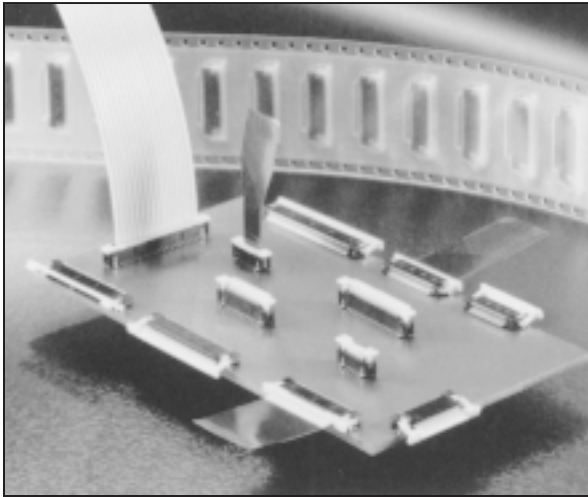


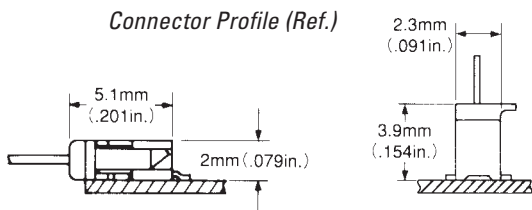
# IL-FPR SERIES CONNECTORS

## 0.5mm (.020") Pitch, ZIF Type Connectors for FPC/FFC



### FEATURES

- Extremely small, 0.5mm (.020") spacing
- SMT type for FPC
- Available in right-angle and straight versions
- A slider enables insertion/extraction of FPC without applying force (Zero Insertion Force)
- One-side contact configuration avoids mismatching of FPC
- Lower-side or upper-side FPC contact surfaces on right-angle version
- Hold down mechanism prevents floating up of the connector during soldering and retains the connector on the board
- Designed to avoid defective mating
- Supplied in embossed tape for automatic SMT mounting



IL-FPR Series SMT connectors meet today's requirements for smaller size and lighter weight. These connectors have extremely high contact density and low profiles: 0.5mm (.020") centers and a 2.0mm (.079") mounted height (right-angle type).

Both straight and right-angle types are available. The ZIF (zero insertion force) configuration permits easy insertion and extraction of the FPC (flexible printed circuit), even in a minimal amount of space. A wide variety of mounting styles are available.

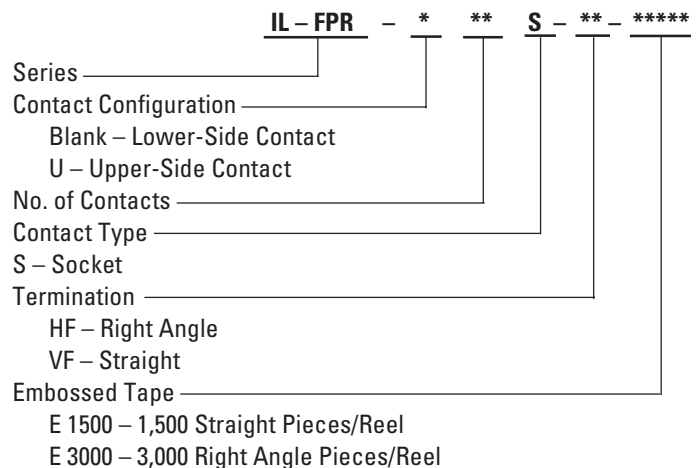
### GENERAL SPECIFICATIONS

|                                 |  |
|---------------------------------|--|
| Number of Contacts              | Right Angle type: 5 to 50<br>Straight type : 8 to 33 and 40  |
| Contact Spacing                 | 0.5mm (.020"), single row  |
| Current Rating                  | 0.5 Amps   |
| Dielectric Withstanding Voltage | 250 VAC r.m.s. (one minute)  |
| Insulation Resistance           | 100 megohms min.   |
| Contact Resistance              | 20 milliohms max.  |
| Operating Temperature           | -40°C +85°C  |
| Applicable FPC                  | 0.5mm (.020") Center<br>0.3mm <sup>+0.05</sup> / <sub>-0.02</sub> (.012" <sup>+0.002</sup> / <sub>-.001</sub> ) Thick with reinforcement |

