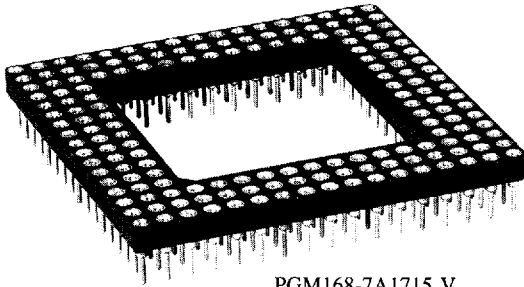
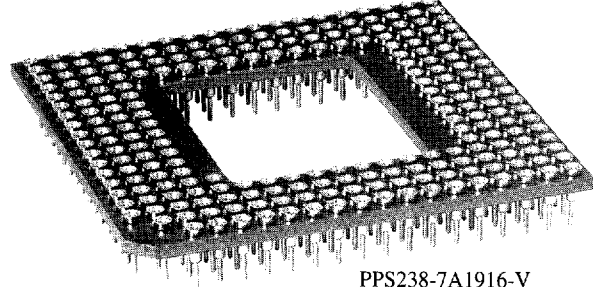


# PGM & PPS Series *Pin Grid Array Sockets*




PGM168-7A1715-V



PPS238-7A1916-V

## FEATURES:

- LIF & SUPERLIF™ Low insertion and withdrawal force contacts
- Non-wicking closed bottom, precision sleeve protects 100% against flux and solder contamination
- Custom design capabilities
- Available in molded plastic (PGM) and glass epoxy (PPS) insulators
-  Recognized under the Component Program of Underwriters Laboratories, Inc. File E111362
- High temperature insulators allow the sockets to be soldered with vaporphase and infrared reflow soldering process

## MATERIAL SPECIFICATIONS:

Insulator .....	Thermoplastic polyester or glass epoxy, UL rated 94V-0
Sleeve .....	Machined brass/formed copper
Contact .....	Beryllium copper
Sleeve Plating .....	See Table 1
Contact Plating .....	See Table 1

## PERFORMANCE SPECIFICATIONS:

### MECHANICAL

Vibration .....	Passed MIL-STD-1344, Method 2005.1, Condition V, D, 11.6 G's (RMS)
Shock .....	Passed MIL-STD-1344, Method 2004.1, Condition C, 100 G's
Durability .....	Passed MIL-STD-1344, Method 2016, 50 cycles
Solderability .....	Passed MIL-STD-202F, Method 208
Insertion Force .....	Above 150 pins - 37 Grams (1.3 oz.) average with SUPERLIF™ a .018" (0,46) dia. polished steel pin
Insertion Force .....	Below 150 pins - 50 Grams (1.7 oz.) average with LIF a .018" (0,46) dia. polished steel pin
Withdrawal Force .....	Above 150 pins - 15 Grams (.52 oz.) average with SUPERLIF™ a .018" (0,46) dia. polished steel pin
Withdrawal Force .....	Below 150 pins - 20 Grams (.70 oz.) average with LIF a .018" (0,46) dia. polished steel pin

### ELECTRICAL

Contact Resistance .....	10 Milliohms
Contact Rating .....	3 Amps
Capacitance .....	1.0 pF per MIL-STD-202, Method 305 (contact to contact)
Insulation Resistance ....	5,000 Megohms min. @ 500 VDC per MIL-STD-1344, Method 3003.1
Dielectric Withstanding Voltage .....	1,000 Volts RMS per MIL-STD-1344, Method 3001.1

### ENVIRONMENTAL

Humidity .....	Passed MIL-STD-1344, Method 1002, Type II
Operation Temperature ..	Gold inner contact -55°C to +125°C Tin/lead inner contact -55°C to +105°C
Thermal Shock .....	Passed MIL-STD-1344, Method 1003.1, Cond. A

## HOW TO ORDER

<b>P</b> <span style="font-size: 2em;">□ □ □ □ □</span>	<span style="font-size: 2em;">-</span> <span style="font-size: 2em;">□ □ □ □ □ □ □ □</span>	<span style="font-size: 2em;">-</span> <b>V</b>
Number of Contacts	Pin Selection (Table 2)	Grid size
GM - Molded Thermoplastic Polyester PS - Glass Epoxy SM - Molded Standoffs (refer to fig. 1)	Plating Options (Table 1)	Footprint Options (Pg. D23)
		Low Force, Six Finger Contact
Part Number Example: PGM068-1A1132-V		

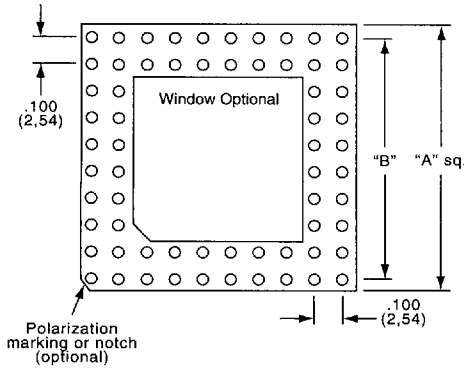
# Thomas & Betts

Quality & Innovation From **AUGAT**® Name Brand Products

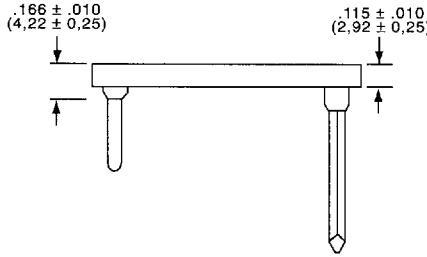
**D 15F ■ 9006410 0002882 45T ■**  
**D2**

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# Pin Grid Array Sockets PGM & PPS Series

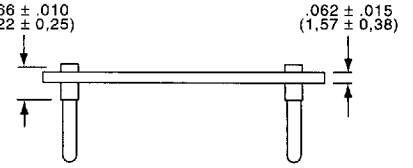


## MOLDED INSULATOR



Note: Head of sleeve is recessed in .030" counter bore

## GLASS EPOXY INSULATOR



Note: Head of sleeve sits above insulator

TABLE 1 - PLATING FINISHES

Plating Designation	Sleeve Type	Contact Plating	Sleeve Plating
1	PC Tails	Gold	Tin/Lead
2		Gold	Gold
3		Tin/Lead	Tin/Lead
7		Low Gold	Tin/Lead
4	Solderless Wrap *	Gold	Tin/Lead
5		Gold	Gold
6		Tin/Lead	Tin/Lead

\* Solderless Wrap available only in molded thermoplastic insulator.

TABLE 2 - SLEEVE TYPES

PC Tails		Solderless Wrap*	
Designation	"X" Dimension	Designation	"X" Dimension
A	.125" (3,17)		
B	.180" (4,57)	D	.510" (12,95)

Diagrams of PC Tails and Solderless Wrap sleeve types with dimensions. The PC Tails diagram shows a sleeve with a head diameter of  $.166 \pm .010$  (4,22 ± 0,25), a body diameter of  $.040$  (1,01) Max., and a tail diameter of  $\varnothing .020$  (0,51). The Solderless Wrap diagram shows a sleeve with a head diameter of  $.193$  (4,90), a body diameter of  $.040$  (1,01) Max., and a tail diameter of  $.025$  (0,64) Sq.

## INSULATOR DIMENSIONS

Insulator Size	"A"		"B"
	Molded Insulators	Glass Epoxy Insulators	
9 X 9	.90	.950	.800
10 X 10	1.00	1.050	.900
11 X 11	1.10	1.150	1.000
12 X 12	1.20	1.250	1.100
13 X 13	1.30	1.350	1.200
14 X 14	1.40	1.450	1.300
15 X 15	1.50	1.550	1.400
16 X 16	1.60	1.650	1.500
17 X 17	1.70	1.750	1.600
18 X 18	1.80	1.850	1.700
19 X 19	1.90	1.950	1.800
20 X 20	2.00	2.050	1.900
21 X 21	2.10	2.150	2.000
22 X 22	N/A	2.250	2.100
23 X 23	N/A	2.350	2.200
24 X 24	N/A	2.450	2.300
25 X 25	N/A	2.550	2.400

Dimensions listed are nominal

Need more technical information?

Consult your Thomas & Betts sales office listed on the back cover

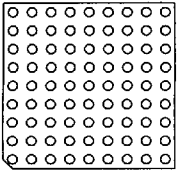
D 15F 9006410 0002883 396

D3

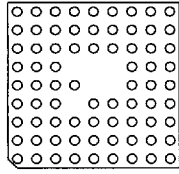
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 9 x 9 & 10 x 10 PGA Footprints

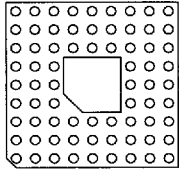
9 x 9



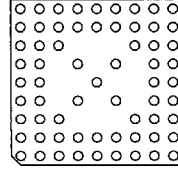
81 Pins  
1



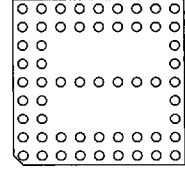
75 Pins  
2



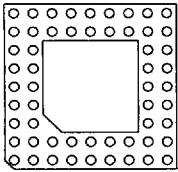
72 Pins  
3  
Without Window FP 04



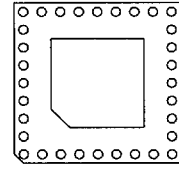
65 Pins  
5



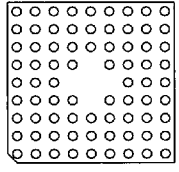
57 Pins  
6



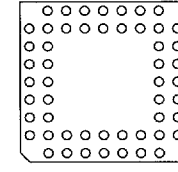
56 Pins  
7  
Without Window FP 08



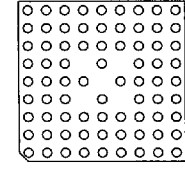
32 Pins  
13  
Without Window FP 14



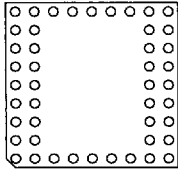
76 Pins  
17



52 Pins  
18



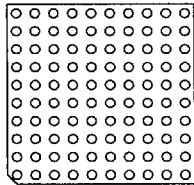
76 Pins  
27



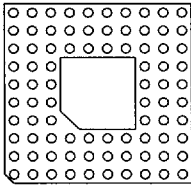
46 Pins  
29

D

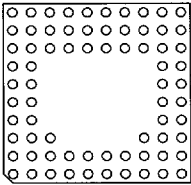
10 x 10



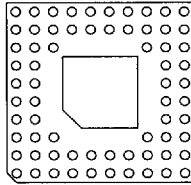
100 Pins  
1



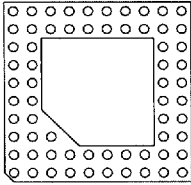
84 Pins  
2  
Without Window FP 03



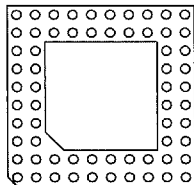
72 Pins  
4



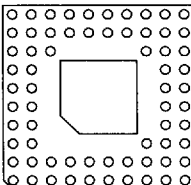
68 Pins  
5  
Without Window FP06  
Motorola 68000



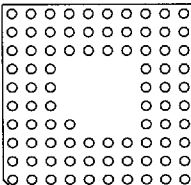
65 Pins  
7  
Without Window FP 08



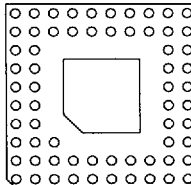
64 Pins  
9  
Without Window FP 10



67 Pins  
11



85 Pins  
12



65 Pins  
14

Need more technical information?

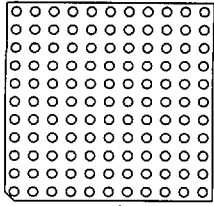
Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002902 078 ■

