

NP291 Series (Open Top)

Fine Ball Grid Array (FBGA, 0.75mm Pitch)

Specifications

Insulation Resistance: 1,000MΩ min. at 100V DC
 Dielectric Withstanding Voltage: 100V AC for 1 minute
 Contact Resistance: 100mΩ max. at 10mA/20mV max.
 Operating Temperature Range: -55°C to +170°C
 Contact Force: 15g /pin (approx.)

Materials and Finish

Housing: Polyethersulphone (PES), glass-filled and Polyetherimide (PEI), glass-filled
 Contacts: Beryllium Copper (BeCu)
 Plating: Gold over Nickel

Features

- Open top type sockets for FBGA packages
- Self contacting structure without upper pressing force (ZIF)
- Contacting structure to nip the sides of solder balls to lower damages of coplanarity of solder balls

Part Number (Details)

NP291 - 048 05 - 3 -(G4-BF) - *

Series No.

No. of Contact Pins

Design Number

G = Contact Plating (Gold)

4 = Contact Style (180° TH)

Contact Plating:

Contact Area - Au (0.3μm min. over Ni)

Terminal Area - Au (0.05μm min. over Ni)

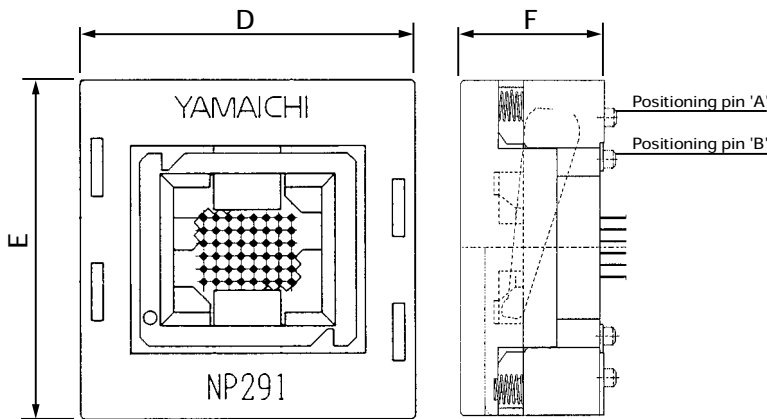
Positioning Pin Identification:

No Mark = Without Positioning Pins 'A' and 'B'

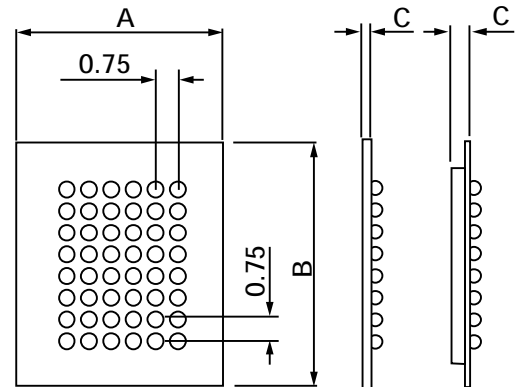
With Mark = For various Positioning Pin Options (Please contact Yamaichi)

Applicable Dimensions (Reference Only)

Outline Socket Dimensions



Outline IC Dimensions



(F) = Full Populated Grid

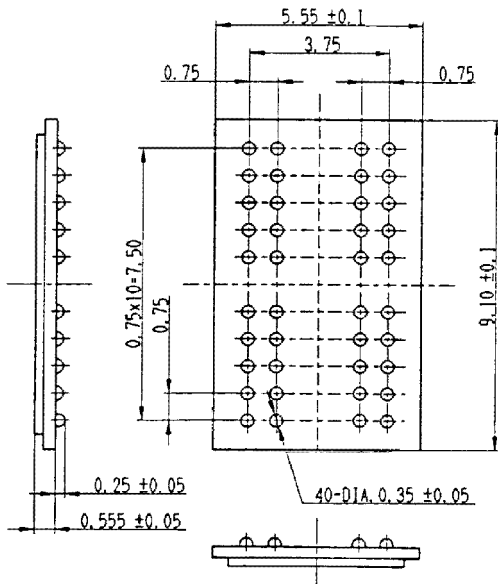
Part Number	Pin Count	Pitch	Grid Size	IC Dimensions			Socket Dimensions		
				A	B	C	D	E	F
NP291-03617-*	36	0.75	6 x 6 (F)	6.50	10.50	0.57-0.81	28.3	27.3	17.3
NP291-04002-G4-BF-*	40	0.75	5 x 8 (F)	7.48	5.74	0.715	27.5	22.5	17.3
NP291-04009-G4-BF-*	40	0.75	5 x 8 (F)	7.508	5.857	0.715	27.5	22.5	17.3
NP291-04013-*	40	0.75	6 x 10	5.55	9.10	0.555	18.0	24.0	15.4
NP291-04414-*	44	0.75	6 x 11	7.75	14.35	0.555	18.0	24.0	15.4
NP291-04805-1-*	48	0.75	6 x 8 (F)	9.00	15.00	0.30-0.80	32.0	32.0	19.0
NP291-04805-2-*	48	0.75	6 x 8 (F)	8.00	14.00	0.30-0.80	32.0	32.0	19.0
NP291-04805-3-*	48	0.75	6 x 8 (F)	6.00	8.00	0.30-0.80	32.0	32.0	19.0
NP291-04805-4-*	48	0.75	6 x 8 (F)	7.20	11.65	0.30-0.80	32.0	32.0	19.0
NP291-04805-5-*	48	0.75	6 x 8 (F)	6.20	13.75	0.30-0.80	32.0	32.0	19.0
NP291-04808-2-G4-BF-P	48	0.75	8 x 8 (F)	7.58	9.81	0.715	28.3	27.3	17.3
NP291-04812-2-G4-BF-P	48	0.75	8 x 8 (F)	7.91	6.50	0.715	28.3	27.3	17.3
NP291-07210-2.AC08904	54	0.75	8 x 8 (F)	7.67	16.37	0.715	28.4	33.9	17.3
NP291-07210-2.AC08338	56	0.75	8 x 8 (F)	7.67	16.37	0.715	28.4	33.9	17.3
NP291-07210-2-G4-BF-P	72	0.75	8 x 9 (F)	7.67	16.37	0.715	28.4	33.9	17.3
NP291-07423-1	74	0.75	7 x 16	7.08	12.44	0.37	16.8	22.0	15.8
NP291-28807-*	288	0.75	22 x 22	18.00	18.00	0.85	40.0	40.0	19.3