### MATERIALS AND FINISHES

| Description     | Materials/Finishes         |
|-----------------|----------------------------|
| Contact         | Copper Alloy/Tin Plated    |
| Base Insulator  | Glass-filled PPS (Black)   |
| Slide Insulator | Glass-filled PPS (White)   |
| Hold-down Tab   | Phosphor Bronze/Tin Plated |

### ORDERING INFORMATION



Dimensions and specifications subject to change without notice.

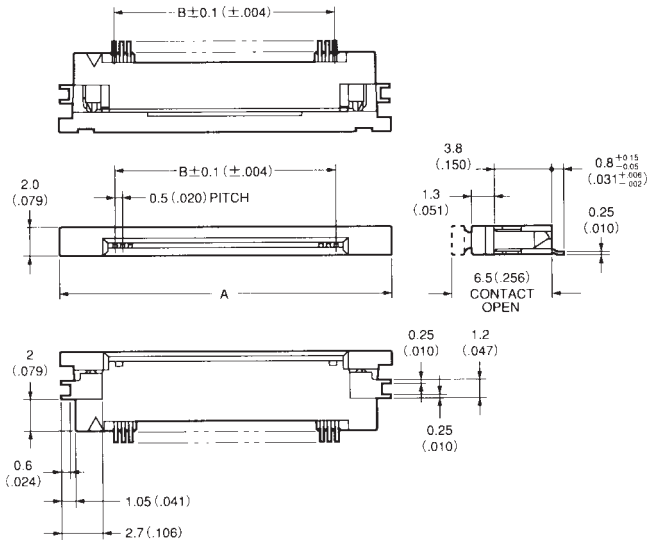


# IL-FPR SERIES CONNECTORS

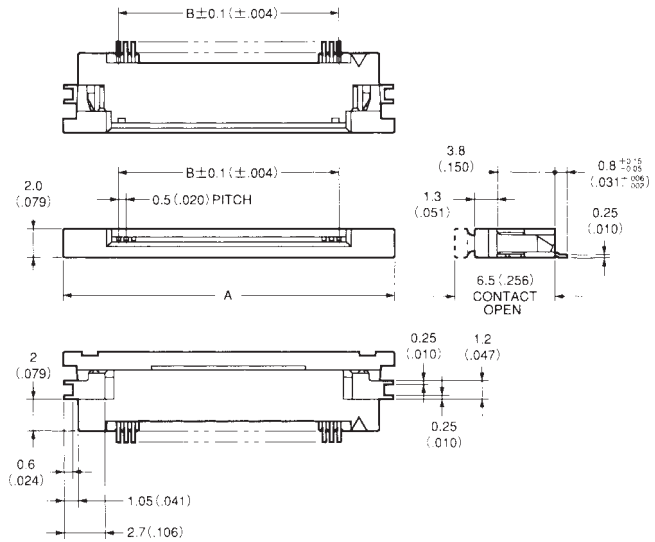
## 0.5mm (.020") Pitch, ZIF Type Connectors for FPC/FFC