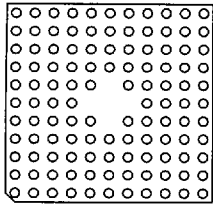
D23

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

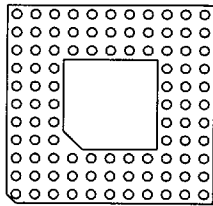
# PGA Footprints 11 x 11



121 Pins  
1

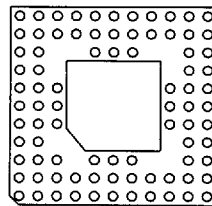


116 Pins  
3



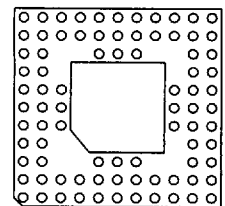
96 Pins  
5

Without Window FP 6



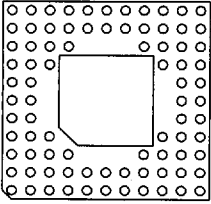
85 Pins  
7

Without Window FP 8



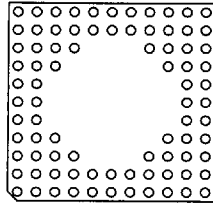
84 Pins  
9

Without Window FP 10

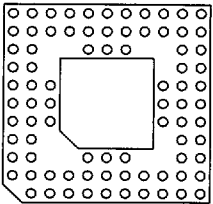


84 Pins  
11

Without Window FP 12

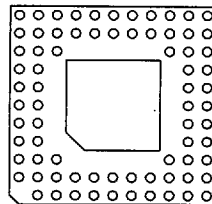


84 Pins  
12



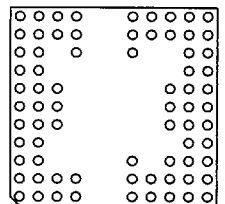
83 Pins  
13

Without Window FP 14

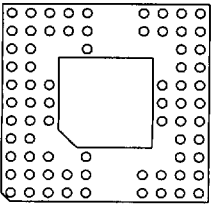


75 Pins  
15

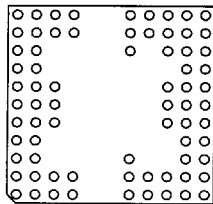
Without Window FP 16



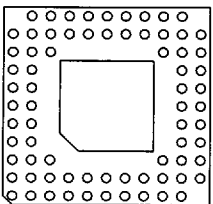
74 Pins  
18



73 Pins  
19

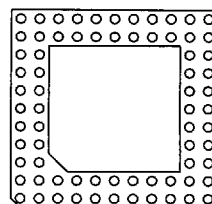


73 Pins  
20



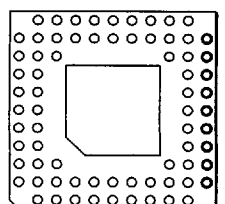
73 Pins  
21

Without Window FP 22



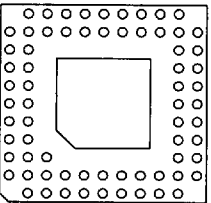
72 Pins  
23

Without Window FP 24



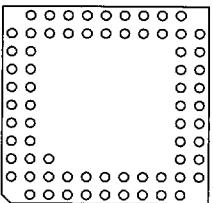
72 Pins  
25

Without Window FP 26

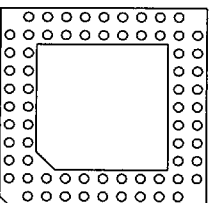


69 Pins  
30

Without Window FP 31

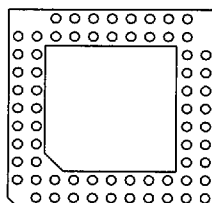


69 Pins  
31



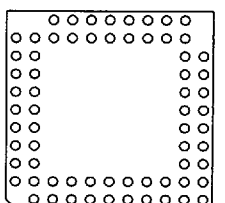
68 Pins  
32

Without Window FP 33  
Intel 80387

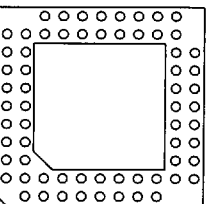


67 Pins  
34

Without Window FP 35

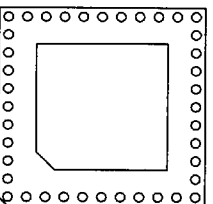


67 Pins  
35



65 Pins  
36

Without Window FP 37



40 Pins  
41

Without Window FP 42

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

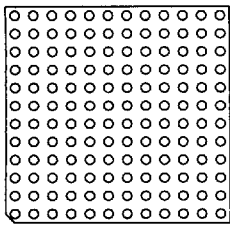
D 15F ■ 9006410 0002903 T04 ■

D24

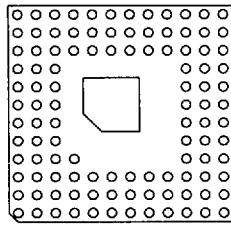
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 12 x 12 & 13 x 13 PGA Footprints

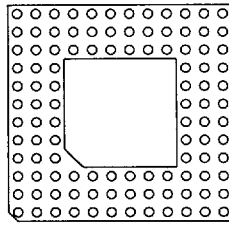
12 x 12



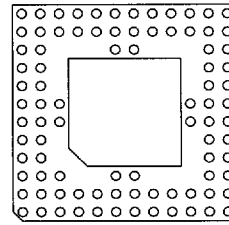
144 Pins  
1



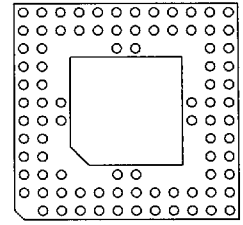
109 Pins  
2  
Without Window FP 03



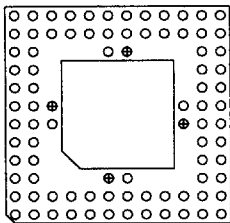
108 Pins  
4  
Without Window FP 05



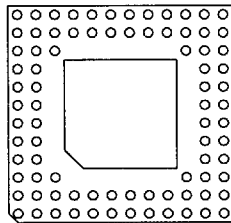
89 Pins  
6  
Without Window FP 07



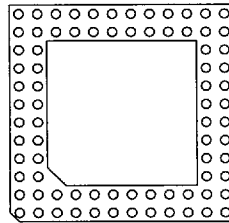
88 Pins  
8  
Without Window FP 09



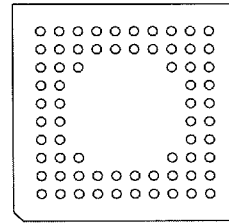
84 Pins  
10  
Without Window FP 11



84 Pins  
12  
Without Window FP 13



80 Pins  
14  
Without Window FP 15

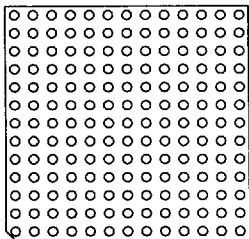


68 Pins  
17

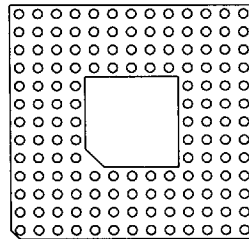
⊕ Denotes that the hole will not be loaded with a pin.

D

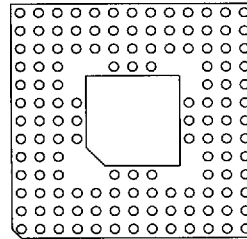
13 x 13



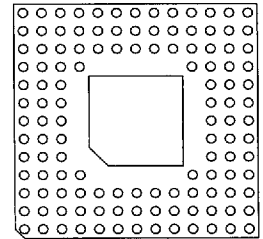
169 Pins  
1



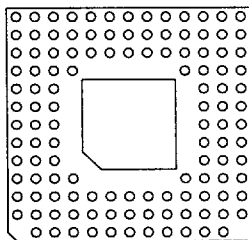
144 Pins  
2  
Without Window FP 03



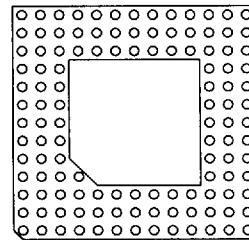
132 Pins  
6  
Without Window FP 07



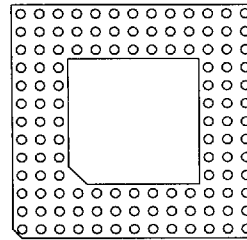
124 Pins  
8  
Without Window FP 09



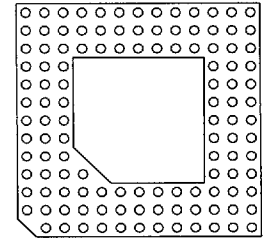
122 Pins  
10  
Without Window FP 11



121 Pins  
12  
Without Window FP 13



120 Pins  
14  
Without Window FP 15



120 Pins  
16  
Without Window FP 17

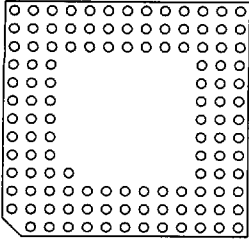
Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002904 940 ■

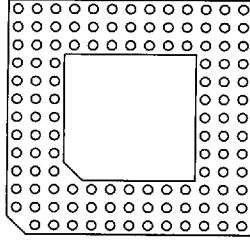
D25

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

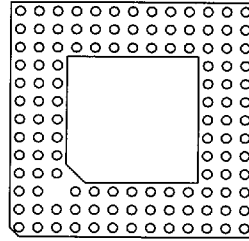
# PGA Footprints 13 x 13



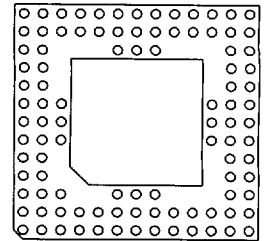
120 Pins  
17



119 Pins  
18

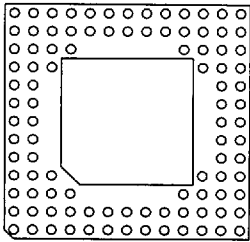


119 Pins  
19  
Without Window FP 20

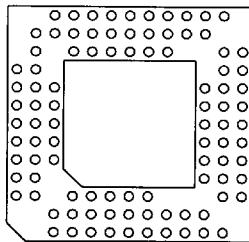


101 Pins  
21  
Without Window FP 22

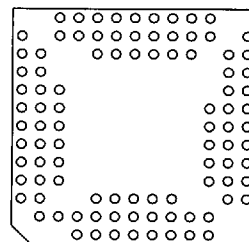
D



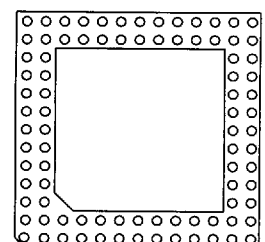
100 Pins  
23  
Without Window FP 24



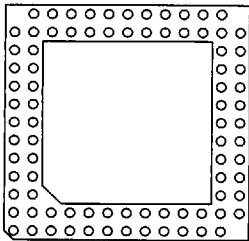
96 Pins  
25



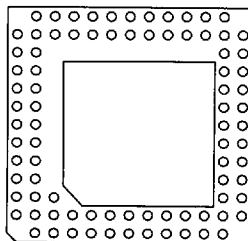
96 Pins  
26



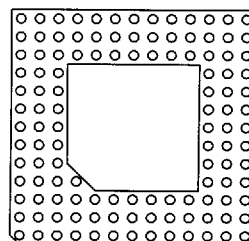
88 Pins  
27  
Without Window FP 28



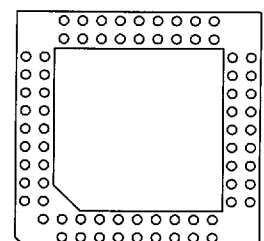
85 Pins  
29  
Without Window FP 30



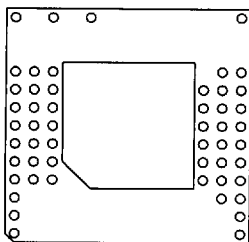
85 Pins  
31  
Without Window FP 32



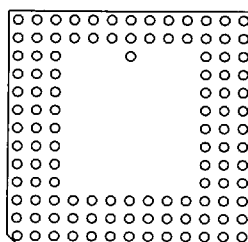
85 Pins  
32



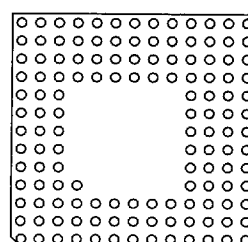
73 Pins  
33  
Without Window FP 34



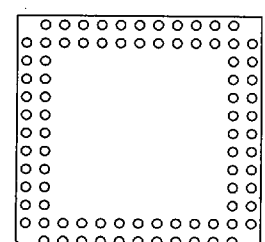
52 Pins  
35  
Without Window FP 36



114 Pins  
37



134 Pins  
38



84 Pins  
39

**Thomas & Betts**

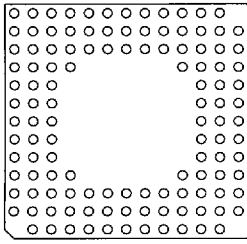
Quality & Innovation From **AUGAT**® Name Brand Products

D 15F ■ 9006410 0002905 887 ■

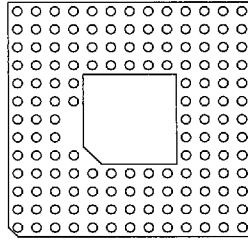
D26

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

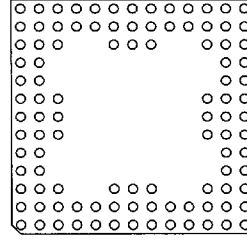
# 13 x 13 PGA Footprints



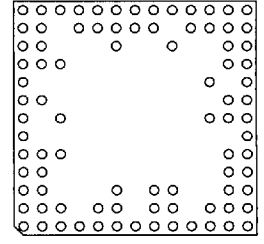
121 Pins  
40



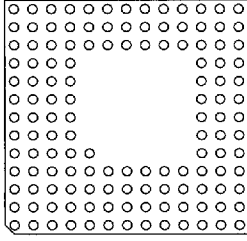
142 Pins  
41



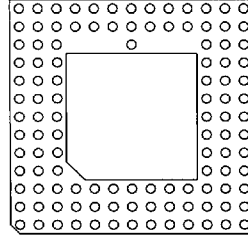
104 Pins  
42



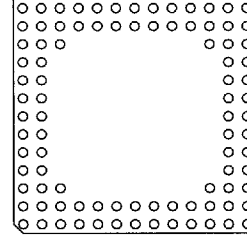
88 Pins  
43



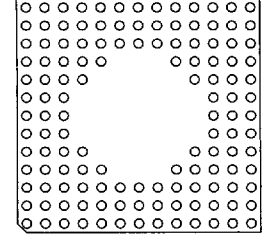
134 Pins  
44



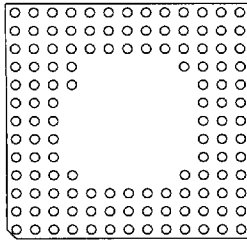
114 Pins  
45



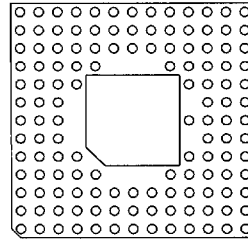
92 Pins  
46



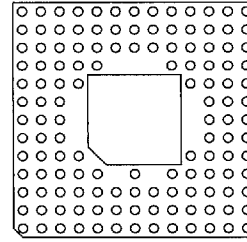
132 Pins  
47



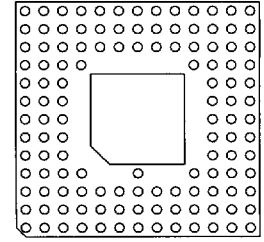
125 Pins  
48



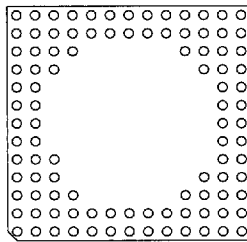
133 Pins  
49



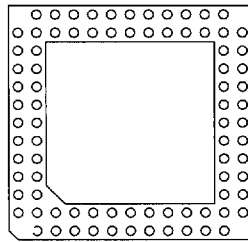
133 Pins  
51



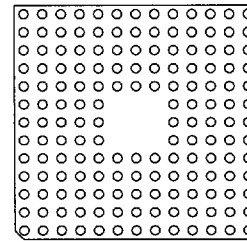
125 Pins  
52



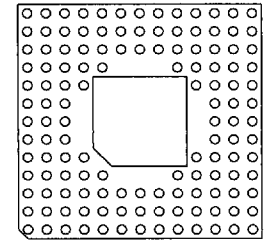
101 Pins  
53



84 Pins  
55



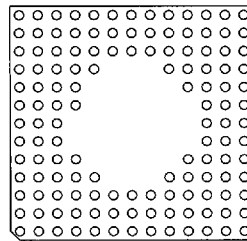
160 Pins  
56



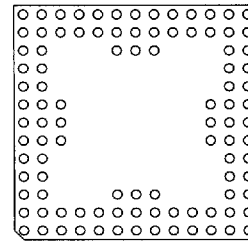
132 Pins  
57

Without Window FP 39

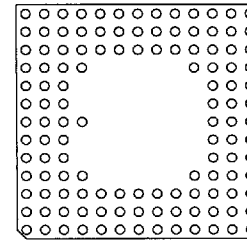
Without Window FP 47



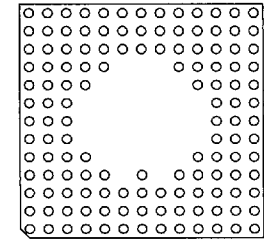
133 Pins  
58



100 Pins  
61



125 Pins  
62



133 Pins  
63

D

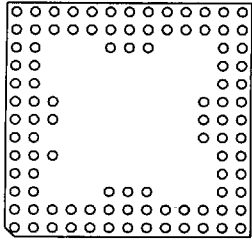
Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002906 713 ■

