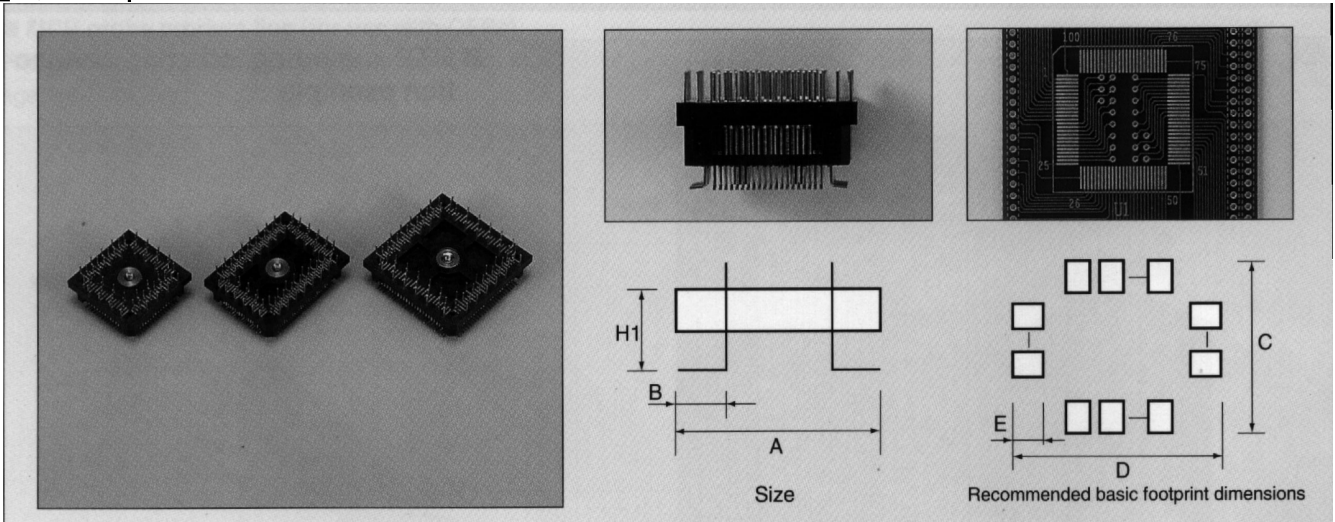
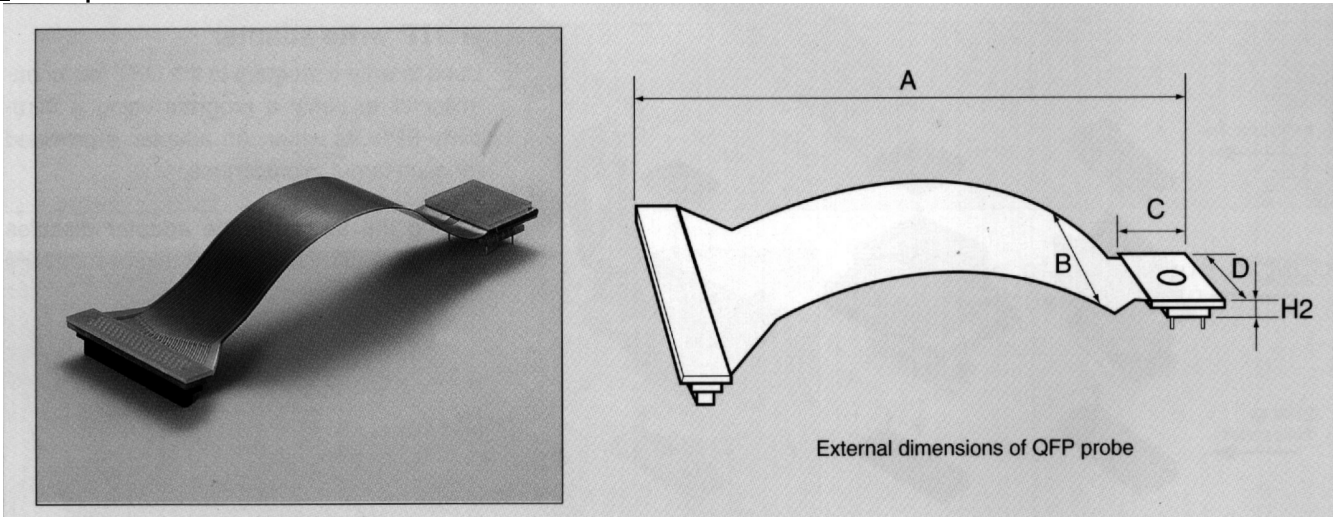


