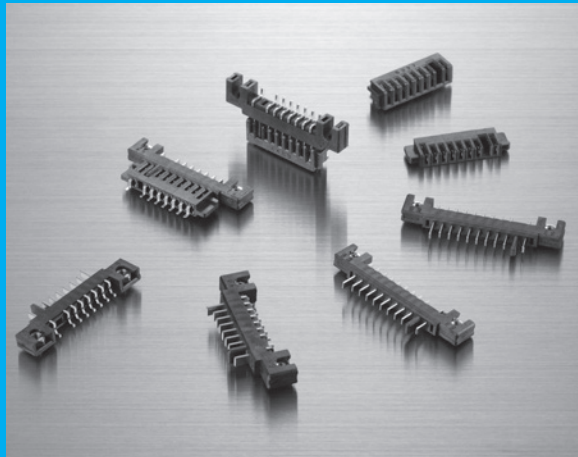


# GF SERIES

## 2mm PITCH 2 PIECE BATTERY CONNECTOR

RoHS  
Compliant



### FEATURES

- ▶ 2 piece type with a highly reliable connection.
- ▶ Hot Swap type available.
- ▶ 2mm (0.079") pitch connector.
- ▶ Horizontal and Vertical mating combinations.
- ▶ Assures 5,000 mating cycles.
- ▶ Low profile 2.6mm(0.102"). (GF31 series)

### ORDER CODE

GF     -     -     F

①                      ②                      ③                      ④

\*Please order in multiples of the quantity per package.

- ① **[Type]** Plug **GF01** : SMT, Standard type **GF02** : SMT, Reverse type **GF21** : SMT, Standard type, Low profile **GF22** : SMT, Reverse type, Low profile Receptacle **GF11** : SMT **GF12** : Through hole **GF31** : SMT, Low profile
- ② **[Number of contacts]** **08** : 8pin **10** : 10pin (GF21, GF22 and GF31 only)
- ③ **[Nut]** (GF01/GF02) **1** : With Nuts **12** : Without Nuts **[Tail length]** (GF12) **1** : 1.5mm(0.059") **2** : 2.3mm(0.091")  
**[Option]** (GF11/GF21/GF22/GF31) **1**
- ④ **[RoHS]** **F** : RoHS compliant

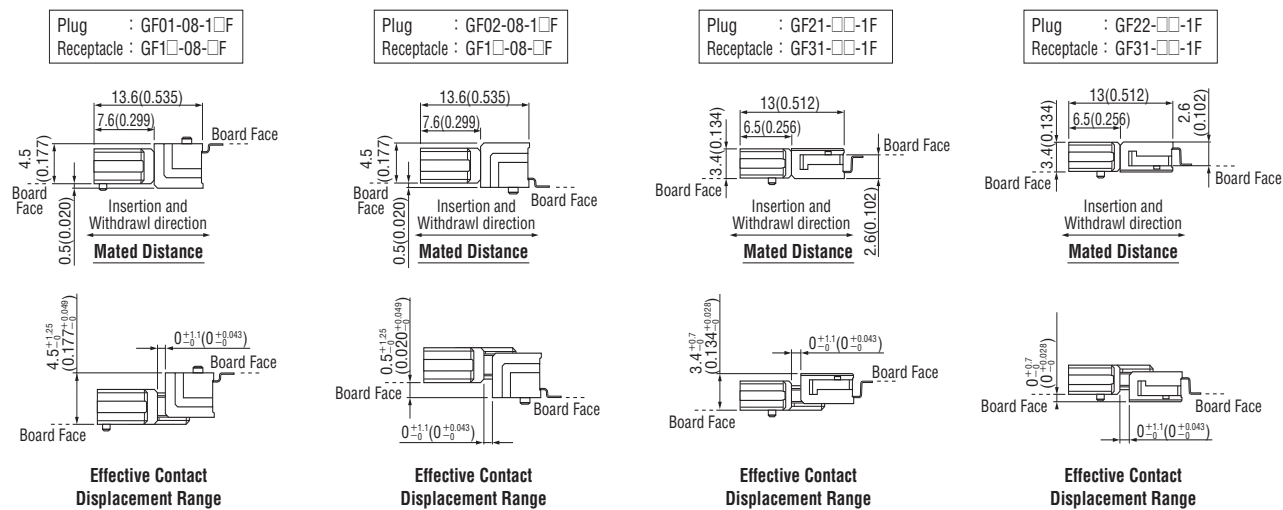
### SPECIFICATIONS

| Material and plating   |                                   | Electrical Characteristics      |                                                                                                                                                                             |
|------------------------|-----------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulator material     | Glass-filled LCP (UL94V-0), Black | Current rating                  | [GF0□ X GF1□] 7A per contact (2 contacts only)<br>0.5A per contact (other contact)<br>[GF2□ X GF1□/31] 5A per contact (2 contacts only)<br>0.5A per contact (other contact) |
| Contact material       | Copper alloy                      |                                 |                                                                                                                                                                             |
| Contact plating        | Gold over Nickel                  | Current voltage                 | 30V DC                                                                                                                                                                      |
| M2 Hexagon Nut         | Steel                             | Contact resistance              | 20mΩ max.                                                                                                                                                                   |
| M2 Hexagon Nut plating | Nickel                            | Dielectric withstanding voltage | 650V AC for 1 minute                                                                                                                                                        |
|                        |                                   | Insulation resistance           | 500MΩ min. at 500V DC                                                                                                                                                       |
|                        |                                   | Operating temperature           | -55°C to +85°C                                                                                                                                                              |