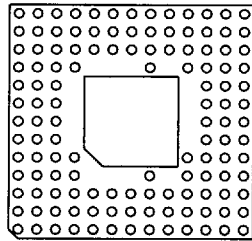
D27

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

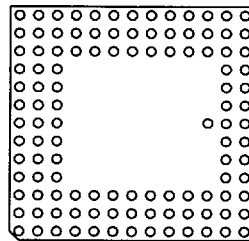
# PGA Footprints 13 x 13



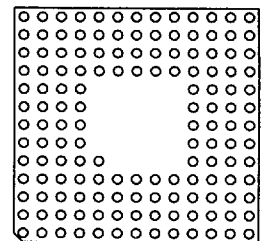
100 Pins  
64



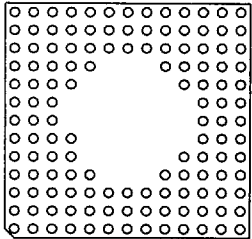
128 Pins  
65



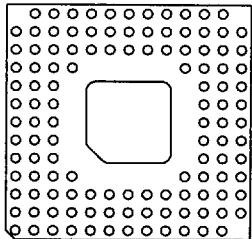
114 Pins  
68



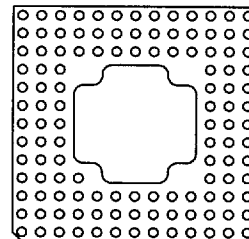
145 Pins  
71



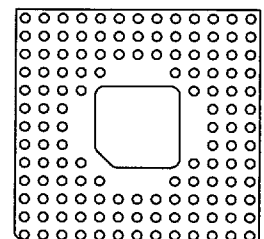
133 Pins  
74



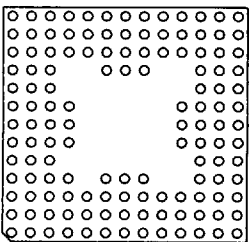
121 Pins  
76



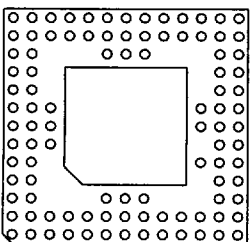
121 Pins  
80



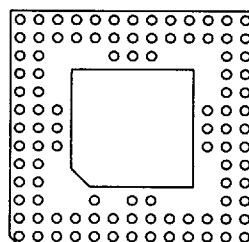
132 Pins  
93  
Without Window FP 47



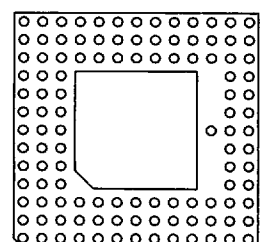
133 Pins  
95



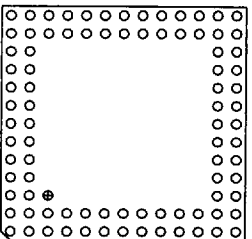
100 Pins  
1A



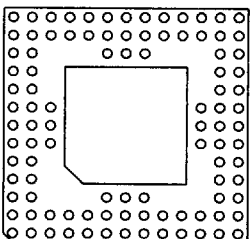
100 Pins  
2A  
Without Window FP 98



114 Pins  
3A  
Without Window FP 68



88 Pins  
5A



100 Pins  
6A

⊕ Denotes that the hole will not be loaded with a pin.

D

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

D 15F ■ 9006410 0002907 65T ■

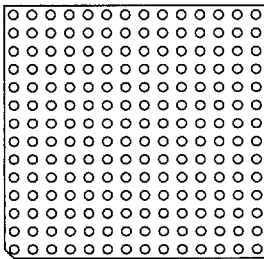
D28

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

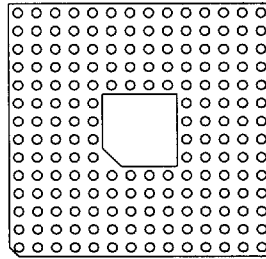


# 14 x 14 PGA Footprints

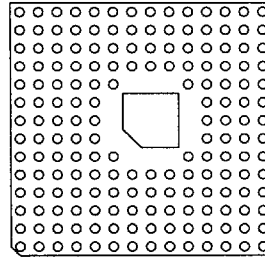
**D**



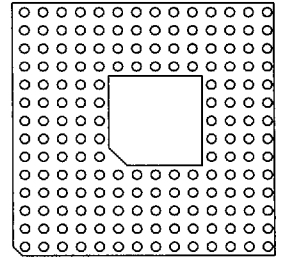
196 Pins  
1



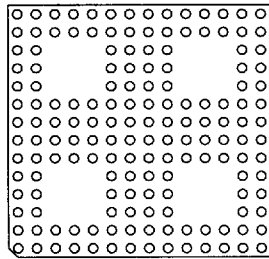
180 Pins  
2  
Without Window FP 03



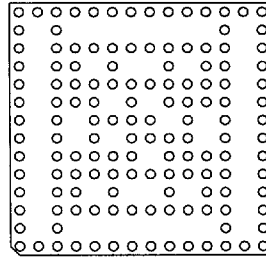
175 Pins  
4



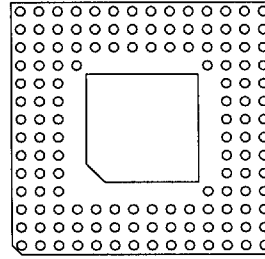
171 Pins  
6



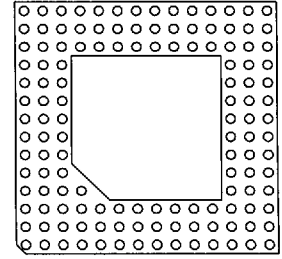
160 Pins  
8



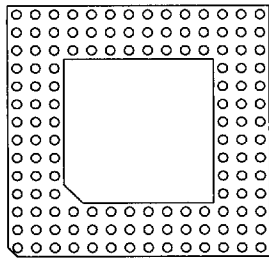
139 Pins  
9



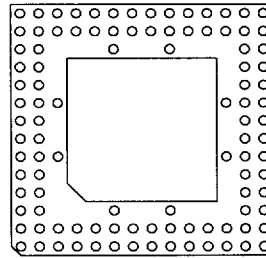
135 Pins  
10



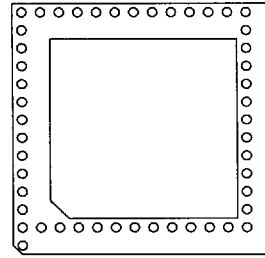
133 Pins  
12  
Without Window FP 13



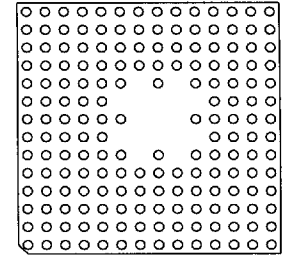
132 Pins  
14  
Without Window FP 15



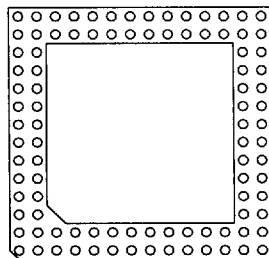
104 Pins  
16  
Without Window FP 17



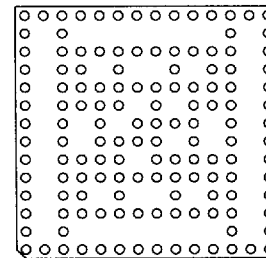
49 Pins  
18  
Without Window FP 19



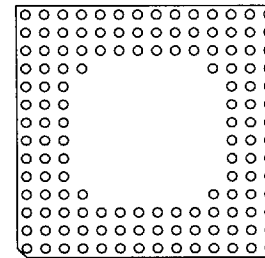
179 Pins  
20



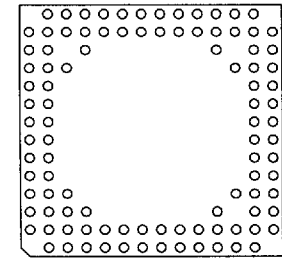
96 Pins  
21  
Without Window FP 30



139 Pins  
22



136 Pins  
23



101 Pins  
25

Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

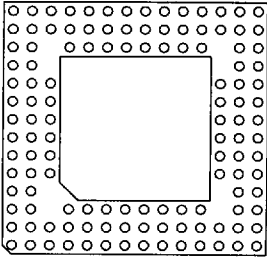
D 15F ■ 9006410 0002908 596 ■

D29

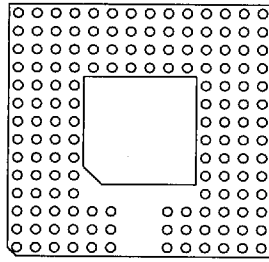
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# PGA Footprints 14 x 14 & 15 x 15

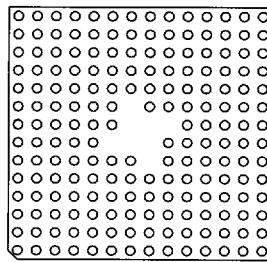
## 14 x 14



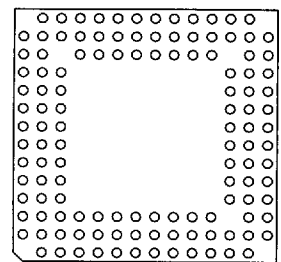
124 Pins  
26



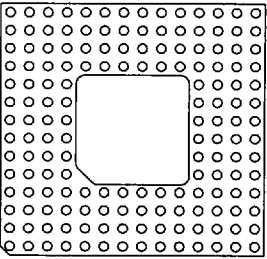
148 Pins  
28



188 Pins  
31

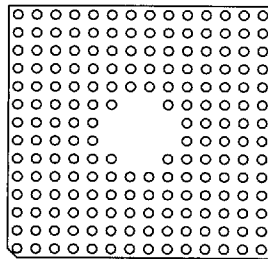


125 Pins  
32

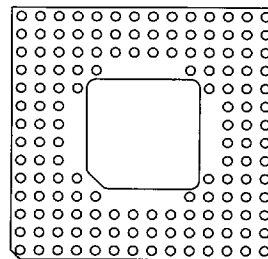


160 Pins  
33

Without Window FP 27

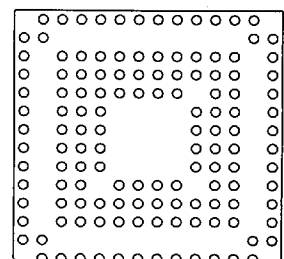


184 Pins  
35



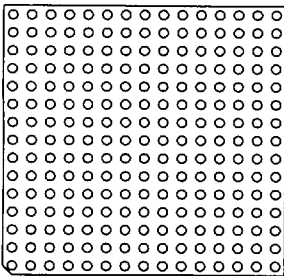
144 Pins  
40

Without Window FP 39

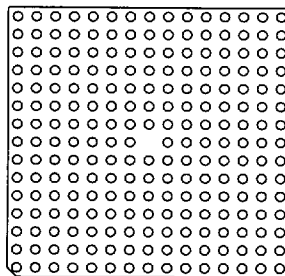


132 Pins  
45

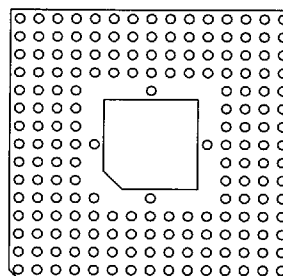
## 15 x 15



225 Pins  
1

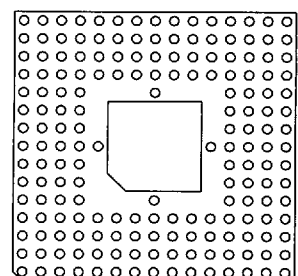


224 Pins  
3



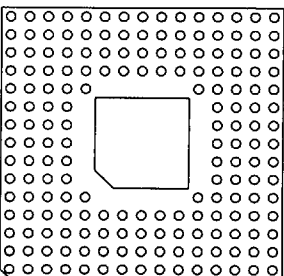
181 Pins  
4

Without Window FP 05



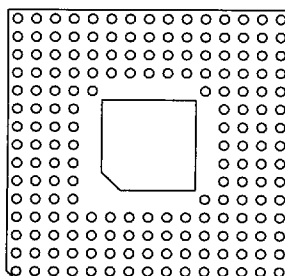
180 Pins  
6

Without Window FP 07



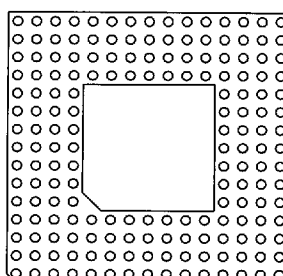
180 Pins  
8

Without Window FP 09



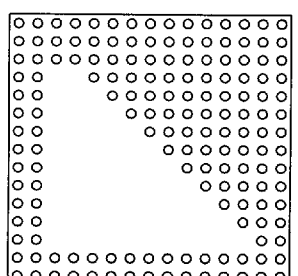
179 Pins  
10

Without Window FP 11



176 Pins  
12

Without Window FP 13



160 Pins  
14

**Thomas & Betts**

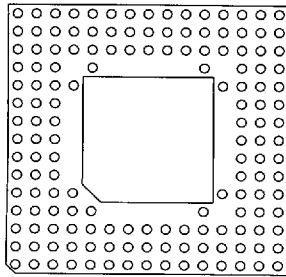
Quality & Innovation From **AUGAT**® Name Brand Products