### RIGHT ANGLE TYPE

#### Lower-Side Contact

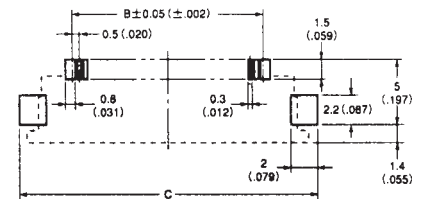


#### Upper-Side Contact

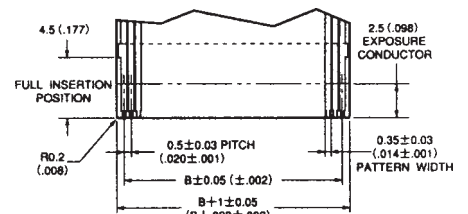


| No. of Contacts | Part Number         |                      | A            | B            | C            |
|-----------------|---------------------|----------------------|--------------|--------------|--------------|
|                 | Lower-Side Contact  | Upper-Side Contact   |              |              |              |
| 5               | IL-FPR- 5S-HF-E3000 | IL-FPR- U5S-HF-E3000 | 9.1 ( .358)  | 2.0 ( .079)  | 10.5 ( .413) |
| 6               | IL-FPR- 6S-HF-E3000 | IL-FPR- U6S-HF-E3000 | 9.6 ( .378)  | 2.5 ( .098)  | 11.0 ( .433) |
| 7               | IL-FPR- 7S-HF-E3000 | IL-FPR- U7S-HF-E3000 | 10.1 ( .398) | 3.0 ( .118)  | 11.5 ( .453) |
| 8               | IL-FPR- 8S-HF-E3000 | IL-FPR- U8S-HF-E3000 | 10.6 ( .417) | 3.5 ( .138)  | 12.0 ( .472) |
| 9               | IL-FPR- 9S-HF-E3000 | IL-FPR- U9S-HF-E3000 | 11.1 ( .437) | 4.0 ( .157)  | 12.5 ( .492) |
| 10              | IL-FPR-10S-HF-E3000 | IL-FPR-U10S-HF-E3000 | 11.6 ( .457) | 4.5 ( .177)  | 13.0 ( .512) |
| 11              | IL-FPR-11S-HF-E3000 | IL-FPR-U11S-HF-E3000 | 12.1 ( .476) | 5.0 ( .197)  | 13.5 ( .531) |
| 12              | IL-FPR-12S-HF-E3000 | IL-FPR-U12S-HF-E3000 | 12.6 ( .496) | 5.5 ( .216)  | 14.0 ( .551) |
| 13              | IL-FPR-13S-HF-E3000 | IL-FPR-U13S-HF-E3000 | 13.1 ( .516) | 6.0 ( .236)  | 14.5 ( .571) |
| 14              | IL-FPR-14S-HF-E3000 | IL-FPR-U14S-HF-E3000 | 13.6 ( .535) | 6.5 ( .256)  | 15.0 ( .590) |
| 16              | IL-FPR-16S-HF-E3000 | IL-FPR-U16S-HF-E3000 | 14.6 ( .575) | 7.5 ( .295)  | 16.0 ( .630) |
| 17              | IL-FPR-17S-HF-E3000 | IL-FPR-U17S-HF-E3000 | 15.1 ( .594) | 8.0 ( .315)  | 16.5 ( .650) |
| 18              | IL-FPR-18S-HF-E3000 | IL-FPR-U18S-HF-E3000 | 15.6 ( .614) | 8.5 ( .335)  | 17.0 ( .669) |
| 20              | IL-FPR-20S-HF-E3000 | IL-FPR-U20S-HF-E3000 | 16.6 ( .654) | 9.5 ( .374)  | 18.0 ( .709) |
| 21              | IL-FPR-21S-HF-E3000 | IL-FPR-U21S-HF-E3000 | 17.1 ( .673) | 10.0 ( .394) | 18.5 ( .728) |
| 22              | IL-FPR-22S-HF-E3000 | IL-FPR-U22S-HF-E3000 | 17.6 ( .693) | 10.5 ( .413) | 19.0 ( .748) |
| 24              | IL-FPR-24S-HF-E3000 | IL-FPR-U24S-HF-E3000 | 18.6 ( .732) | 11.5 ( .453) | 20.0 ( .787) |
| 26              | IL-FPR-26S-HF-E3000 | IL-FPR-U26S-HF-E3000 | 19.6 ( .772) | 12.5 ( .492) | 21.0 ( .827) |
| 28              | IL-FPR-28S-HF-E3000 | IL-FPR-U28S-HF-E3000 | 20.6 ( .811) | 13.5 ( .531) | 22.0 ( .866) |
| 30              | IL-FPR-30S-HF-E3000 | IL-FPR-U30S-HF-E3000 | 21.6 ( .850) | 14.5 ( .571) | 23.0 ( .906) |
| 31              | IL-FPR-31S-HF-E3000 | IL-FPR-U31S-HF-E3000 | 22.1 ( .870) | 15.0 ( .590) | 23.5 ( .925) |
| 32              | IL-FPR-32S-HF-E3000 | IL-FPR-U32S-HF-E3000 | 22.6 ( .890) | 15.5 ( .610) | 24.0 ( .945) |
| 33              | IL-FPR-33S-HF-E3000 | IL-FPR-U33S-HF-E3000 | 23.1 ( .909) | 16.0 ( .630) | 24.5 ( .965) |
| 34              | IL-FPR-34S-HF-E3000 | IL-FPR-U34S-HF-E3000 | 23.6 ( .929) | 16.5 ( .650) | 25.0 ( .984) |
| 35              | IL-FPR-35S-HF-E3000 | IL-FPR-U35S-HF-E3000 | 24.1 ( .949) | 17.0 ( .669) | 25.5 (1.004) |
| 36              | IL-FPR-36S-HF-E3000 | IL-FPR-U36S-HF-E3000 | 24.6 ( .969) | 17.5 ( .689) | 26.0 (1.024) |
| 37              | IL-FPR-37S-HF-E3000 | IL-FPR-U37S-HF-E3000 | 25.1 ( .988) | 18.0 ( .709) | 26.5 (1.043) |
| 38              | IL-FPR-38S-HF-E3000 | IL-FPR-U38S-HF-E3000 | 25.6 (1.008) | 18.5 ( .728) | 27.0 (1.063) |
| 40              | IL-FPR-40S-HF-E3000 | IL-FPR-U40S-HF-E3000 | 26.6 (1.047) | 19.5 ( .768) | 28.0 (1.102) |
| 45              | IL-FPR-45S-HF-E3000 | IL-FPR-U45S-HF-E3000 | 29.1 (1.146) | 22.0 ( .866) | 30.5 (1.201) |
| 50              | IL-FPR-50S-HF-E3000 | IL-FPR-U50S-HF-E3000 | 31.6 (1.244) | 24.5 ( .965) | 33.0 (1.299) |