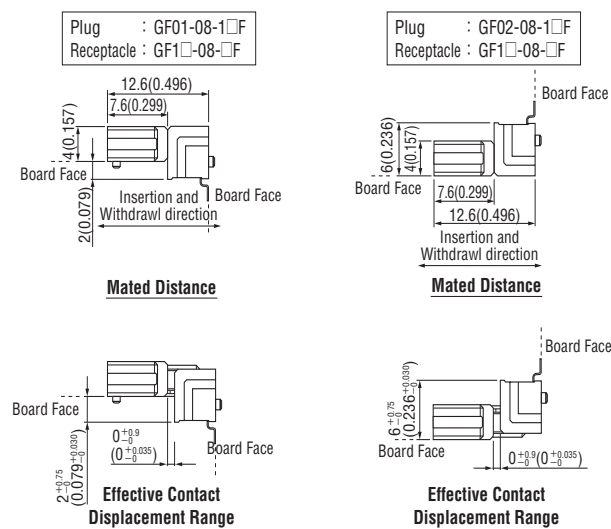
### GF Series Mating Matrix

|                |                         | Receptacle Connector  |                       |                         |
|----------------|-------------------------|-----------------------|-----------------------|-------------------------|
|                |                         | GF11-08-1F            | GF12-08-□F            | GF31-□□-1F(Low profile) |
| Plug Connector | GF01-08-1F              | Horizontal / Vertical | Horizontal / Vertical | No                      |
|                | GF01-08-12F             | Horizontal / Vertical | Horizontal / Vertical | No                      |
|                | GF02-08-1F              | Horizontal / Vertical | Horizontal / Vertical | No                      |
|                | GF02-08-12F             | Horizontal / Vertical | Horizontal / Vertical | No                      |
|                | GF21-□□-1F(Low profile) | Horizontal            | Horizontal            | Horizontal              |
|                | GF22-□□-1F(Low profile) | Horizontal            | Horizontal            | Horizontal              |

## ◆ Horizontal Mating



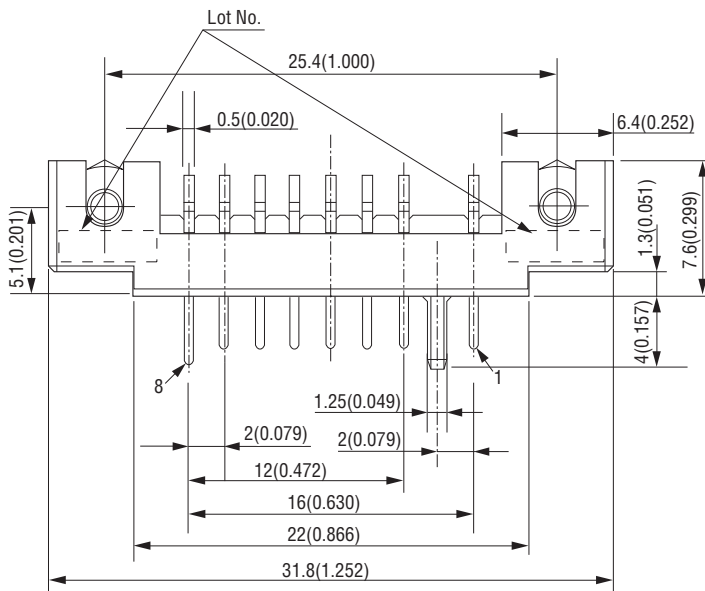
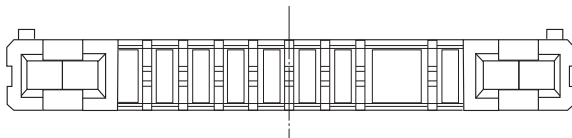
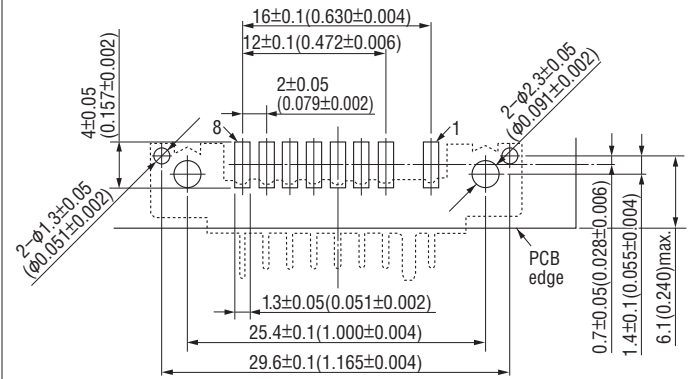
## ◆ Vertical Mating



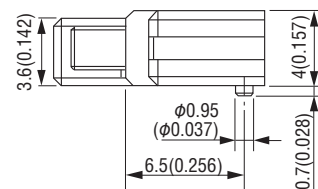
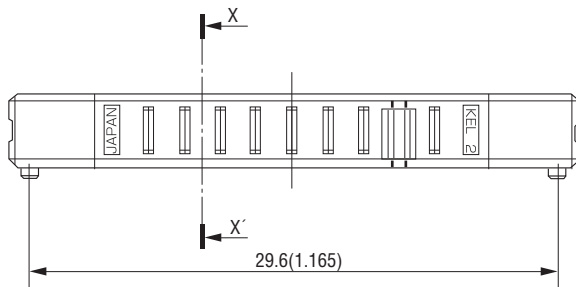
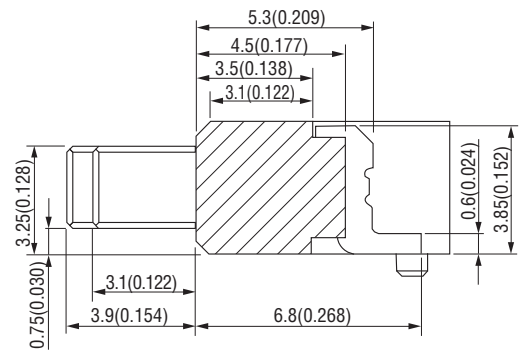
# GF01-08-1F (Plug, SMT, With nuts)