D 15F 9006410 0002909 422

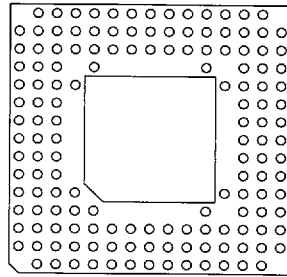
D30

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

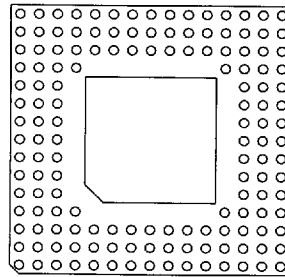
# 15 x 15 PGA Footprints



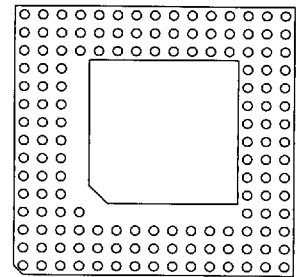
153 Pins  
15  
Without Window FP16



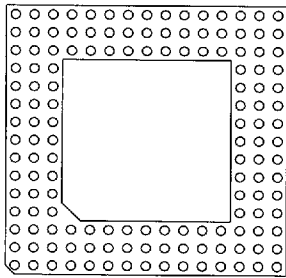
149 Pins  
17  
Without Window FP18



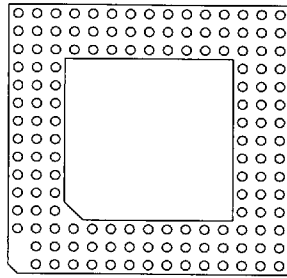
148 Pins  
19  
Without Window FP20



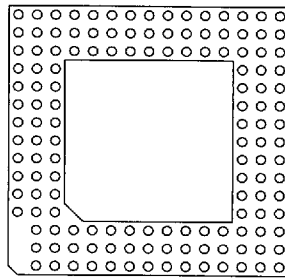
145 Pins  
21  
Without Window FP22



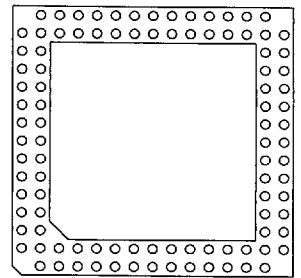
144 Pins  
23  
Without Window FP24



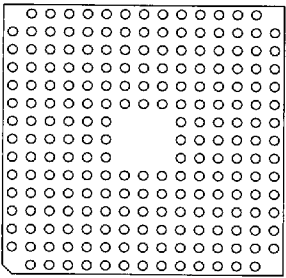
142 Pins  
25  
Without Window FP26



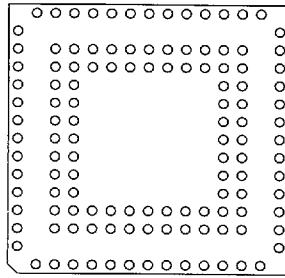
141 Pins  
27  
Without Window FP28



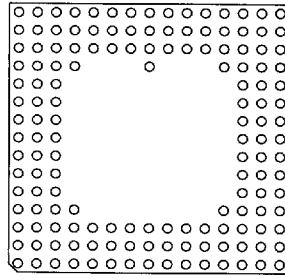
100 Pins  
29  
Without Window FP30



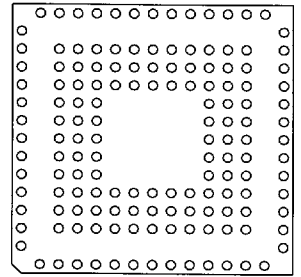
212 Pins  
32



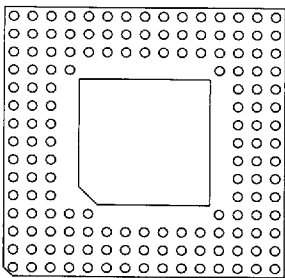
124 Pins  
34



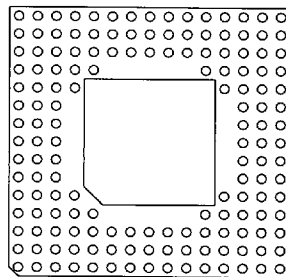
149 Pins  
37



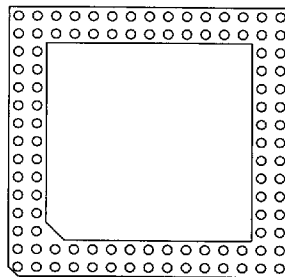
148 Pins  
38



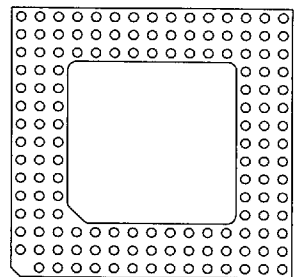
149 Pins  
40



156 Pins  
41  
Without Window FP39



104 Pins  
42  
Without Window FP43



143 Pins  
44

D

Need more technical information?

Consult your Thomas & Betts  
sales office listed on the back cover

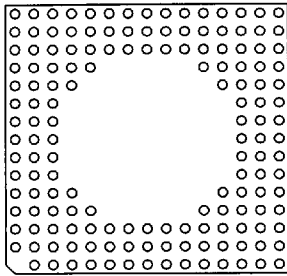
D 15F 9006410 0002910 144

D31

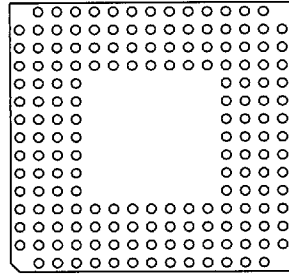
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# PGA Footprints 15 x 15 & 16 x 16

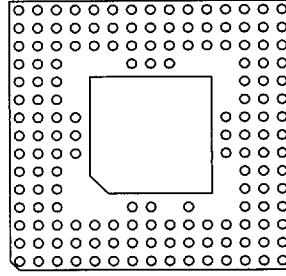
## 15 x 15



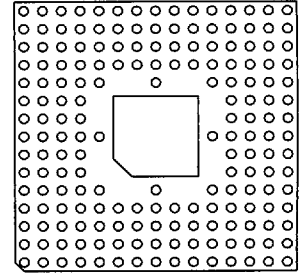
155 Pins  
45



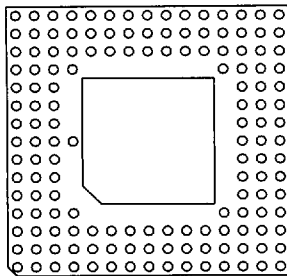
172 Pins  
47



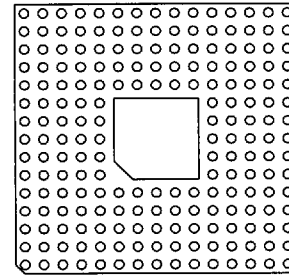
156 Pins  
48  
Without Window FP 50



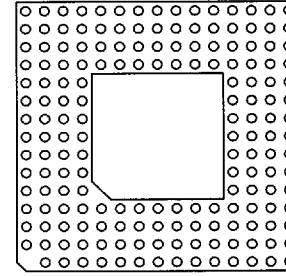
184 Pins  
51



149 Pins  
56

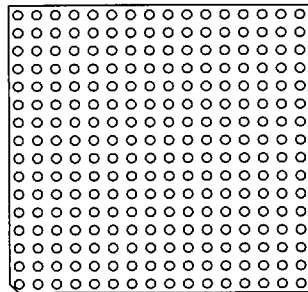


200 Pins  
60

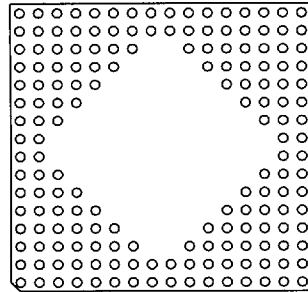


175 Pins  
62  
Without Window FP 58

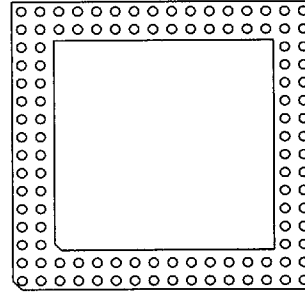
## 16 x 16



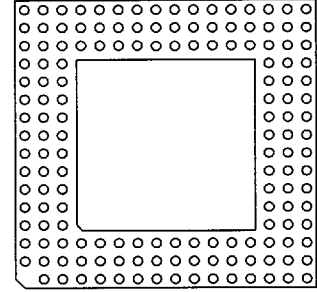
256 Pins  
1



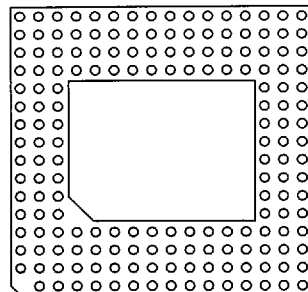
172 Pins  
2



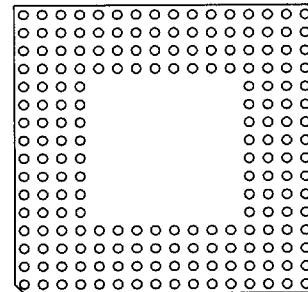
112 Pins  
5  
Without Window FP 04



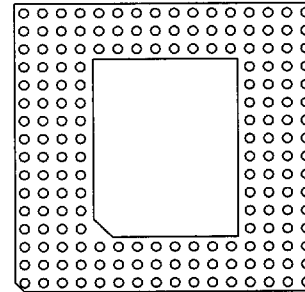
155 Pins  
7  
Without Window FP 03



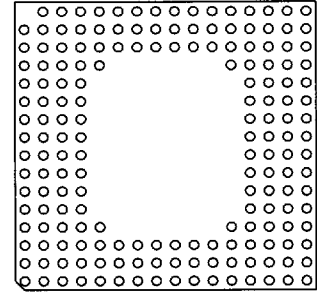
175 Pins  
9  
Without Window FP 10



192 Pins  
19



176 Pins  
20  
Without Window FP 18



159 Pins  
21

**Thomas & Betts**

Quality & Innovation From **AUGAT** Name Brand Products

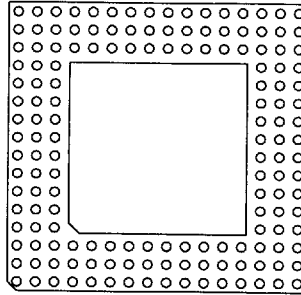
D 15F ■ 9006410 0002911 080 ■

D32

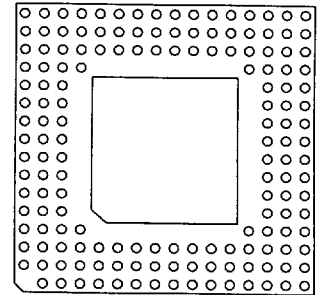
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 16 x 16 & 17 x 17 PGA Footprints

## 16 x 16



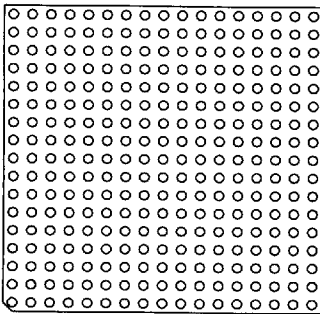
156 Pins  
22  
Without Window FP 24



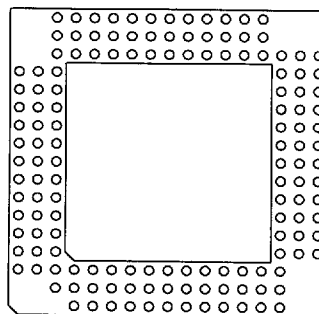
159 Pins  
27

**D**

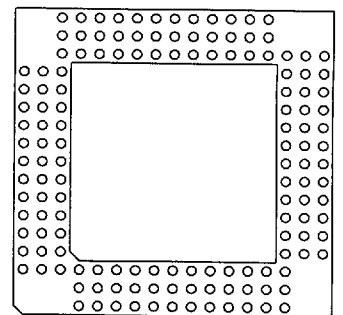
## 17 x 17



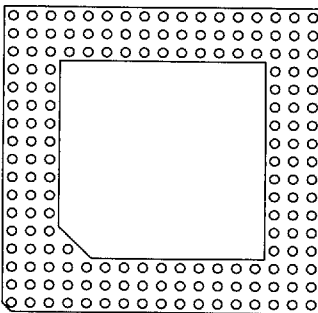
289 Pins  
1



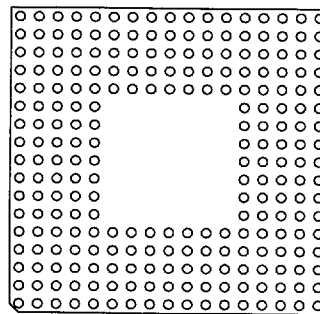
145 Pins  
2  
Without Window FP 03



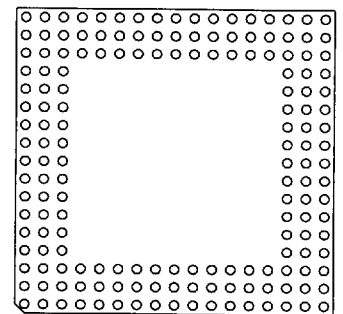
144 Pins  
4  
Without Window FP 05



169 Pins  
8  
Without Window FP 18  
Intel i486



240 Pins  
9



168 Pins  
11

Need more technical information?

