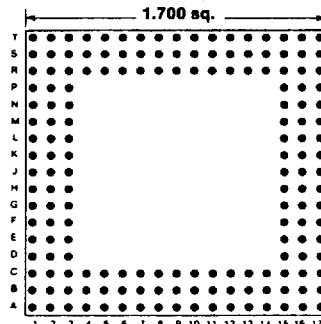
**169 PINS**  
Footprint 17010



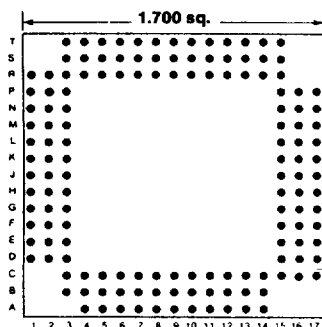
**145 PINS**  
Footprint 17003



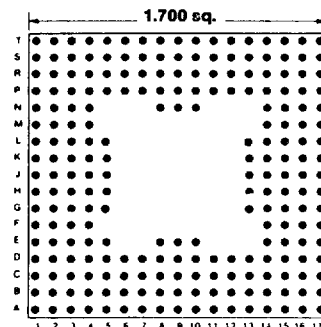
**225 PINS**  
Footprint 17007



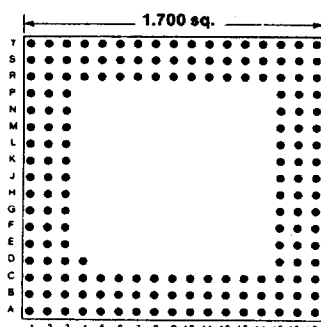
**168 PINS**  
Footprint 17011



**145 PINS**  
Footprint 17004



**225 PINS**  
Footprint 17008



**169 PINS**  
Footprint 17012

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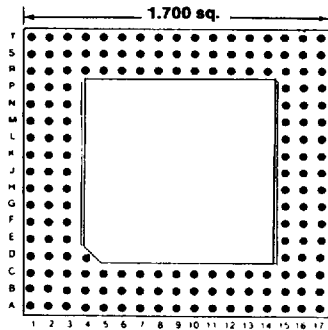
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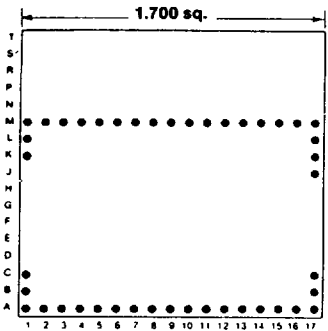
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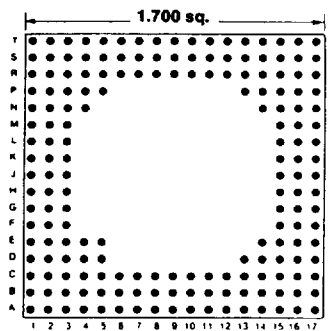
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169 PINS  
Footprint 17013