Test Tools

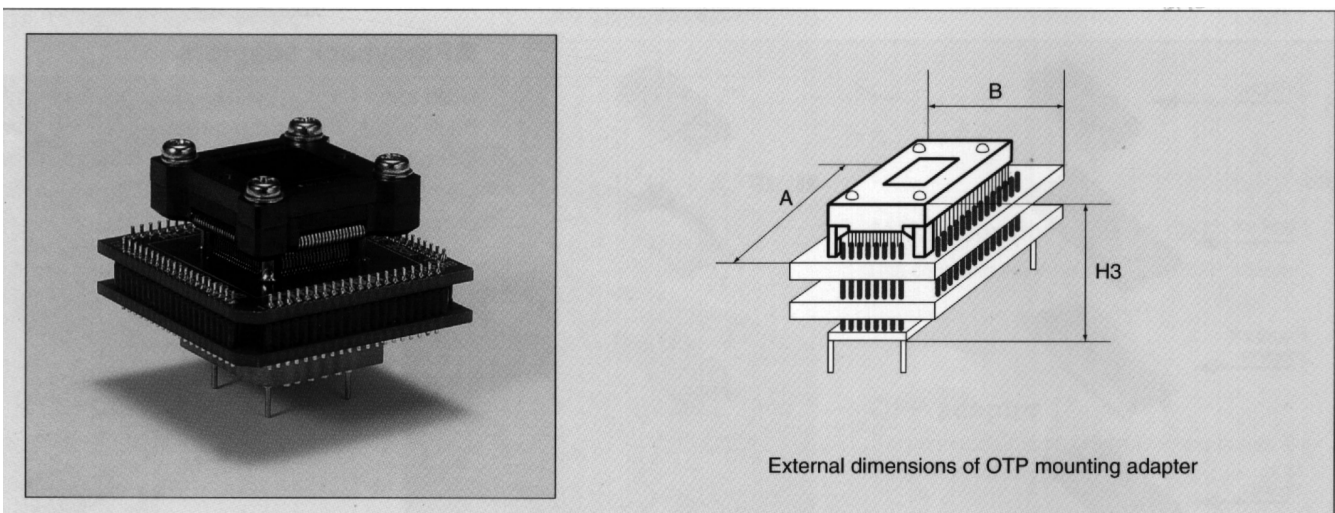
■ QFP adapter



■ QFP probe



■ OTP mounting adapter



- When the QFP probe is connected to the target system, the height is : $H1+H2(\pm 5\text{mm})$
- When the OTP mounting adapter is connected to the target system, the height is : $H1+H3(\pm 5\text{mm})$

Test Tools

■ QFP adapter with recommended footprint

(Unit:mm)

| QFP adapter | Pin | IC Package (Body size)Pitch | Size | | | Footprints recommended for QFP adapter (not necessary for MCU) | | |
|-------------|-----|--------------------------------|---------|-------|------|---|------|------|
| | | | A | B | H1 | C | D | E |
| PN210001 | 80 | (14×20)0.80 | 16×22 | 1.20 | 7.35 | 170. | 23.0 | 2.20 |
| PN210004 | 100 | (14×20)0.65 | 16×22.2 | 1.125 | 7.35 | 17.0 | 23.2 | 2.20 |
| PN210007 | 80 | (12×12)0.50 | 14×14 | 1.40 | 7.35 | 15.0 | 15.0 | 2.0 |
| PN210010 | 64 | (14×20)1.00 | 16×22 | 1.13 | 7.35 | 17.0 | 23.0 | 2.0 |
| PN210015 | 100 | (22×22)0.80 | 24×24 | 1.73 | 7.35 | 25.0 | 25.0 | 2.2 |
| PN210017 | 80 | (14×14)0.65 | 16×16 | 1.15 | 7.35 | 17.0 | 17.0 | 1.8 |
| PN210019 | 44 | (10×10)0.80 | 12×12 | 1.2 | 7.35 | 13.0 | 13.0 | 1.8 |
| PN210022 | 100 | (14×14)0.50 | 16×16 | 1.13 | 7.35 | 17.0 | 17.0 | 2.0 |
| PN210025 | 64 | (14×14)0.80 | 16×16 | 1.33 | 7.35 | 17.0 | 17.0 | 1.9 |
| PN210031 | 64 | (10×10)0.50 | 12×12 | 1.38 | 7.35 | 13.0 | 13.0 | 2.0 |
| PN210028 | 160 | (32×32)0.65 | 30×30 | 1.65 | - | 31.0 | 31.0 | 2.15 |