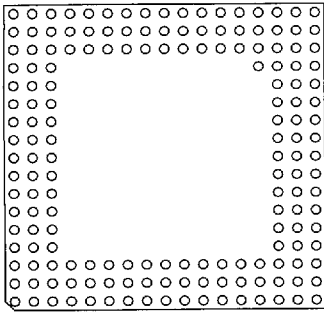
Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002912 T17 ■

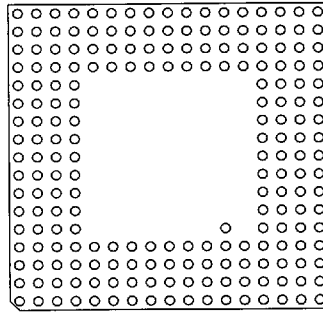
**D33**

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

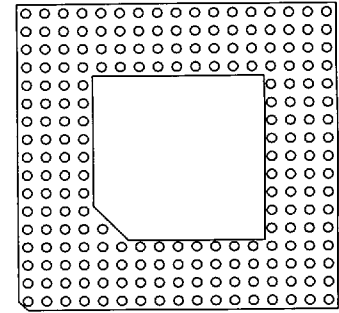
# PGA Footprints 17 x 17



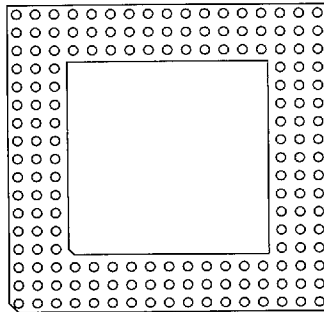
169 Pins  
12



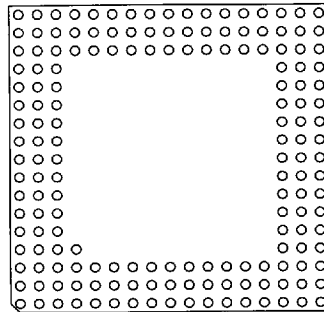
209 Pins  
13



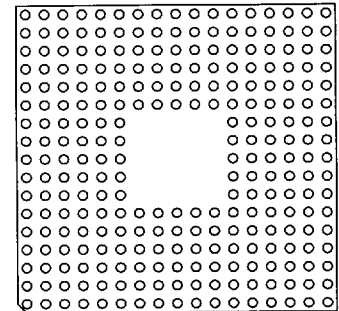
209 Pins  
14



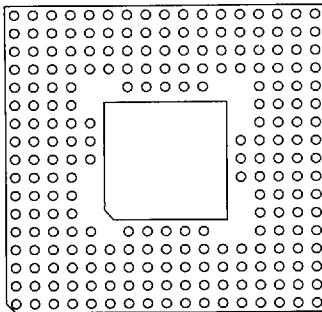
168 Pins  
15  
Without Window FP 11  
Intel i486



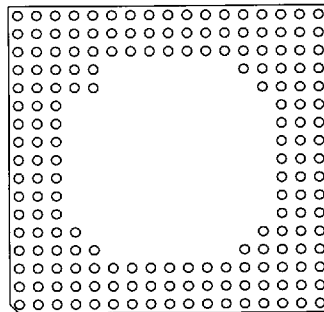
169 Pins  
18



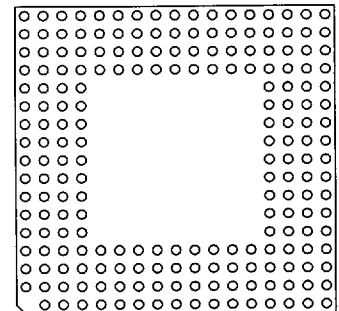
264 Pins  
19



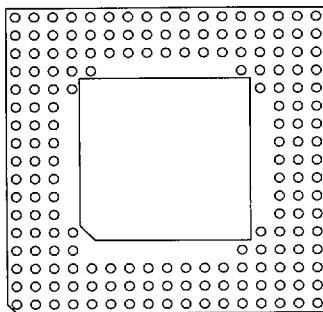
225 Pins  
20  
Without Window FP 29



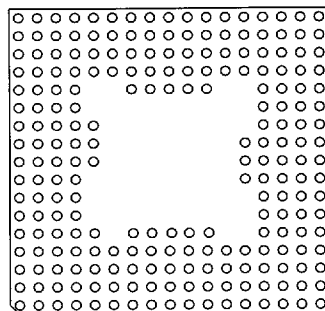
181 Pins  
22



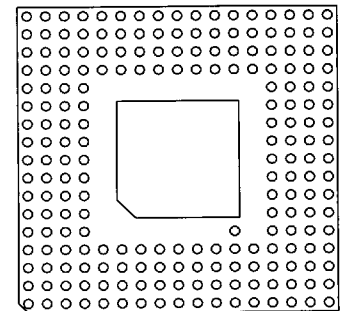
207 Pins  
27



181 Pins  
28



225 Pins  
29



209 Pins  
30

**Thomas & Betts**

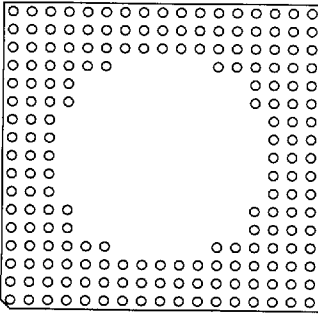
Quality & Innovation From **AUGAT** Name Brand Products

D 15F 9006410 0002913 953

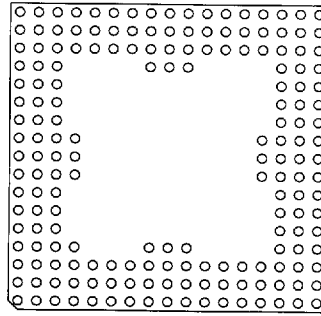
D34

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

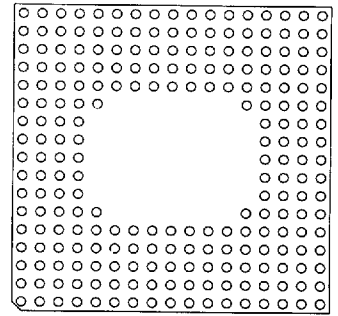
# 17 X 17 PGA Footprints



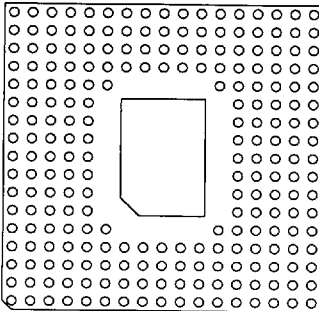
188 Pins  
33



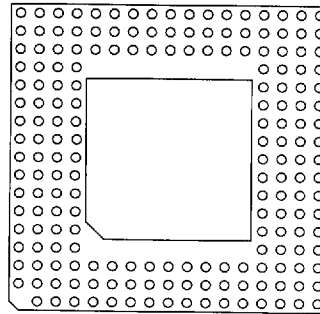
181 Pins  
34



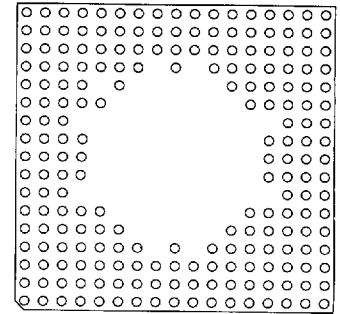
230 Pins  
36



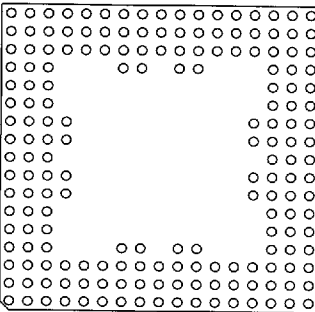
230 Pins  
38



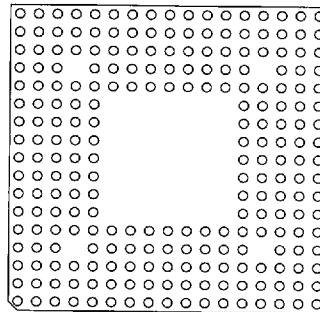
189 Pins  
42  
Without Window FP 45



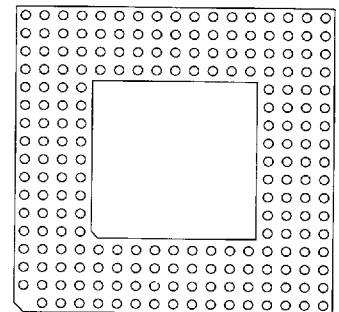
211 Pins  
43



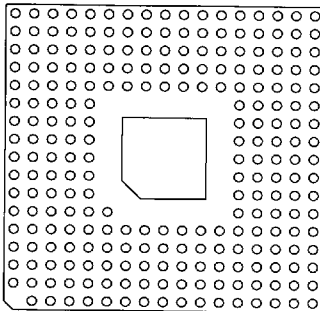
184 Pins  
46



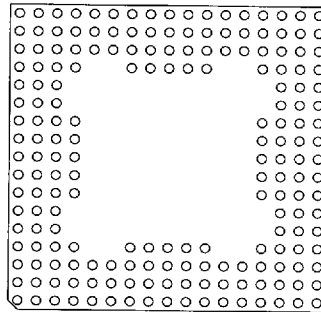
236 Pins  
47



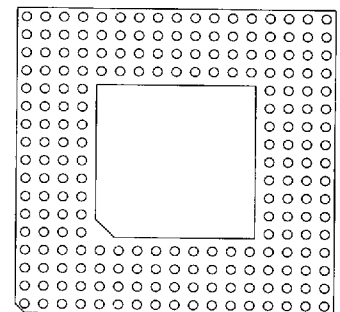
207 Pins  
49  
Without Window FP 27



240 Pins  
51



192 Pins  
52



208 Pins  
55

**D**

Need more technical information?

Consult your Thomas & Betts  
sales office listed on the back cover

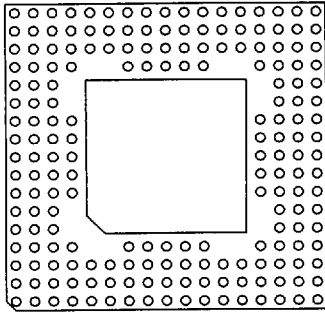
D 15F ■ 9006410 0002914 89T ■

D35

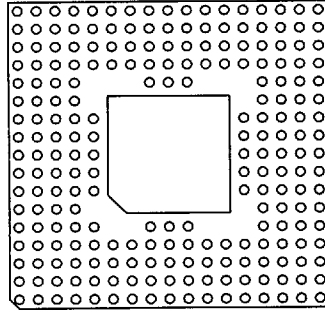
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# PGA Footprints 17 x 17 & 18 x 18

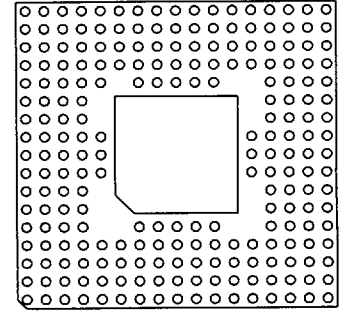
## 17 x 17



192 Pins  
56  
Without Window FP 52

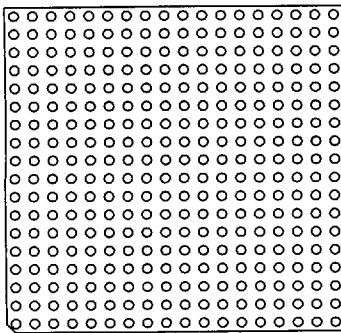


225 Pins  
57

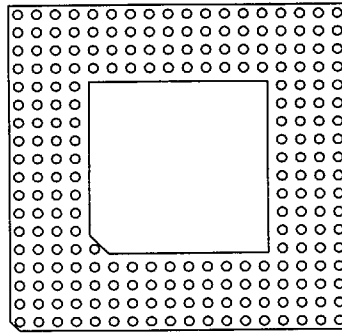


225 Pins  
58

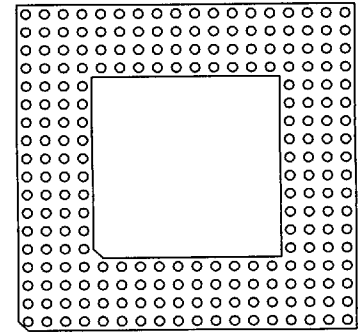
## 18 x 18



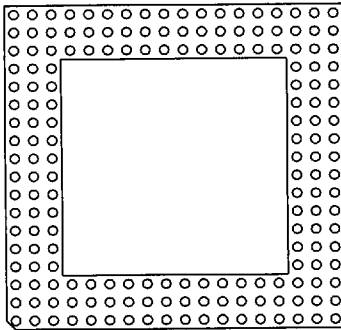
324 Pins  
1



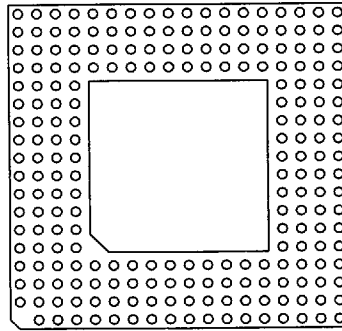
225 Pins  
2  
Without Window FP 03



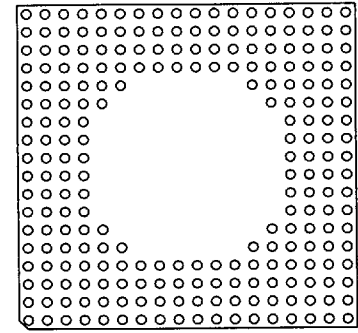
224 Pins  
4  
Without Window FP 05



180 Pins  
6  
Without Window FP 07



223 Pins  
8  
Without Window FP 13



236 Pins  
9

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

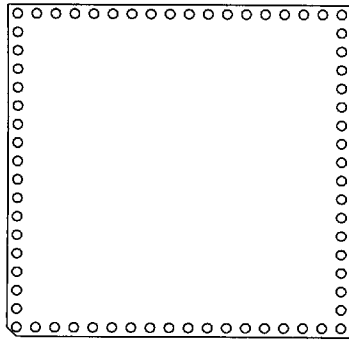
D 15F ■ 9006410 0002915 726 ■

D36

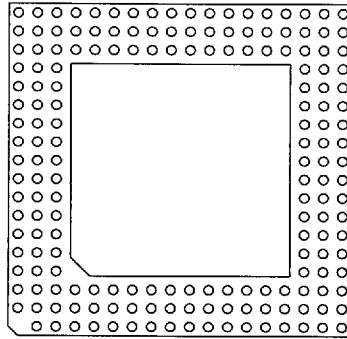
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805