#### PCB Layout (Ref.)



#### Applicable FPC (Ref.)



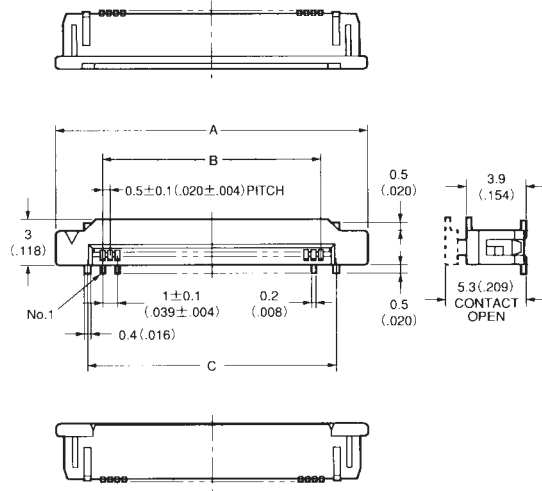
Note 1:  
Supplied in embossed tape (3,000 pcs./reel). The embossed tape packing is shown on the last page of IL-FPR Series Connectors.

Dimensions in mm (inches).

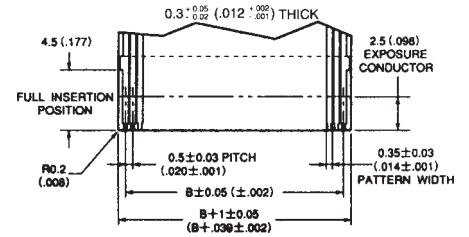
# IL-FPR SERIES CONNECTORS

0.5mm (.020") Pitch, ZIF Type Connectors for FPC/FFC

## STRAIGHT TYPE

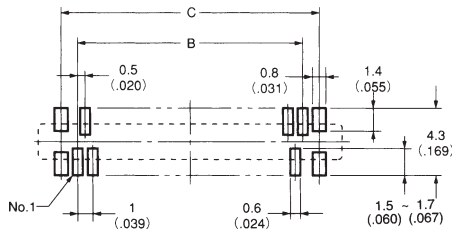


Applicable FPC (Ref.)