Unit : mm(inch)

## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section

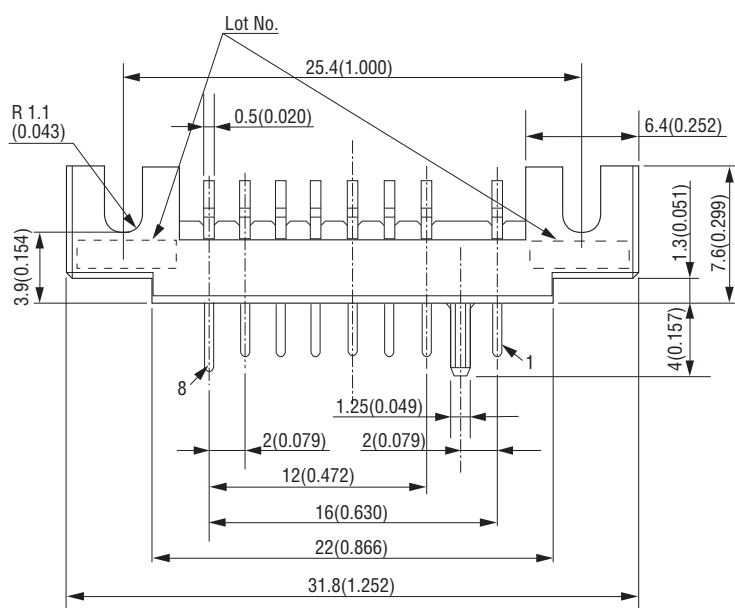
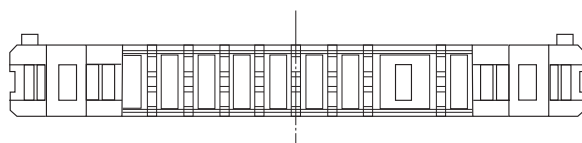
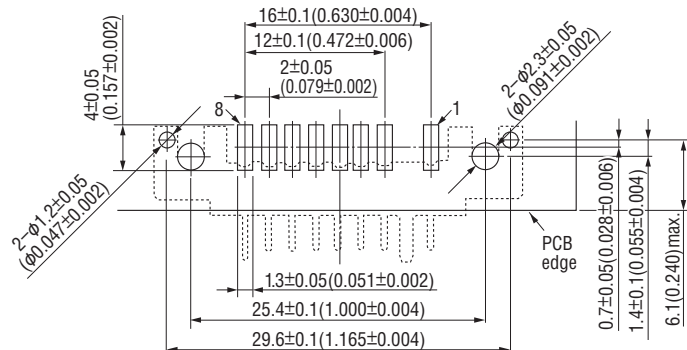
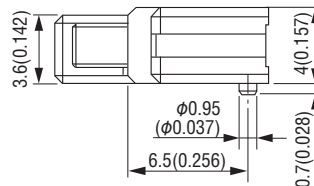
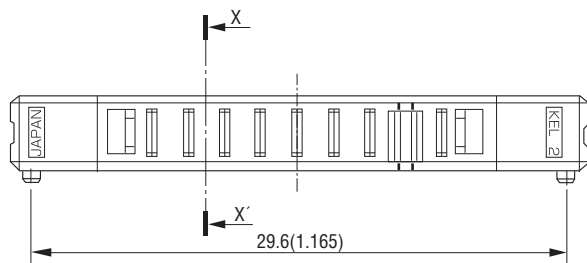
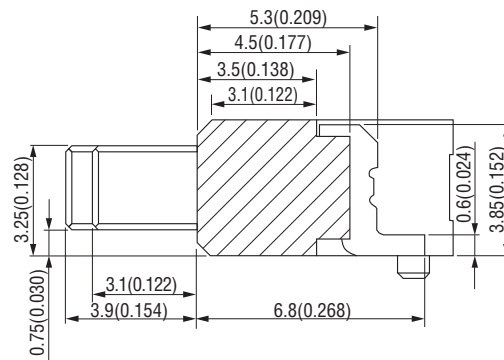


## Product Table

| No. of contacts | Part Number | Number of packaging |
|-----------------|-------------|---------------------|
| 8               | GF01-08-1F  | 500                 |