.AC are depopulated versions from existing NP291 Base Sockets. For further Pin Counts please contact Yamaichi.

NP291 Series (Open Top)

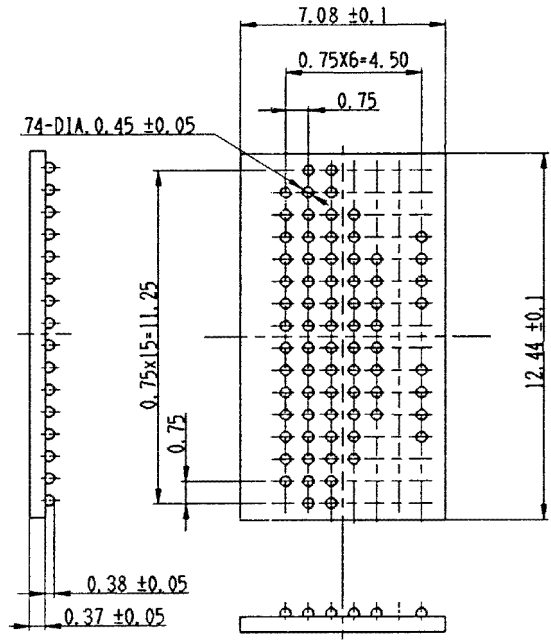
Fine Ball Grid Array (FBGA, 0.75mm Pitch)

40 pins NP291-04013-*



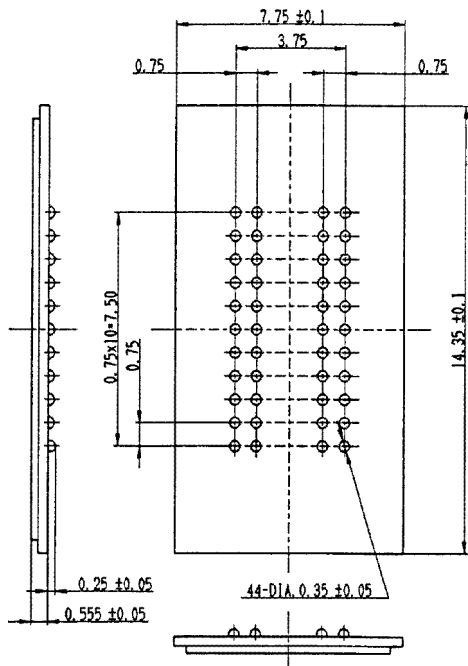
Grid Size 6 x 10

74 pins NP291-07423-*-1



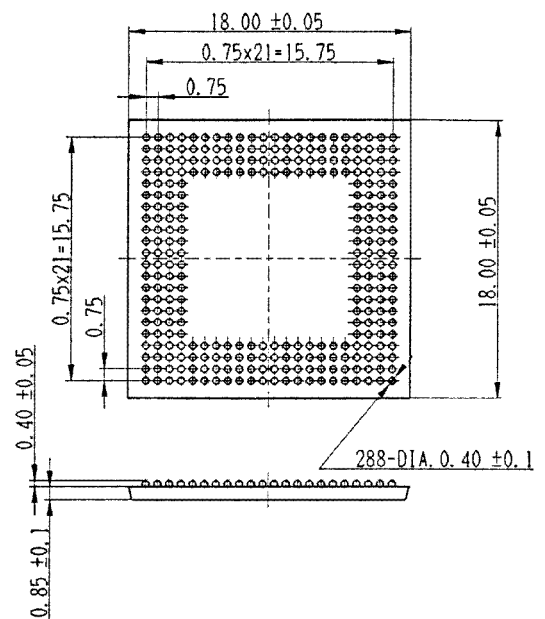
Grid Size 7 x 16

44 pins NP291-04414-*



Grid Size 6 x 11

288 pins NP291-28807-*



Grid Size 22 x 22