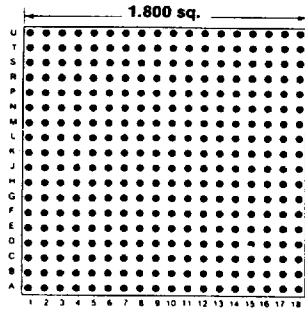


43 PINS  
Footprint 17014

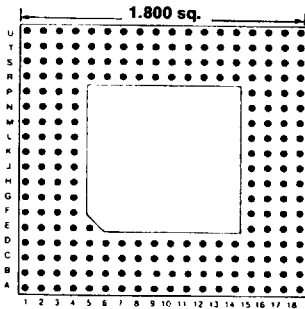


181 PINS  
Footprint 17015

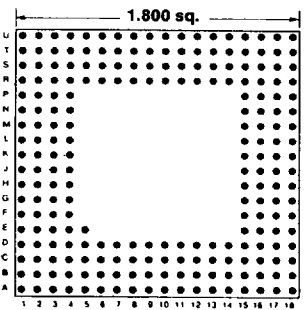
18 x 18



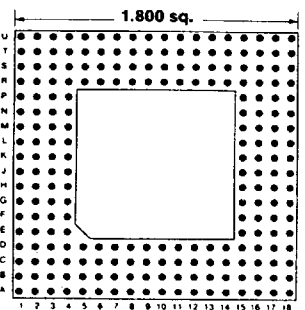
324 PINS  
Footprint 18001



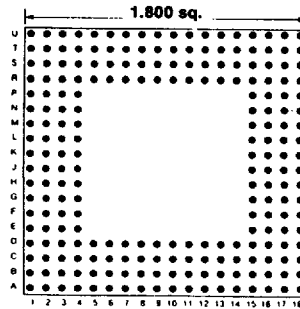
225 PINS  
Footprint 18002



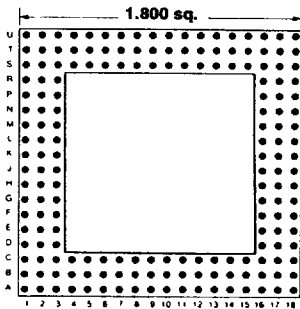
225 PINS  
Footprint 18003



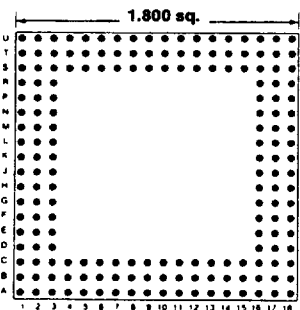
224 PINS  
Footprint 18004



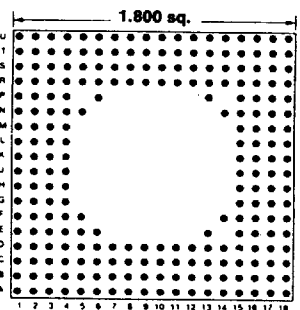
224 PINS  
Footprint 18005



180 PINS  
Footprint 18006



180 PINS  
Footprint 18007



233 PINS  
Footprint 18008



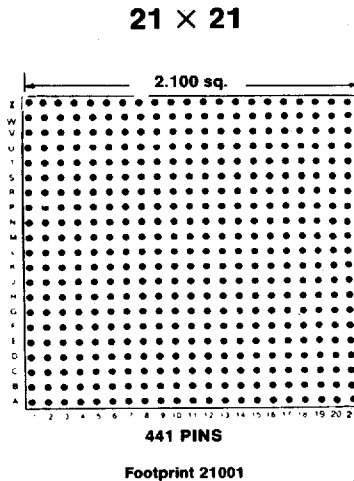
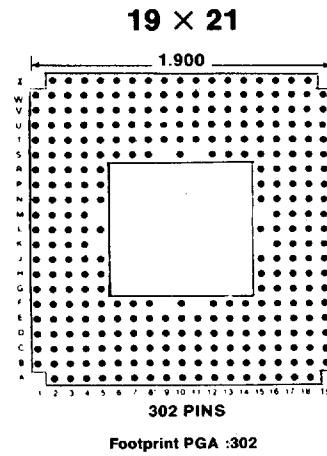
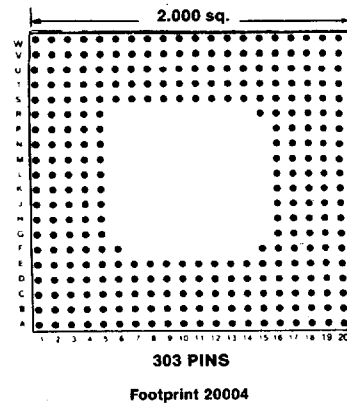
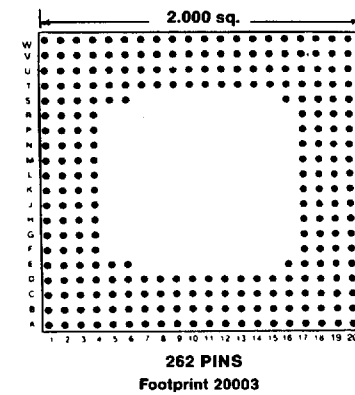
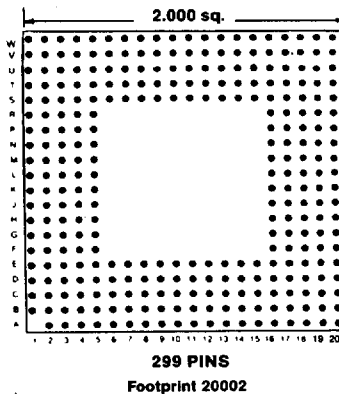
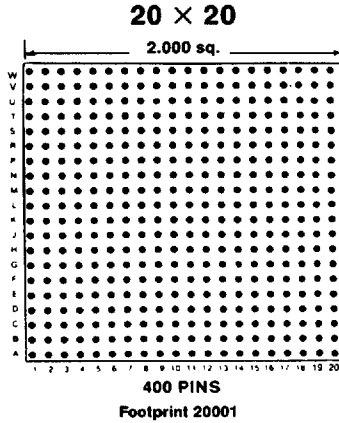
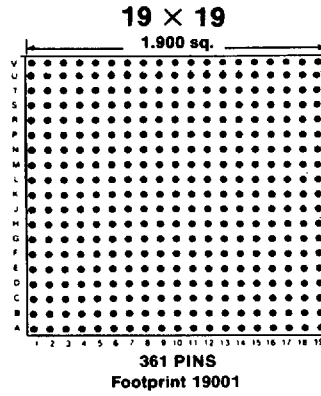
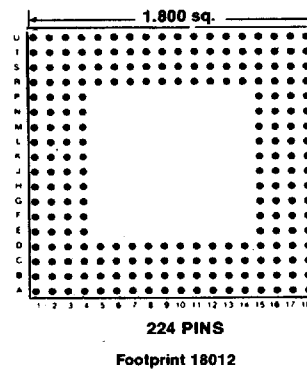
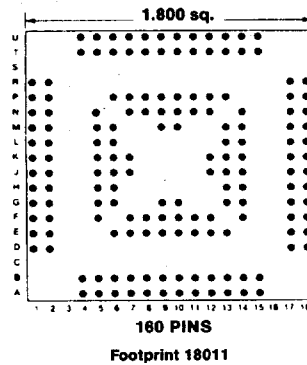
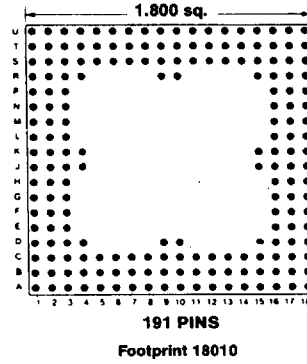
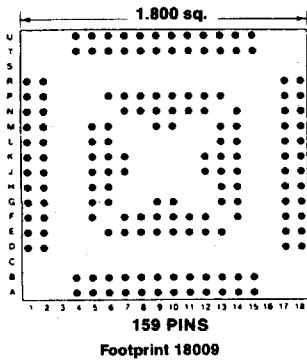
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All footprints are topview.

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