Packaging style

Embossed tape

**Printed Circuit Board Layout (Component Side View)**

**X-X' Cross Section**


Packaging style

Embossed tape

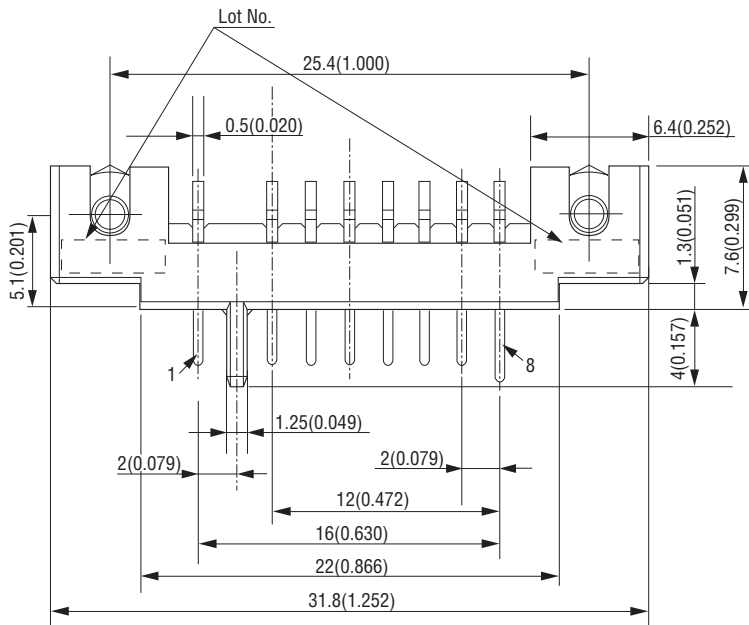
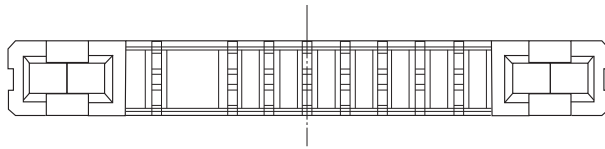
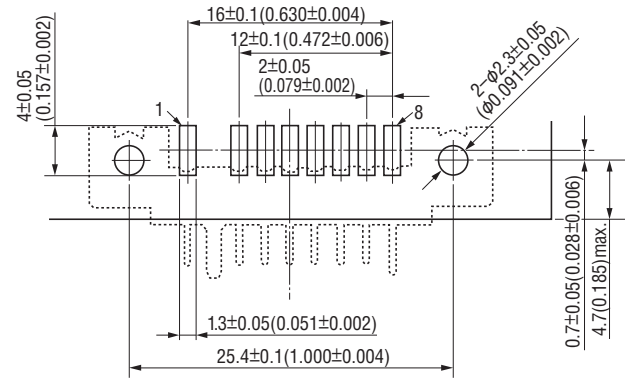
**Product Table**

| No. of contacts | Part Number | Number of packaging |
|-----------------|-------------|---------------------|
| 8               | GF01-08-12F | 500                 |

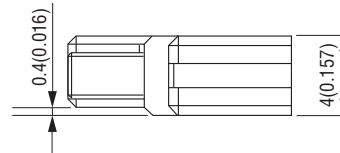
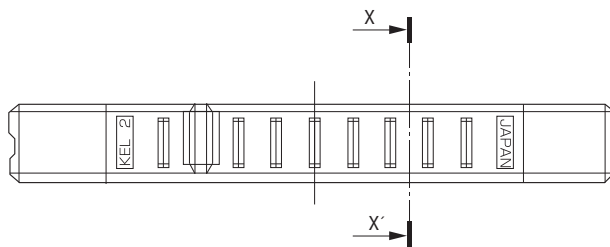
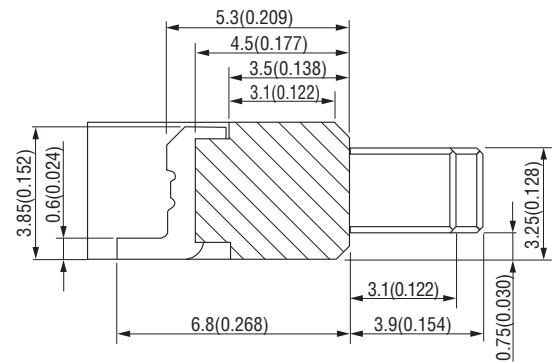
# GF02-08-1F (Plug, SMT, Reverse type, With nuts)

Unit : mm(inch)

## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section

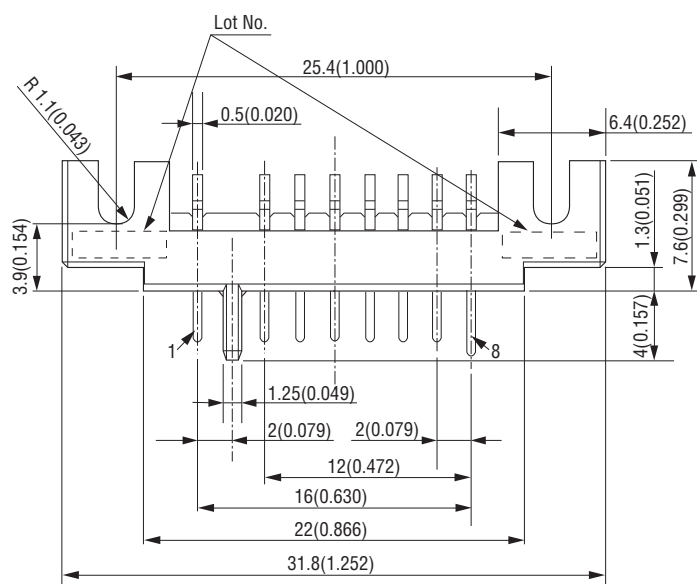
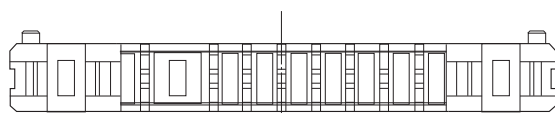
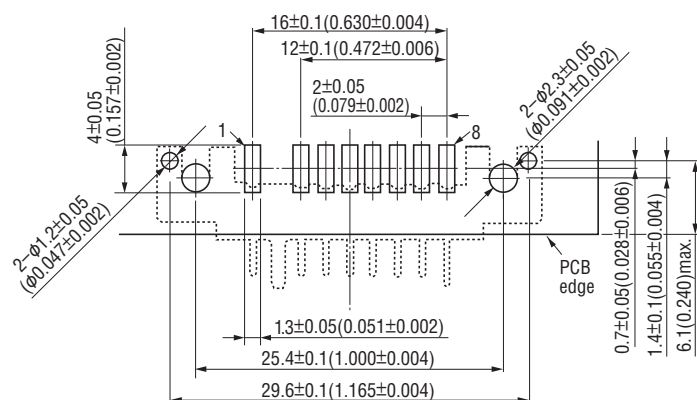
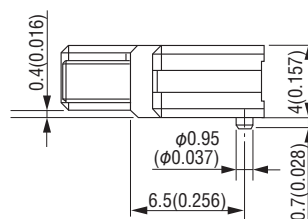
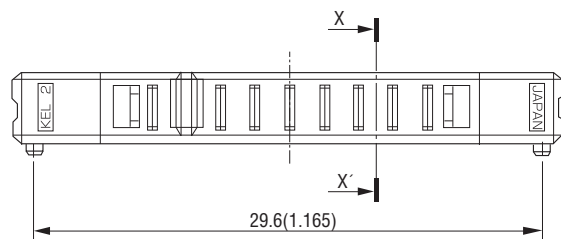
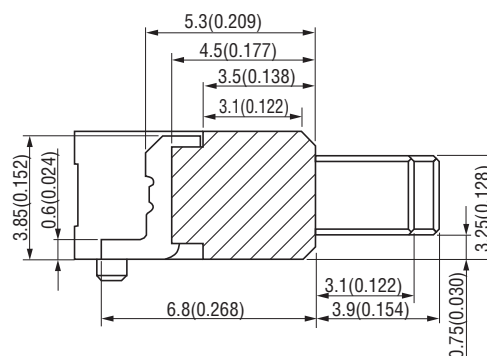


Packaging style

Tray

## Product Table

| No. of contacts | Part Number | Number of packaging |
|-----------------|-------------|---------------------|
| 8               | GF02-08-1F  | 50                  |

**Printed Circuit Board Layout (Component Side View)**

**X-X' Cross Section**


Packaging style

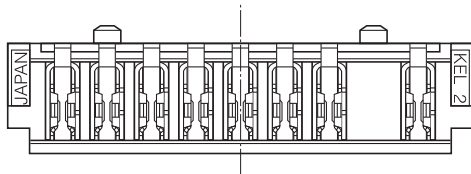
Embossed tape

**Product Table**

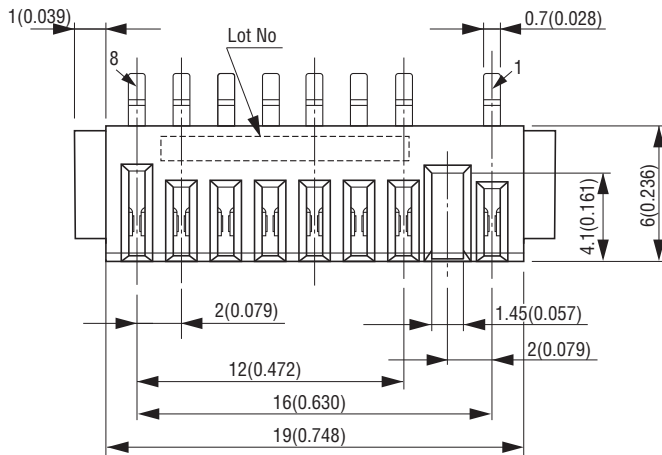
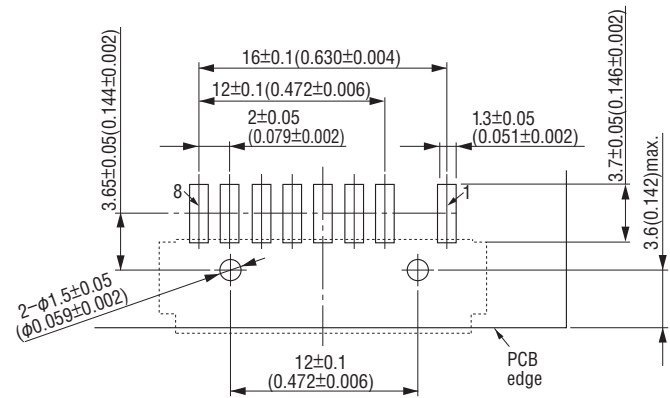
| No. of contacts | Part Number | Number of packaging |
|-----------------|-------------|---------------------|
| 8               | GF02-08-12F | 500                 |

