
**ORDER CODE**
**GF** - - **F**

- **F** : RoHS Compliance
- For GF01 and GF02, Nuts
  - 1 : With Nuts
  - 12 : Without Nuts
- For GF12, Tail length
  - 1 : 1.5mm
  - 2 : 2.3mm
- For GF11, GF21, GF22 and GF31, Packaging style
  - 1 : Tray
- No. of contacts
  - 08 : 8 pin
  - 10 : 10 pin (GF21, GF22 and GF31 only)
- Variation
  - 01 : Plug, (SMT Standard type)
  - 02 : Plug, (SMT Reverse type)
  - 11 : Receptacle, (SMT type)
  - 12 : Receptacle, (Through hole type)
  - 21 : Plug, (Low Profile, SMT Standard type)
  - 22 : Plug, (Low Profile, SMT Reverse type)
  - 31 : Receptacle, (Low Profile, SMT type)
- Series Name
  - GF : 2mm pitch 2 piece battery connector

**FEATURES**

- Low profile battery connectors (GF21/GF22/GF31 only) with 2.6mm (0.102") height.
- 2 piece type with a highly reliable connection
- Sequence connection (FMLB : First Mate Last Break, 1 pin only) is available
- 2mm (0.079") pitch connector
- 2 mating variation (Horizontal and Vertical)
- Assures 5,000 mating cycles
- RoHS compliance

**SPECIFICATIONS**

- Insulator material : Glass-filled Polyamide 6T (UL 94V-0), Black
- Contact material : Phosphor Bronze
- Contact plating : Contact area; Gold over Nickel  
Terminal area; Gold over Nickel
- M2 Hexagon Nut : Nickel plating over Steel
- M2 Hexagon Nut plating: Nickel
- Current rating : 3A per contact (2 contacts only)  
0.5A per contact (other contact)
- Current voltage : 30V DC
- Contact resistance : 20mΩ max.
- 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 Combination**

		Receptacle Connector		
		GF11-08-1F	GF12-08-□F	GF31-□□-1F
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	*1 Horizontal	*1 Horizontal	*1 Horizontal
	GF22-□□-1F	*1 Horizontal	*1 Horizontal	*1 Horizontal

\*1 : Recommended for horizontal mating only, please contact your local sales office with questions regarding vertical mating.

## Mating Variation

Unit:mm(inch)

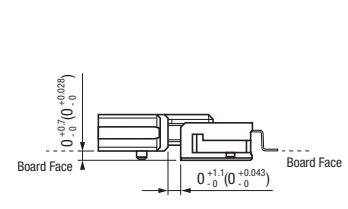
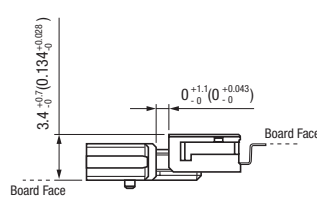
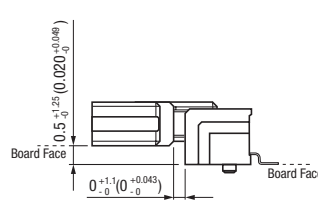
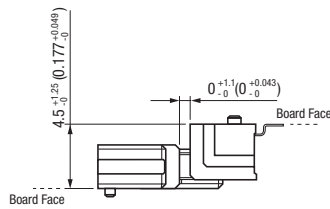
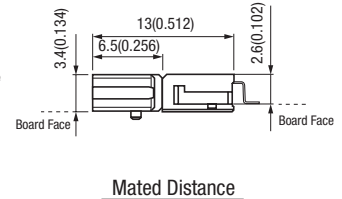
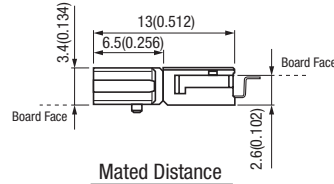
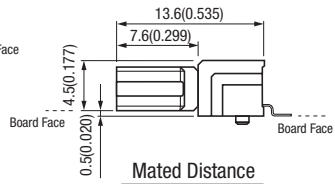
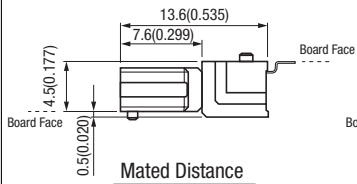
### Horizontal Mating

PLUG : GF 01 - 08 - 1□F  
RECEPTACLE : GF 1□ - 08 - □F

PLUG : GF 02 - 08 - 1□F  
RECEPTACLE : GF 1□ - 08 - □F

PLUG : GF 21 - □□ - 1F  
RECEPTACLE : GF 31 - □□ - 1F

PLUG : GF 22 - □□ - 1F  
RECEPTACLE : GF 31 - □□ - 1F



Effective Contact Displacement Range

Effective Contact Displacement Range

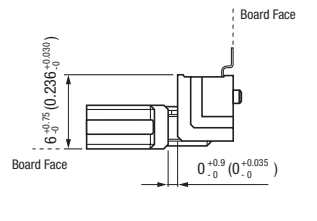
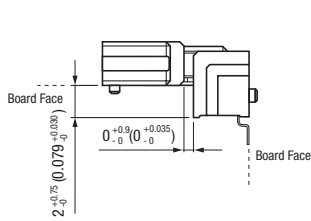
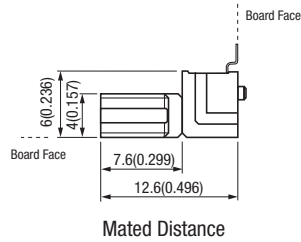
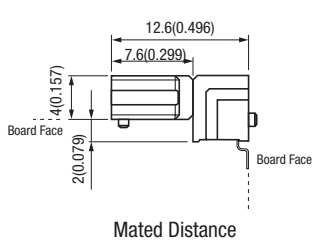
Effective Contact Displacement Range