■ Exterenal dimensions of QFP probes

(Unit:mm)

| QFP adapter | Pin | IC Package (Body size)Pitch | A | B | C | D | H2 |
|-------------|-----|--------------------------------|---------|--------|------|--------|--------|
| PN120001 | 100 | - | 332±0.5 | 40±0.5 | - | 34±0.5 | 34±0.5 |
| PN120003 | 80 | (14×20)0.80 | 154.5 | 40.0 | 30.0 | 70.0 | - |
| PN120004 | 80 | (14×20)0.80 | 340.0 | 40.0 | 27.0 | 35.0 | 8.5 |
| PN120005 | 100 | (14×20)0.65 | 314.5 | 50.0 | 26.0 | 35.0 | 7.0 |
| PN120006A | 80 | (12×12)0.50 | 320.0 | 26.0 | 26.0 | 21.0 | 26.0 |
| PN120009 | 80 | (14×20)0.80 | 200.0 | 40.0 | 27.0 | 35.0 | 8.5 |
| PN120010 | 100 | (22×22)0.80 | 294.0 | 30.0 | 35.0 | 23.0 | - |
| PN120011 | 44 | (10×10)0.80 | 326.0 | 30.0 | 23.0 | 23.0 | - |
| PN120012 | 80 | (14×14)0.65 | 331.0 | 45.0 | 28.0 | 20.0 | - |
| PN120013 | 100 | (14×14)0.50 | 200.0 | 45.0 | 28.0 | 28.0 | 12.5 |
| PN120014 | 64 | (14×20)1.00 | 364.0 | 37.0 | 25.0 | 32.0 | - |
| PN120016 | 84 | PLCC84 | 295.0 | 46.0 | 33.0 | 33.0 | - |
| PN120022 | 64 | (10×10)0.50 | 337.0 | 37.0 | 26.0 | 32.0 | 11.8 |
| PN120040 | 160 | (32×32)0.65 | 150.0 | 60.0 | 45.0 | 45.0 | - |

■ Exterenal dimensions of OTP mounting adapters

(Unit:mm)

| QFP adapter | Pin | IC Package (Body size)Pitch | A | B | H3 |
|-------------|-----|--------------------------------|------|------|------|
| PN210002 | 80 | (14×20)0.80 | 45.0 | 40.0 | 24.0 |
| PN210005A | 100 | (14×20)0.65 | 32.0 | 26.0 | 19.0 |
| PN210008 | 80 | (12×12)0.50 | 33.0 | 33.0 | 25.0 |
| PN210011A | 64 | (14×20)1.00 | 36.0 | 29.0 | 20.0 |
| PN210013 | 100 | (22×22)0.80 | 75.0 | 75.0 | 45.0 |
| PN210018 | 80 | (14×14)0.65 | 26.0 | 26.0 | 19.0 |
| PN210020A | 44 | (10×10)0.80 | 26.0 | 26.0 | 25.0 |
| PN210023 | 100 | (14×14)0.50 | 37.0 | 37.0 | 24.0 |
| PN210026 | 64 | (14×14)0.80 | 33.0 | 26.0 | 17.0 |
| PN210033 | 64 | (10×10)0.50 | 44.0 | 46.0 | 32.0 |
| PN1210030 | 160 | (32×32)0.65 | 34.0 | 34.0 | 17.3 |