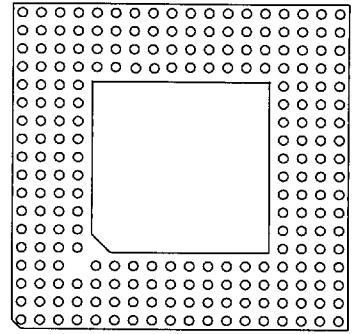
# 18 x 18 PGA Footprints



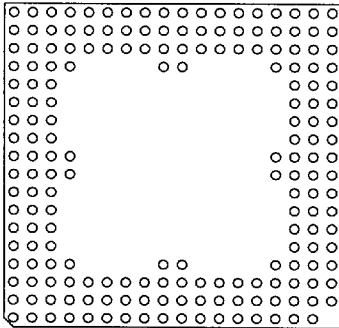
68 Pins  
11



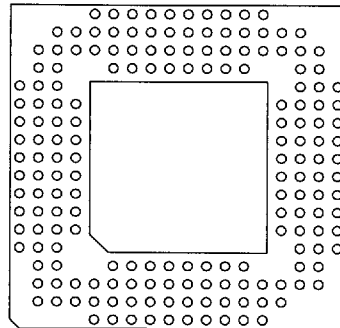
179 Pins  
18  
Without Window FP 14  
Motorola 68040



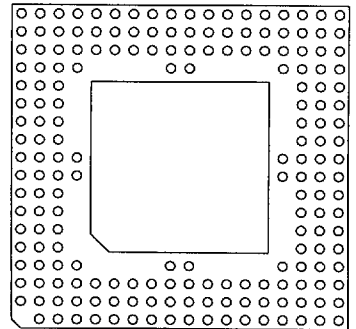
223 Pins  
20  
Without Window FP 21



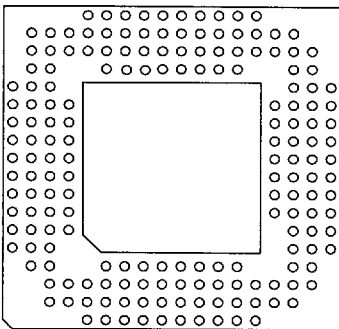
191 Pins  
23



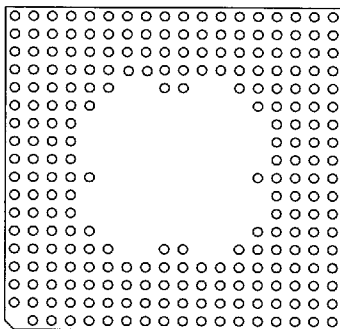
180 Pins  
27  
Without Window FP 25



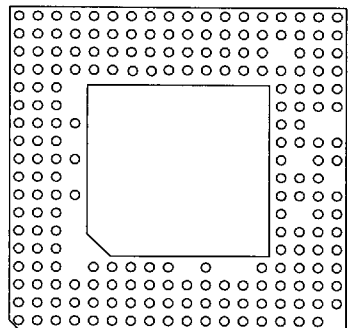
191 Pins  
28



180 Pins  
30



241 Pins  
32



206 Pins  
37  
Motorola 68060

**D**

Need more technical information?

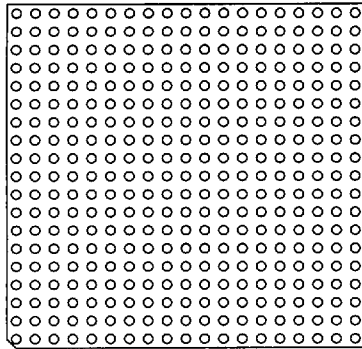
Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002916 662 ■

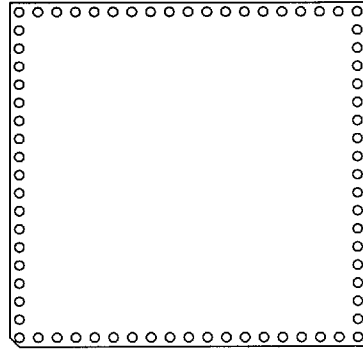
**D37**

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

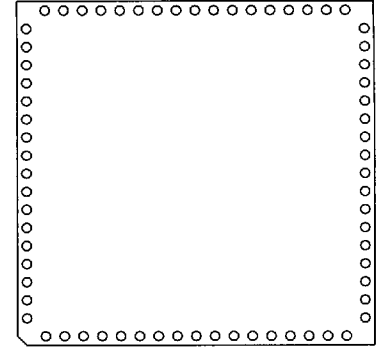
# PGA Footprints 19 x 19



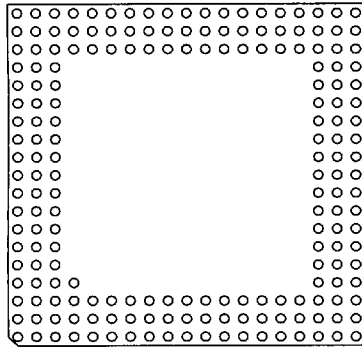
361 Pins  
1



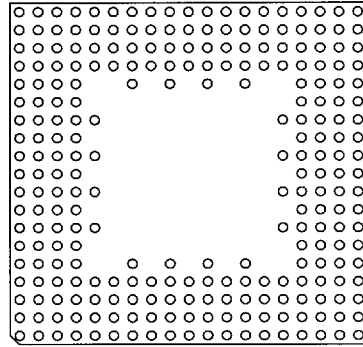
72 Pins  
2



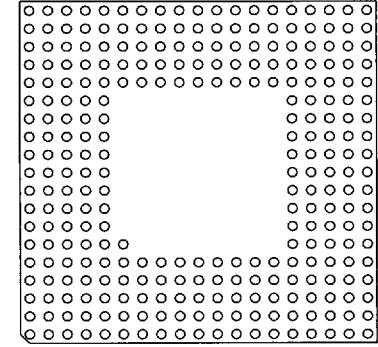
68 Pins  
3



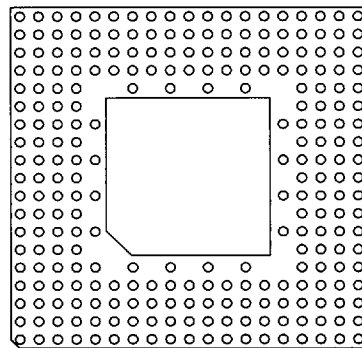
193 Pins  
4



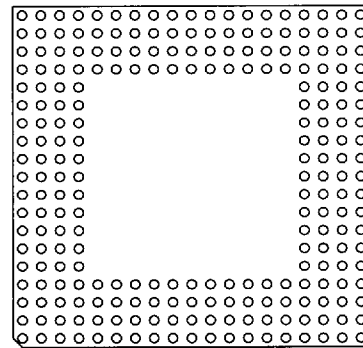
256 Pins  
5



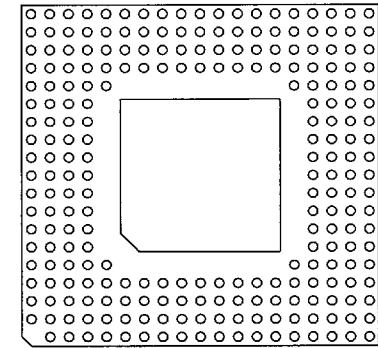
281 Pins  
6



257 Pins  
9  
Without Window FP 08



240 Pins  
10



243 Pins  
11

**Thomas & Betts**

Quality & Innovation From **AUGAT** Name Brand Products

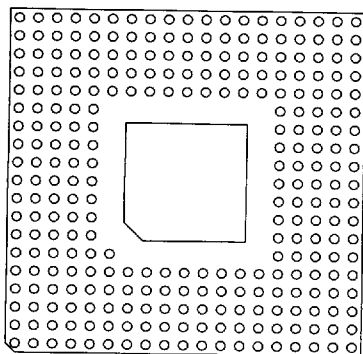
D 15F ■ 9006410 0002917 5T9 ■

D38

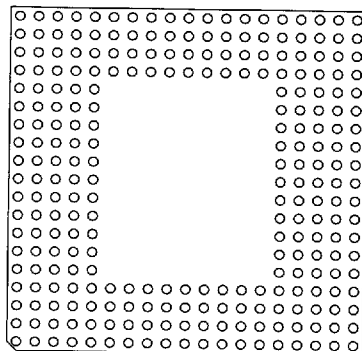
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 19 x 19 PGA Footprints

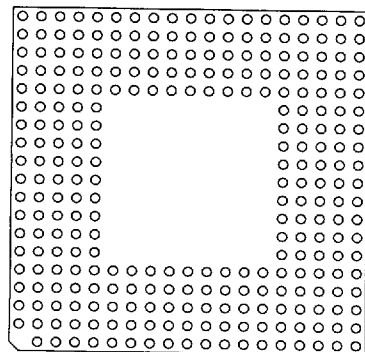
**D**



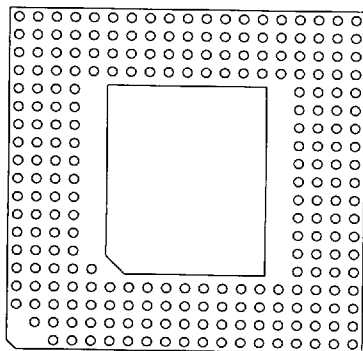
281 Pins  
13



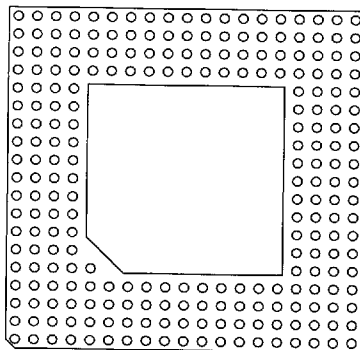
262 Pins  
14



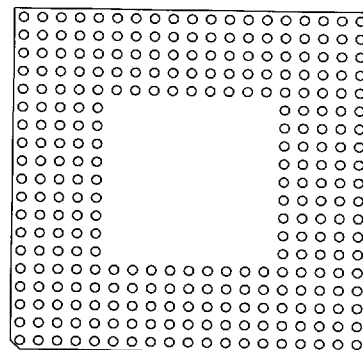
279 Pins  
15



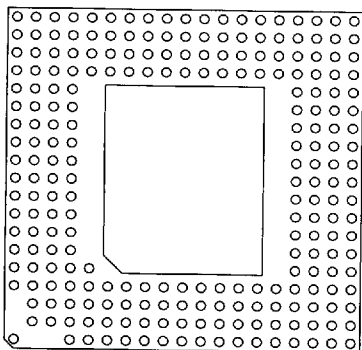
238 Pins  
16  
Without Window FP 18  
Intel P24T



241 Pins  
20  
Without Window FP 19



280 Pins  
21



237 Pins  
25  
Without Window FP 27  
Intel P24CT

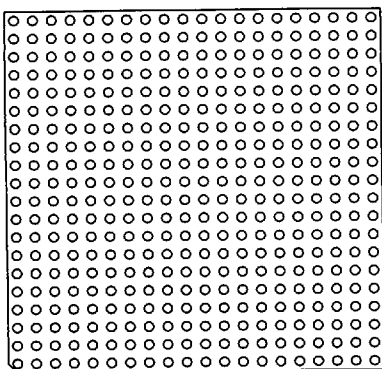
Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002918 435 ■

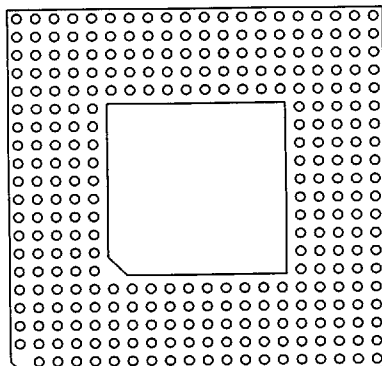
D39

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

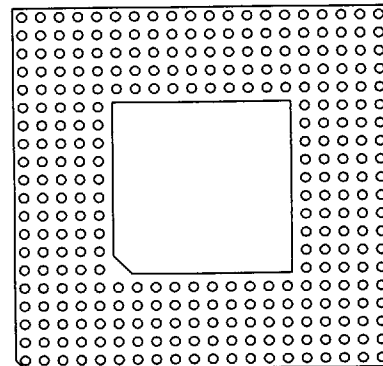
# PGA Footprints 20 x 20



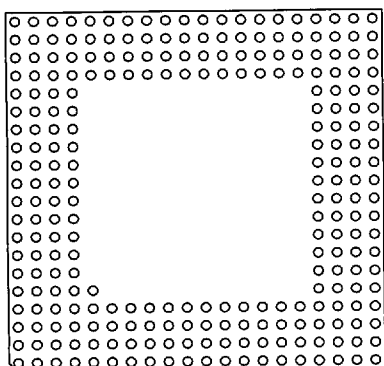
400 Pins  
1



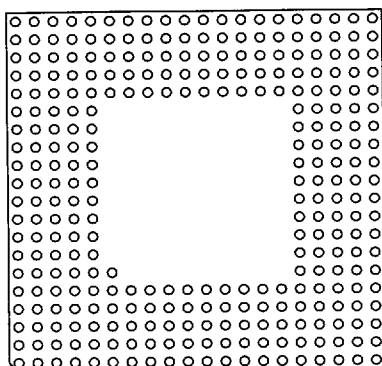
299 Pins  
2  
Without Window FP 07



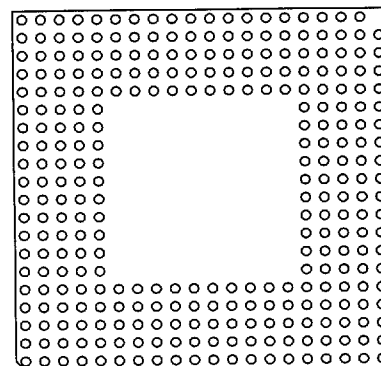
300 Pins  
3  
Without Window FP 09



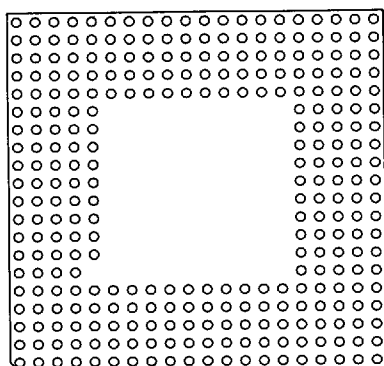
257 Pins  
4



301 Pins  
5



299 Pins  
6



299 Pins  
13

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

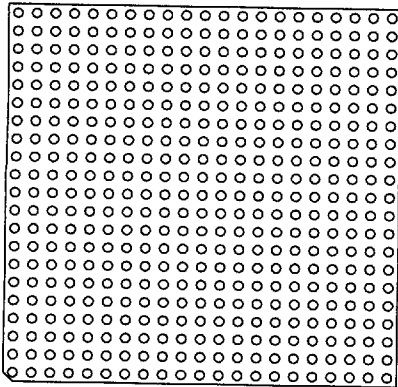
D 15F ■ 9006410 0002919 371 ■

D40

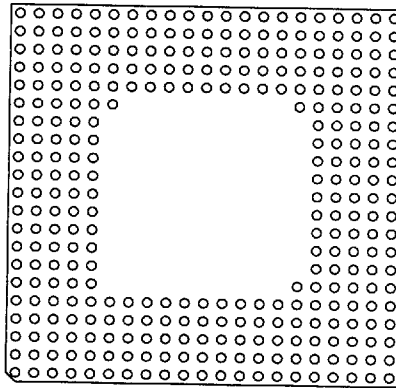
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 21 x 21 PGA Footprints