# GF11-08-1F (Receptacle, SMT)

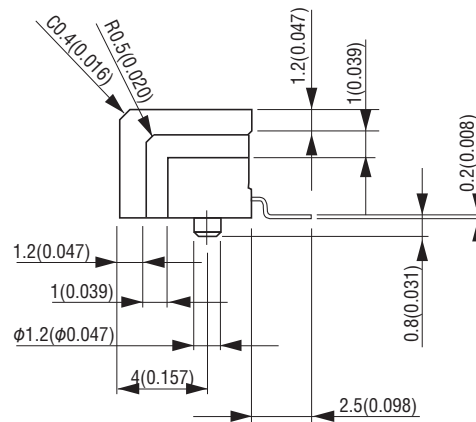
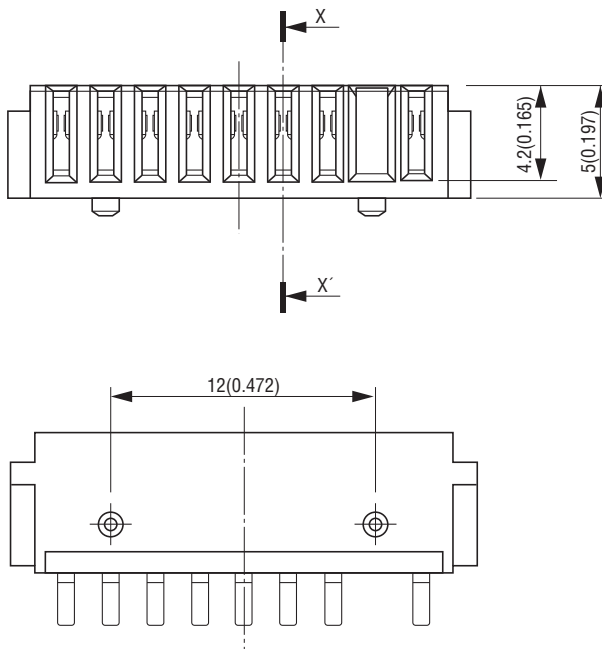
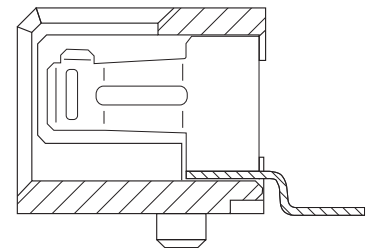
Unit : mm(inch)



## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section



## Product Table

| No. of contacts | Part Number | Number of packaging |
|-----------------|-------------|---------------------|
| 8               | GF11-08-1F  | 90                  |

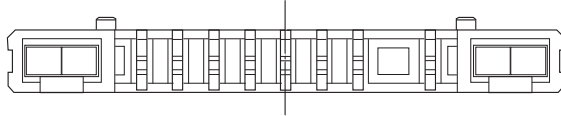
Packaging style

Tray

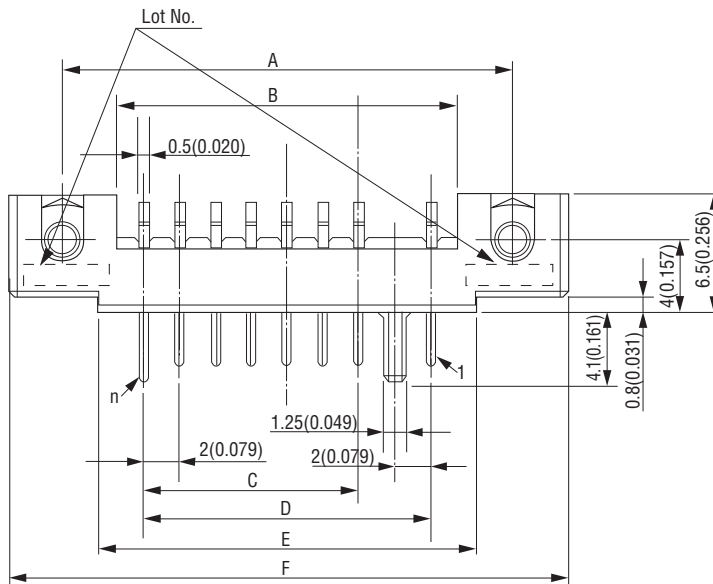
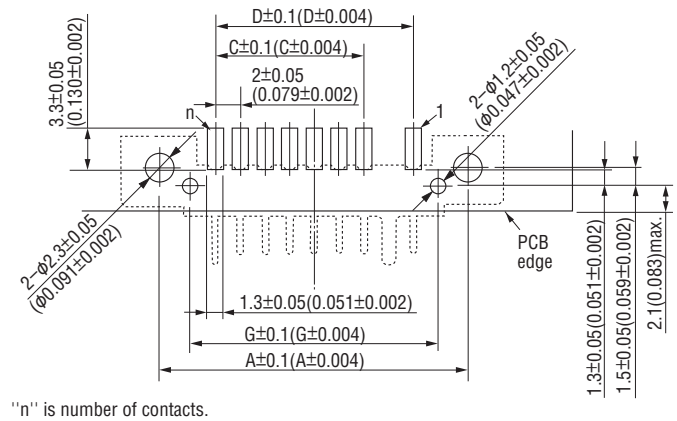