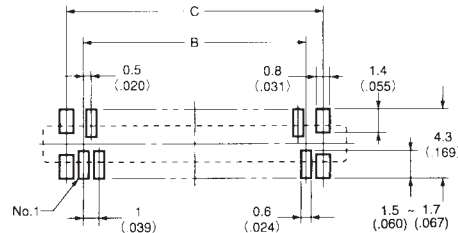


PCB Layout (Ref.)

Even number of contacts



Odd number of contacts



| No. of Contacts | Part Number         | A            | B            | C            |
|-----------------|---------------------|--------------|--------------|--------------|
| 8               | IL-FPR- 8S-VF-E1500 | 9.5 ( .374)  | 3.5 ( .138)  | 5.5 ( .217)  |
| 9               | IL-FPR- 9S-VF-E1500 | 10.0 ( .394) | 4.0 ( .157)  | 6.0 ( .236)  |
| 10              | IL-FPR-10S-VF-E1500 | 10.5 ( .413) | 4.5 ( .177)  | 6.5 ( .256)  |
| 12              | IL-FPR-12S-VF-E1500 | 11.5 ( .453) | 5.5 ( .217)  | 7.5 ( .295)  |
| 13              | IL-FPR-13S-VF-E1500 | 12.0 ( .472) | 6.0 ( .236)  | 8.0 ( .315)  |
| 14              | IL-FPR-14S-VF-E1500 | 12.5 ( .492) | 6.5 ( .256)  | 8.5 ( .335)  |
| 16              | IL-FPR-16S-VF-E1500 | 13.5 ( .531) | 7.5 ( .295)  | 9.5 ( .374)  |
| 18              | IL-FPR-18S-VF-E1500 | 14.5 ( .571) | 8.5 ( .335)  | 10.5 ( .413) |
| 20              | IL-FPR-20S-VF-E1500 | 15.5 ( .610) | 9.5 ( .374)  | 11.5 ( .453) |
| 21              | IL-FPR-21S-VF-E1500 | 16.0 ( .630) | 10.0 ( .394) | 12.0 ( .472) |
| 22              | IL-FPR-22S-VF-E1500 | 16.5 ( .650) | 10.5 ( .413) | 12.5 ( .492) |
| 24              | IL-FPR-24S-VF-E1500 | 17.5 ( .689) | 11.5 ( .453) | 13.5 ( .531) |
| 26              | IL-FPR-26S-VF-E1500 | 18.5 ( .728) | 12.5 ( .492) | 14.5 ( .571) |
| 27              | IL-FPR-27S-VF-E1500 | 19.0 ( .748) | 13.0 ( .512) | 15.0 ( .591) |
| 28              | IL-FPR-28S-VF-E1500 | 19.5 ( .768) | 13.5 ( .531) | 15.5 ( .610) |
| 30              | IL-FPR-30S-VF-E1500 | 20.5 ( .807) | 14.5 ( .571) | 16.5 ( .650) |
| 32              | IL-FPR-32S-VF-E1500 | 21.5 ( .846) | 15.5 ( .610) | 17.5 ( .689) |
| 33              | IL-FPR-33S-VF-E1500 | 22.0 ( .866) | 16.0 ( .630) | 18.0 ( .709) |
| 40              | IL-FPR-40S-VF-E1500 | 25.5 (1.004) | 19.5 ( .768) | 21.5 ( .846) |

Note 1: Supplied in embossed tape (1,500 pcs./reel). The embossed tape packing is shown on the last page of IL-FPR Series Connectors.