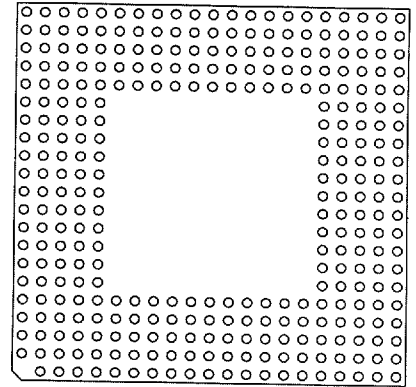
D



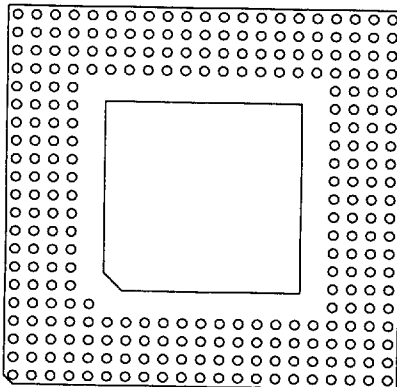
441 Pins  
1



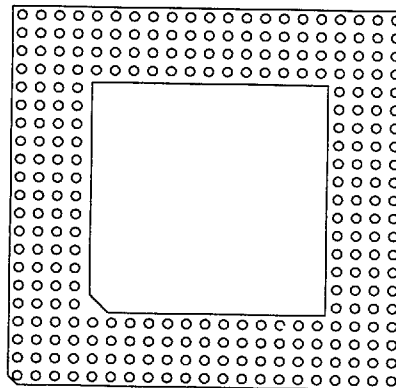
323 Pins  
3



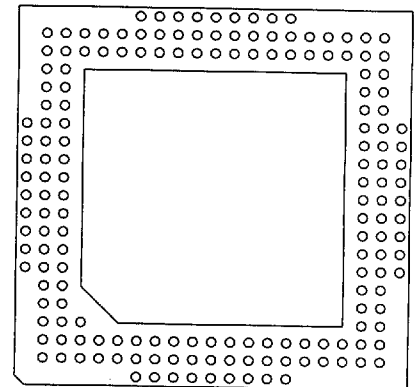
319 Pins  
8



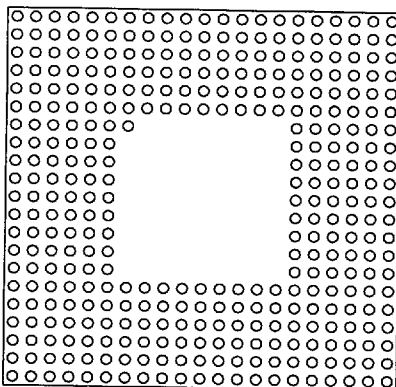
273 Pins  
11  
Without Window FP 10  
Intel Pentium™



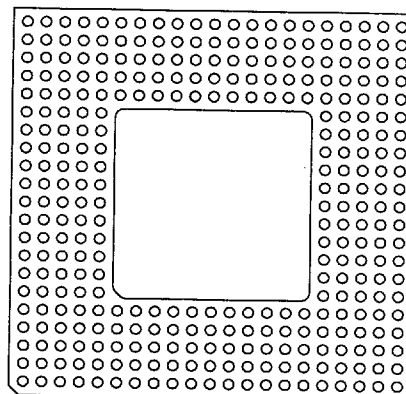
272 Pins  
13  
Without Window FP 02



173 Pins  
14



361 Pins  
15



320 Pins  
16  
Without Window FP 06

Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

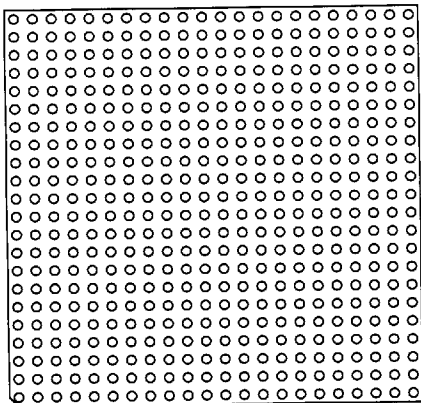
D 15F ■ 9006410 0002920 093 ■

D41

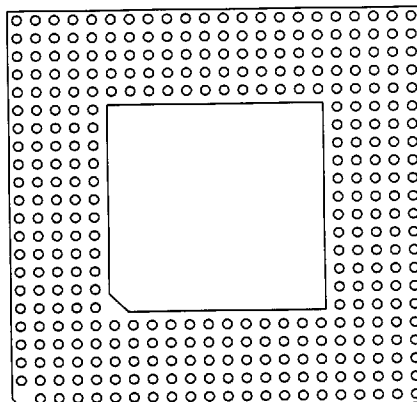
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# PGA Footprints 22 X 22

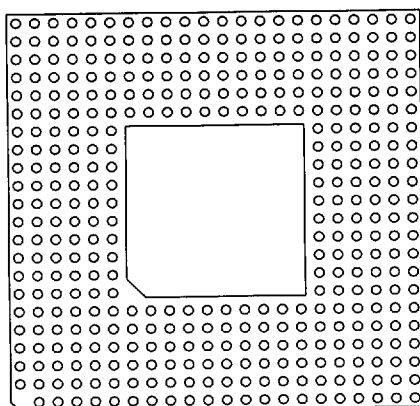
D



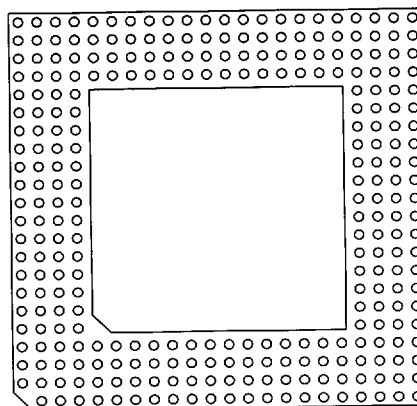
484 Pins  
1



339 Pins  
2



383 Pins  
4  
Without Window FP 03



287 Pins  
6  
Without Window FP 05

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

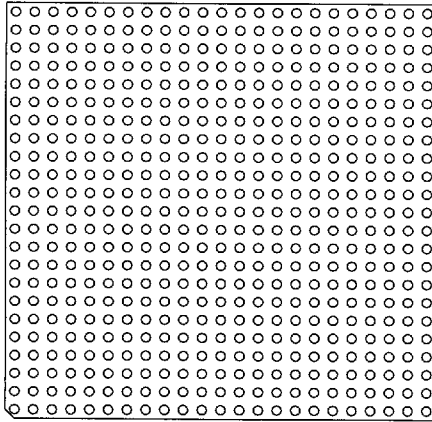
D 15F ■ 9006410 0002921 T2T ■

D42

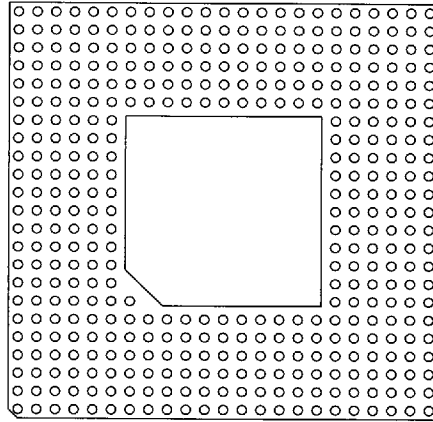
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 23 x 23 & 24 x 24 PGA Footprints

23 x 23



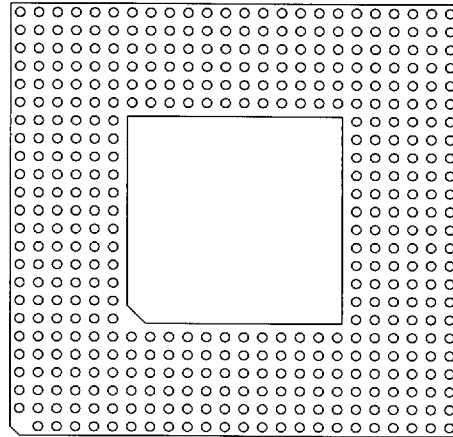
529 Pins  
1



409 Pins  
2  
Without Window FP 03

D

24 x 24



431 Pins  
2  
DEC AXP210G4A & AXP21064

Need more technical information?

Consult your Thomas & Betts  
sales office listed on the back cover

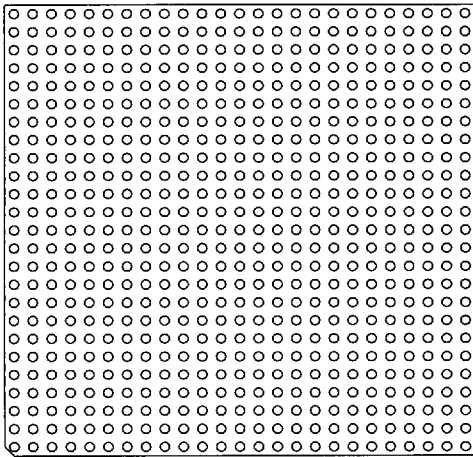
D 15F ■ 9006410 0002922 966 ■

D43

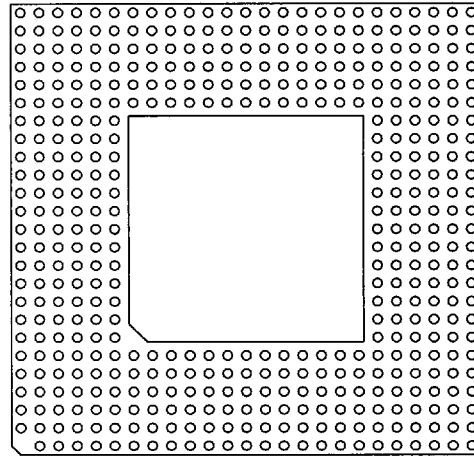
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# PGA Footprints 25 x 25

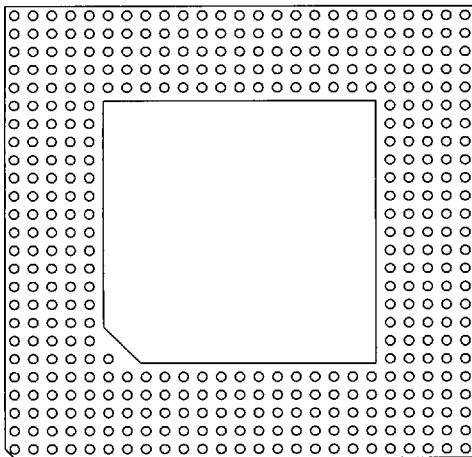
D



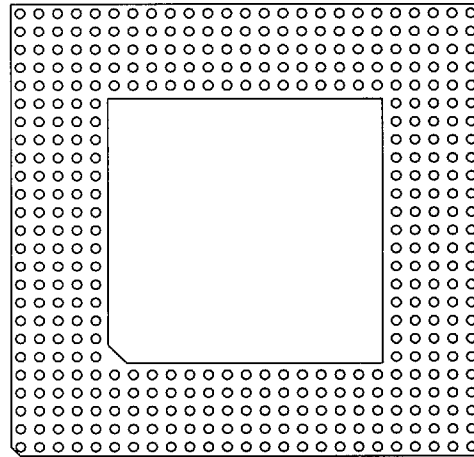
625 Pins  
1



455 Pins  
2



401 Pins  
3  
Without Window FP 04



400 Pins  
6

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

D 15F ■ 9006410 0002923 8T2 ■

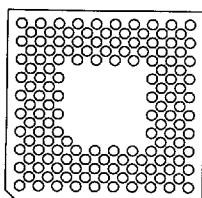
D44

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805



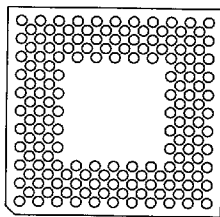
.050" x .100" (1,27 x 2,54) Centers IPGA Footprints