# GF21-□□-1F (Plug, SMT, Low profile)

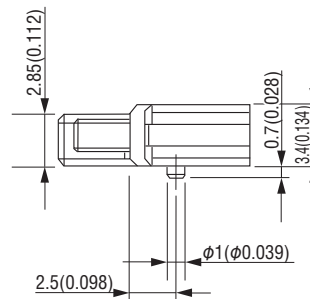
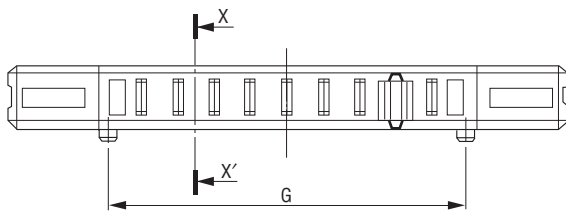
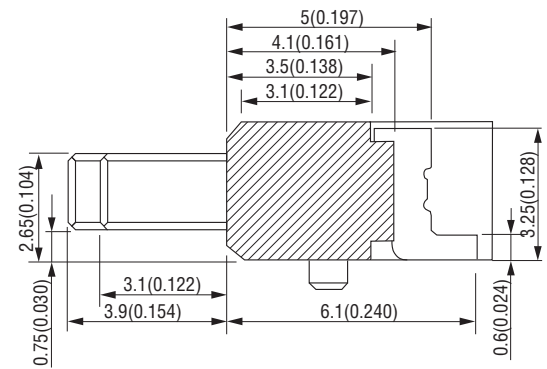
Unit : mm(inch)



## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section

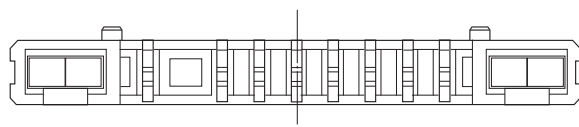
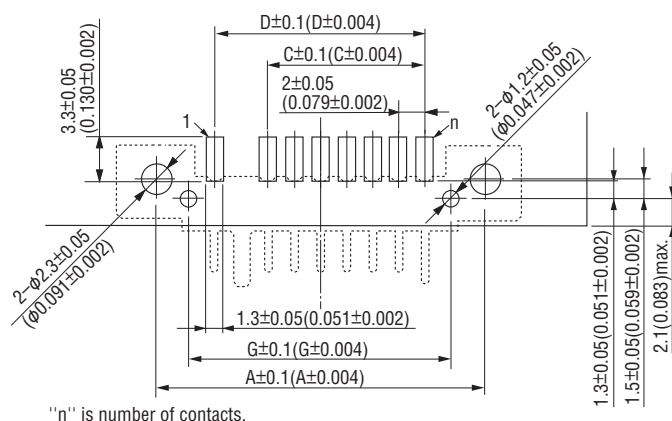
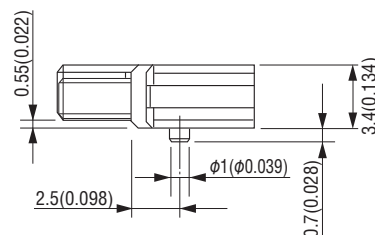
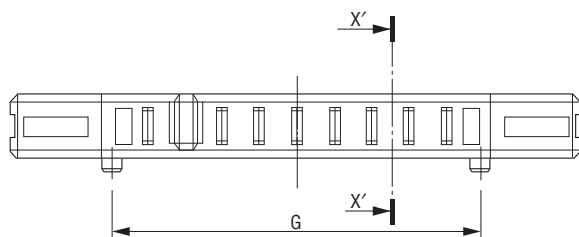
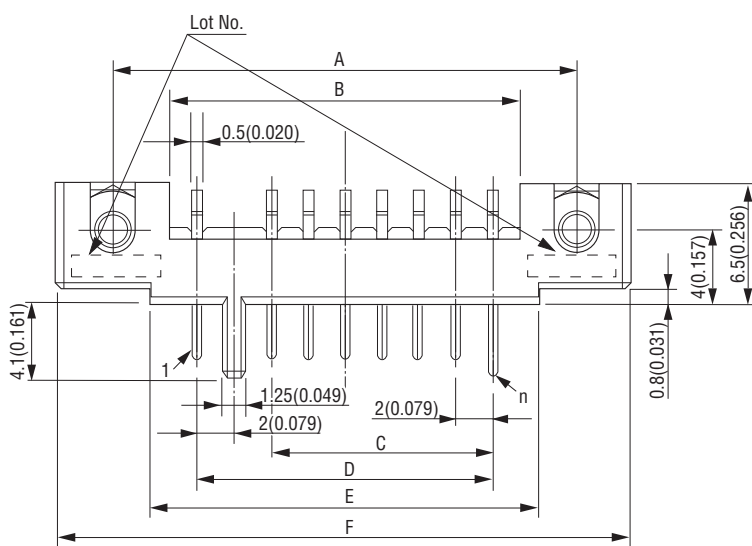
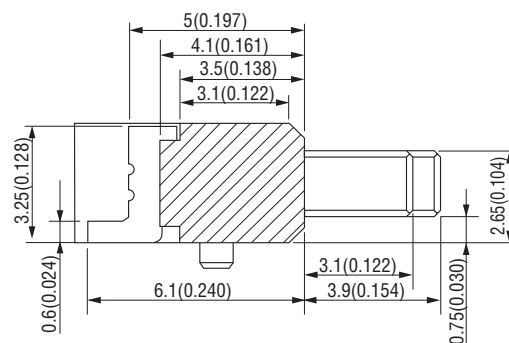


## Product Table / Dimensions

| No. of contacts | Part Number | A               | B               | C               | D               | E               | F               | G               | Number of packaging |
|-----------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|
| 8               | GF21-08-1F  | 25.0<br>(0.984) | 19.0<br>(0.748) | 12.0<br>(0.472) | 16.0<br>(0.630) | 21.0<br>(0.827) | 31.0<br>(1.220) | 20.0<br>(0.787) | 32                  |
| 10              | GF21-10-1F  | 29.0<br>(1.142) | 23.0<br>(0.906) | 16.0<br>(0.630) | 20.0<br>(0.787) | 25.0<br>(0.984) | 35.0<br>(1.378) | 24.0<br>(0.945) | 32                  |