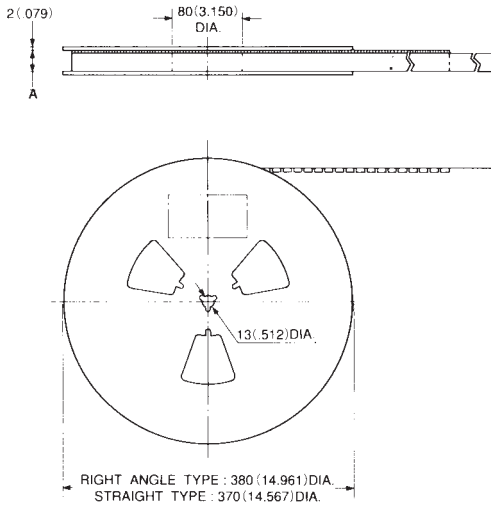
Dimensions in mm (inches).



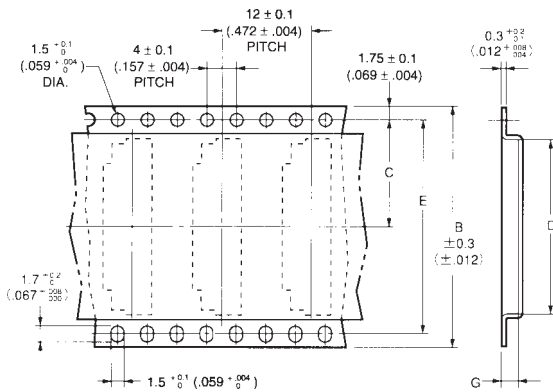
# IL-FPR SERIES CONNECTORS

## 0.5mm (.020") Pitch, ZIF Type Connectors for FPC/FFC

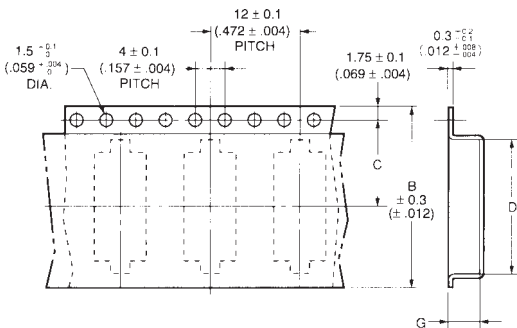
### EMBOSSED TAPE PACKING



For tape width (dimension B) 32mm (1.260") and 44mm (1.732"), pilot holes are provided on both sides.



For tape width (dimension B) 24mm (.945"), a pilot hole is provided on one side.



### RIGHT ANGLE TYPE

| No. of Contacts | D<br>± 0.2<br>(± .008) | A             | B<br>Note 1   | C<br>± 0.2<br>(± .008) | E<br>± 0.2<br>(± .008) | G<br>± 0.3<br>(± .012) |
|-----------------|------------------------|---------------|---------------|------------------------|------------------------|------------------------|
| 5               | 9.5 ( .374)            |               |               |                        |                        |                        |
| 6               | 10 ( .394)             |               |               |                        |                        |                        |
| 7               | 10.5 ( .413)           |               |               |                        |                        |                        |
| 8               | 11 ( .433)             |               |               |                        |                        |                        |
| 9               | 11.5 ( .453)           |               |               |                        |                        |                        |
| 10              | 12 ( .472)             |               |               |                        |                        |                        |
| 11              | 12.5 ( .492)           |               |               |                        |                        |                        |
| 12              | 13 ( .512)             |               |               |                        |                        |                        |
| 13              | 13.5 ( .531)           |               |               |                        |                        |                        |
| 14              | 14 ( .551)             |               |               |                        |                        |                        |
| 16              | 15 ( .591)             |               |               |                        |                        |                        |
| 17              | 15.5 ( .610)           |               |               |                        |                        |                        |
| 18              | 16 ( .630)             |               |               |                        |                        |                        |
| 20              | 17 ( .669)             |               |               |                        |                        |                        |
| 21              | 17.5 ( .689)           |               |               |                        |                        |                        |
| 22              | 18 ( .709)             |               |               |                        |                        |                        |
| 24              | 19 ( .748)             |               |               |                        |                        |                        |
| 26              | 20 ( .787)             |               |               |                        |                        |                        |
| 28              | 21 ( .827)             |               |               |                        |                        |                        |
| 30              | 22 ( .866)             |               |               |                        |                        |                        |
| 31              | 22.5 ( .886)           |               |               |                        |                        |                        |
| 32              | 23 ( .906)             |               |               |                        |                        |                        |
| 33              | 23.5 ( .925)           |               |               |                        |                        |                        |
| 34              | 24 ( .945)             |               |               |                        |                        |                        |
| 35              | 24.5 ( .965)           |               |               |                        |                        |                        |
| 36              | 25 ( .984)             |               |               |                        |                        |                        |
| 37              | 25.5 (1.004)           |               |               |                        |                        |                        |
| 38              | 26 (1.024)             |               |               |                        |                        |                        |
| 40              | 27 (1.063)             |               |               |                        |                        |                        |
| 45              | 29.5 (1.161)           |               |               |                        |                        |                        |
| 50              | 32 (1.260)             |               |               |                        |                        |                        |
|                 |                        | 26<br>(1.024) | 24<br>( .945) | 11.5<br>( .453)        | -                      |                        |
|                 |                        | 34<br>(1.339) | 32<br>(1.260) | 14.2<br>( .559)        | 28.4<br>(1.118)        | 2.3<br>(.091)          |
|                 |                        | 46<br>(1.811) | 44<br>(1.732) | 20.2<br>( .795)        | 40.4<br>(1.591)        |                        |