19 x 19



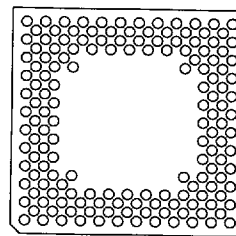
141 Pins  
A1

21 x 21



160 Pins  
A1

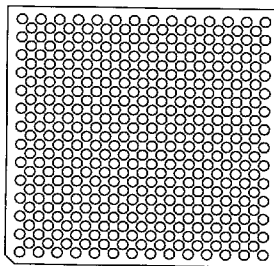
23 x 23



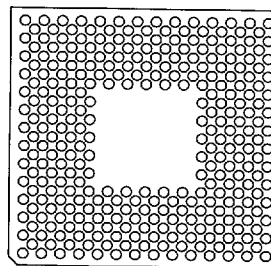
160 Pins  
A1

D

27 x 27

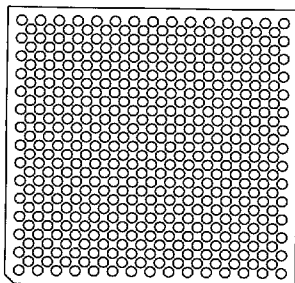


365 Pins  
A1



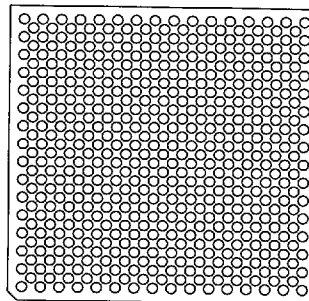
304 Pins  
A2

29 x 29



421 Pins  
A1

31 x 31



481 Pins  
A1

Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

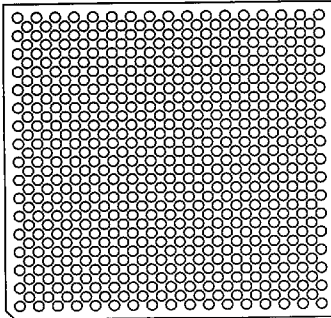
D 15F ■ 9006410 0002924 739 ■

D45

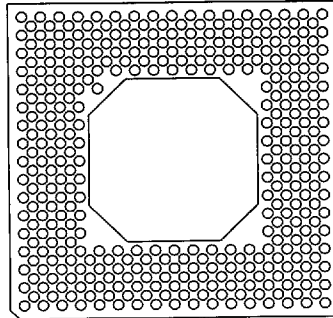
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# IPGA Footprints 33 x 33 & 35 x 35

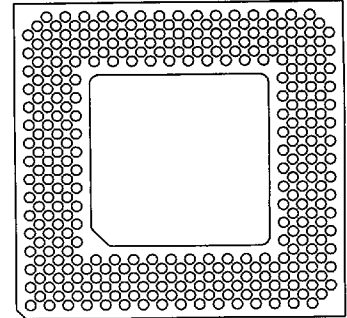
## 33 x 33



545 Pins  
A1



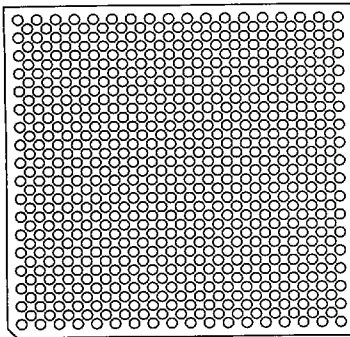
366 Pins  
A3



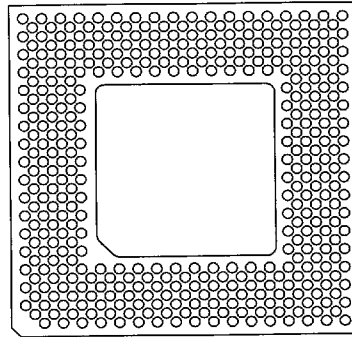
321 Pins  
A4

D

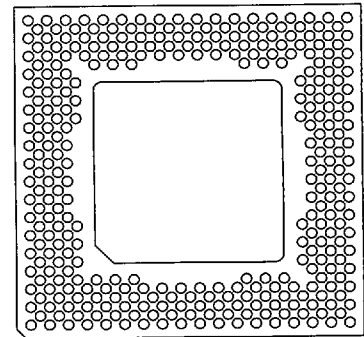
## 35 x 35



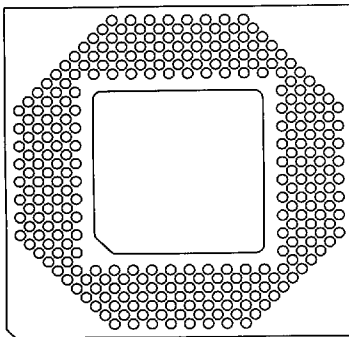
613 Pins  
A1



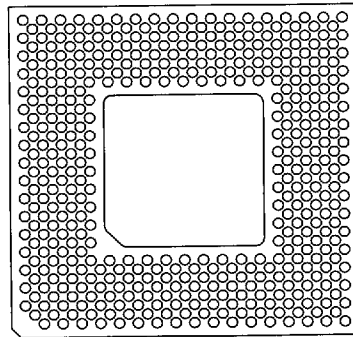
391 Pins  
A4  
Without Window FP A3



325 Pins  
A5  
Without Window FP A2  
TI TMS3200C40



293 Pins  
A6



431 Pins  
B3  
Without Window FP A9

**Thomas & Betts**

Quality & Innovation From **AUGAT**® Name Brand Products

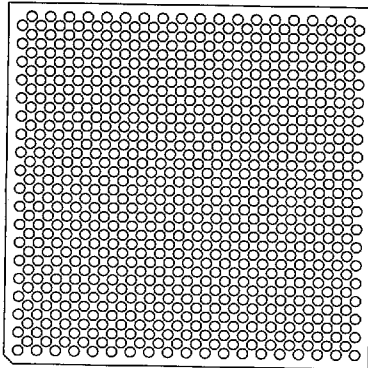
D 15F ■ 9006410 0002925 675 ■

D46

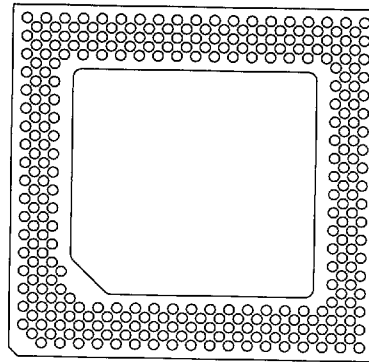
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 37 x 37 IPGA Footprints

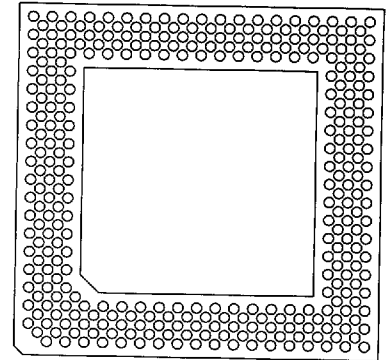
**D**



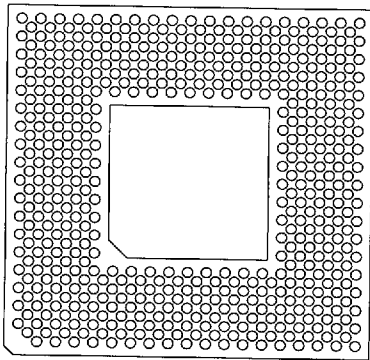
685 Pins  
A1



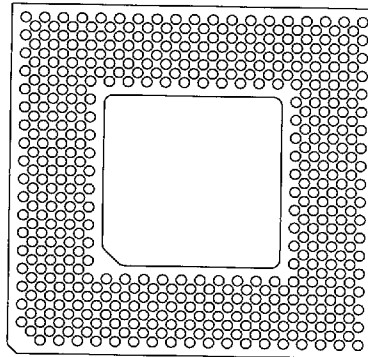
296 Pins  
A3  
Without Window FP A2  
Intel Pentium™ P54C



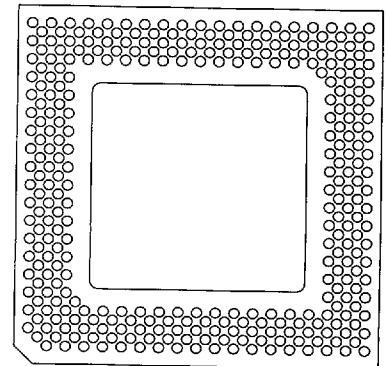
320 Pins  
A7  
Without Window FP A5  
Intel Pentium™ P54CM



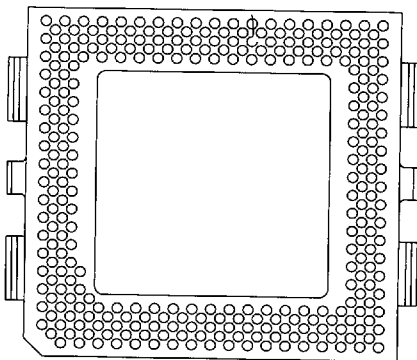
503 Pins  
A8



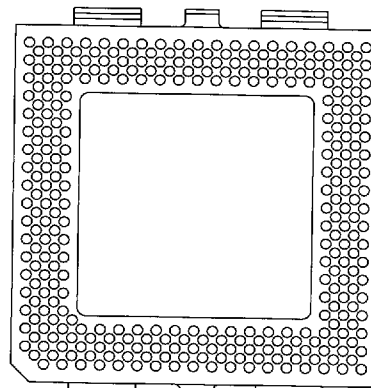
463 Pins  
B1



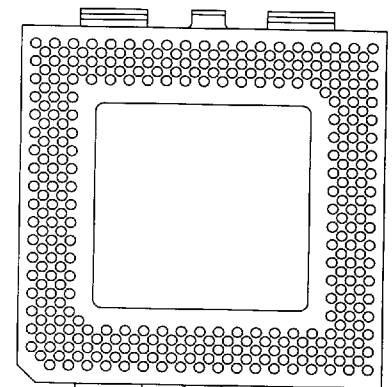
321 Pins  
B2\*  
Intel Pentium™ P55CM



296 Pins  
B4\*  
With Heatsink Tabs  
Intel Pentium™ P54C



320 Pins  
B5\*  
With Heatsink Tabs  
Intel Pentium™ P54CM



321 Pins  
B6\*  
With Heatsink Tabs  
Intel Pentium™ P55CM

\* Available in PIM Series - Molded Insulators

Need more technical information?  
Consult your Thomas & Betts  
sales office listed on the back cover

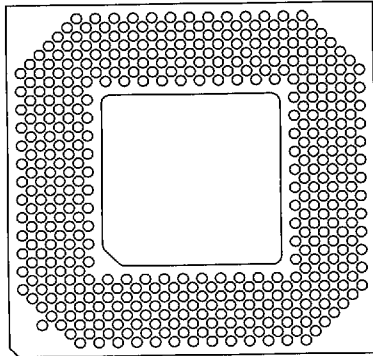
D 15F ■ 9006410 0002926 501 ■

D47

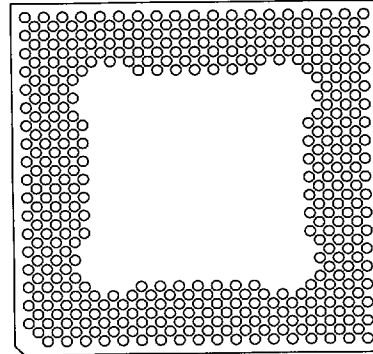
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# IPGA Footprints 37 x 37 & 39 x 39

37 x 37



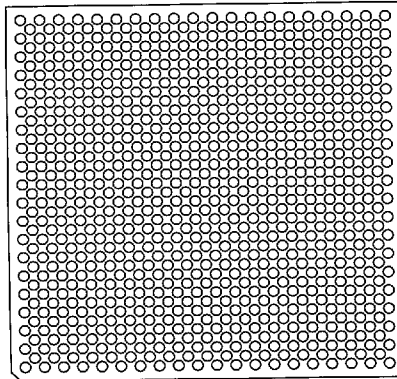
429 Pins  
B7



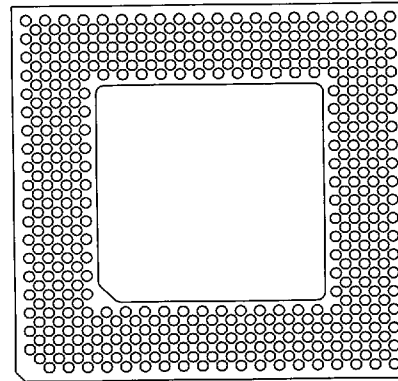
403 Pins  
C1

D

39 x 39



761 Pins  
A1



447 Pins  
A2\*  
Without Window FP A3  
MIPS R4000 SL, ML

\* Available in PIM Series- Molded Insulators

**Thomas & Betts**

Quality & Innovation From **AUGAT** Name Brand Products

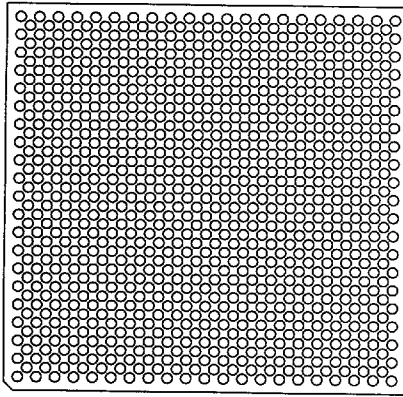
D 15F ■ 9006410 0002927 448 ■

D48

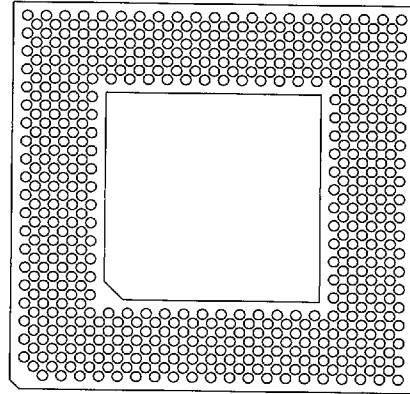
Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805

# 41 x 41 & 45 x 45 IPGA Footprints

41 x 41



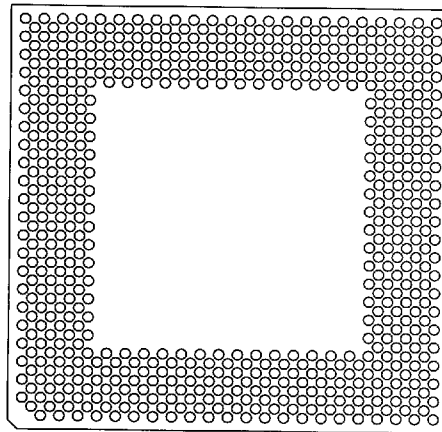
841 Pins  
A1



527 Pins  
A2

D

45 x 45



591 Pins  
A1

Need more technical information?

Consult your Thomas & Betts  
sales office listed on the back cover

D 15F ■ 9006410 0002928 384 ■

D49

Thomas & Betts  
1555 Lynnfield Road  
Memphis, TN 38119  
(901) 682-8221 FAX (901) 537-8805