Packaging style

Tray

**▶ Printed Circuit Board Layout (Component Side View)**

**X-X' Cross Section**

**▶ Product Table / Dimensions**

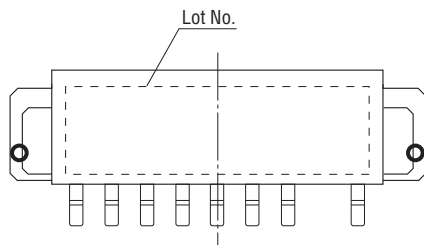
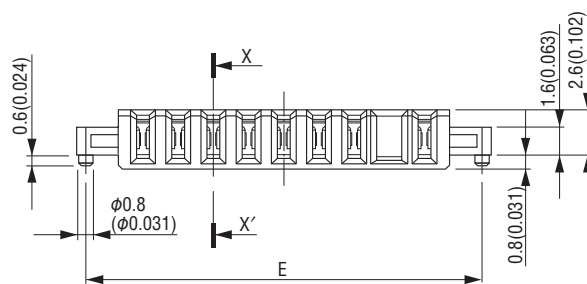
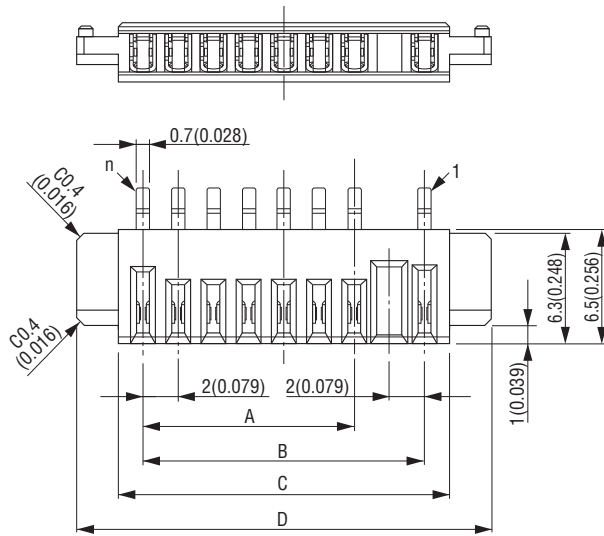
| No. of contacts | Part Number | A               | B               | C               | D               | E               | F               | G               | Number of packaging |
|-----------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|
| 8               | GF22-08-1F  | 25.0<br>(0.984) | 19.0<br>(0.748) | 12.0<br>(0.472) | 16.0<br>(0.630) | 21.0<br>(0.827) | 31.0<br>(1.220) | 20.0<br>(0.787) | 32                  |
| 10              | GF22-10-1F  | 29.0<br>(1.142) | 23.0<br>(0.906) | 16.0<br>(0.630) | 20.0<br>(0.787) | 25.0<br>(0.984) | 35.0<br>(1.378) | 24.0<br>(0.945) | 32                  |

Packaging style

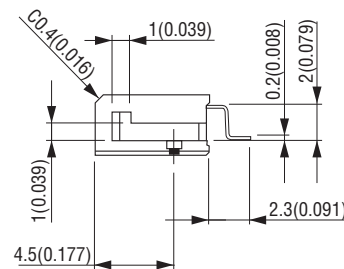
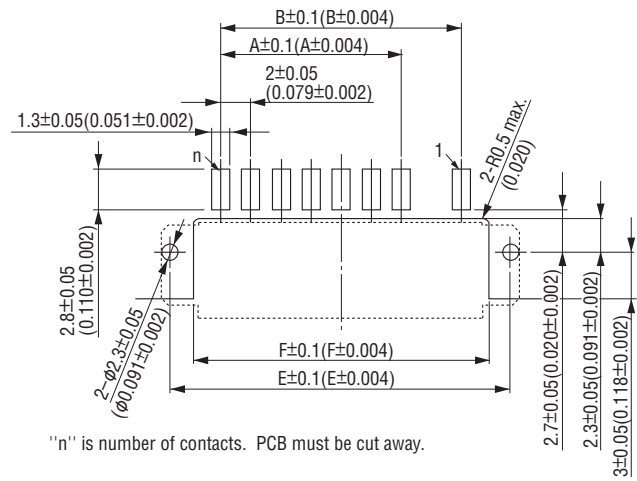
Tray

# GF31-□□-1F (Receptacle, SMT, Low profile)

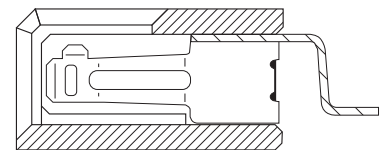
Unit : mm(inch)



## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section



## Product Table / Dimensions

| No. of contacts | Part Number | A               | B               | C               | D               | E               | F               | Number of packaging |
|-----------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|
| 8               | GF31-08-1F  | 12.0<br>(0.472) | 16.0<br>(0.630) | 18.8<br>(0.740) | 23.5<br>(0.925) | 22.5<br>(0.886) | 19.5<br>(0.768) | 40                  |
| 10              | GF31-10-1F  | 16.0<br>(1.630) | 20.0<br>(0.787) | 22.8<br>(0.898) | 27.5<br>(1.083) | 26.5<br>(1.043) | 23.5<br>(0.925) | 40                  |

Packaging style

Tray