### STRAIGHT TYPE

| No. of Contacts | D<br>± 0.2<br>(± .008) | A             | B<br>Note 1   | C<br>± 0.2<br>(± .008) | E<br>± 0.2<br>(± .008) | G<br>± 0.1<br>(± .004) |
|-----------------|------------------------|---------------|---------------|------------------------|------------------------|------------------------|
| 8               | 9.8 ( .386)            |               |               |                        |                        |                        |
| 9               | 10.3 ( .406)           |               |               |                        |                        |                        |
| 10              | 10.8 ( .425)           |               |               |                        |                        |                        |
| 12              | 11.8 ( .465)           |               |               |                        |                        |                        |
| 13              | 12.3 ( .484)           |               |               |                        |                        |                        |
| 14              | 12.8 ( .504)           |               |               |                        |                        |                        |
| 16              | 13.8 ( .543)           |               |               |                        |                        |                        |
| 18              | 14.8 ( .583)           |               |               |                        |                        |                        |
| 20              | 15.8 ( .622)           |               |               |                        |                        |                        |
| 21              | 16.3 ( .642)           |               |               |                        |                        |                        |
| 22              | 16.8 ( .661)           |               |               |                        |                        |                        |
| 24              | 17.8 ( .701)           |               |               |                        |                        |                        |
| 26              | 18.8 ( .740)           |               |               |                        |                        |                        |
| 27              | 19.3 ( .760)           |               |               |                        |                        |                        |
| 28              | 19.8 ( .780)           |               |               |                        |                        |                        |
| 30              | 20.8 ( .819)           |               |               |                        |                        |                        |
| 32              | 21.8 ( .858)           |               |               |                        |                        |                        |
| 33              | 22.3 ( .878)           |               |               |                        |                        |                        |
| 40              | 25.8 (1.015)           |               |               |                        |                        |                        |
|                 |                        | 26<br>(1.024) | 24<br>( .945) | 11.5<br>( .453)        | -                      |                        |
|                 |                        | 34<br>(1.339) | 32<br>(1.260) | 14.2<br>( .559)        | 28.4<br>(1.118)        | 4.3<br>(.169)          |
|                 |                        | 46<br>(1.811) | 44<br>(1.732) | 20.2<br>( .795)        | 40.4<br>(1.590)        |                        |

Note 1:

For tape width (dimension B) 24mm (.945"), a pilot hole is provided on one side. For tape width (dimension B) 32mm (1.260") and 44mm (1.732"), pilot holes are provided on both sides.

Dimensions in mm (inches).