Effective Contact Displacement Range

### Vertical Mating

PLUG : GF 01 - 08 - 1□F  
RECEPTACLE : GF 1□ - 08 - □F

PLUG : GF 02 - 08 - 1□F  
RECEPTACLE : GF 1□ - 08 - □F



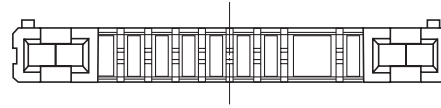
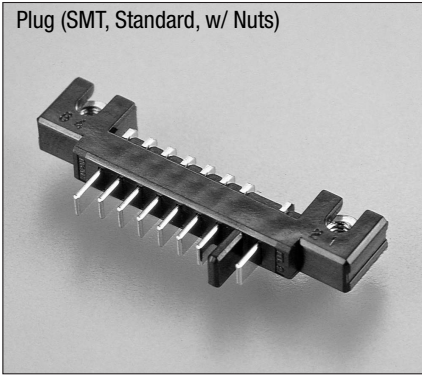
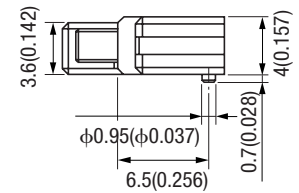
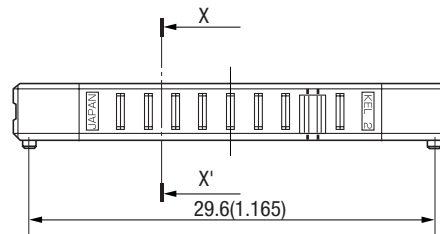
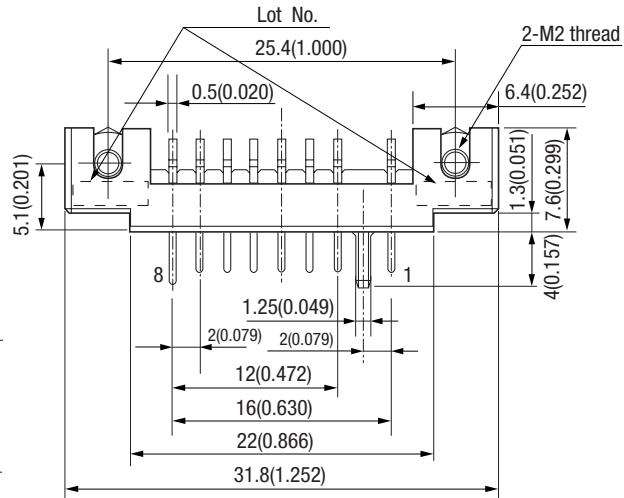
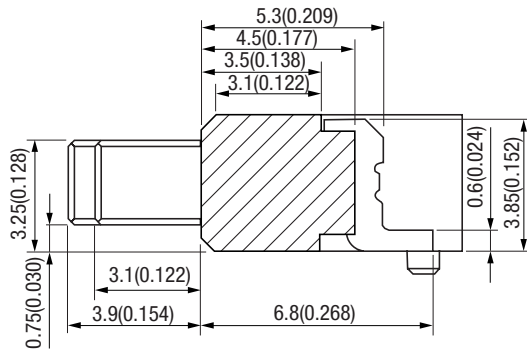
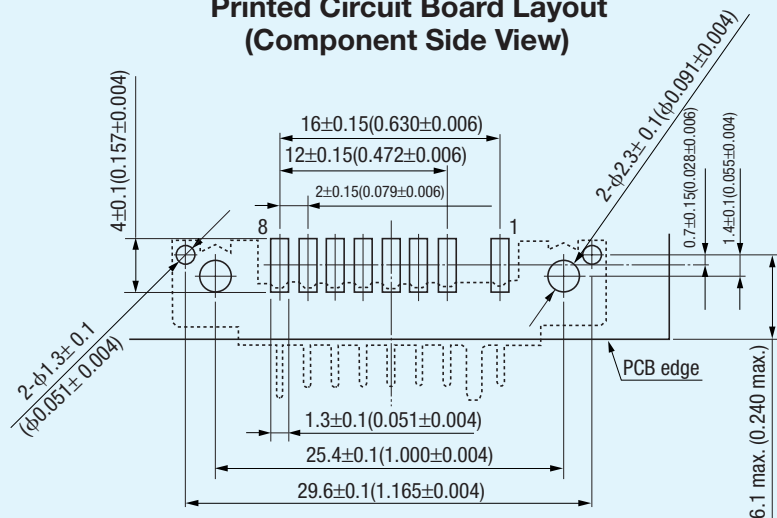
Effective Contact Displacement Range

Effective Contact Displacement Range

**GF01-08-1F (Plug)**

Unit:mm(inch)

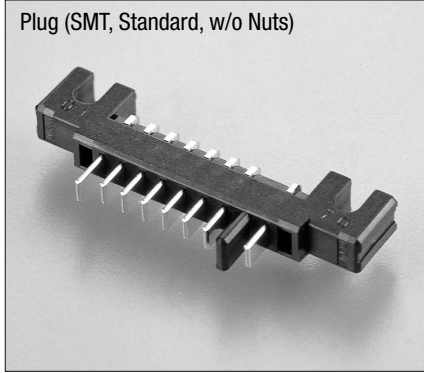
Plug (SMT, Standard, w/ Nuts)


**X-X' Cross Section**

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


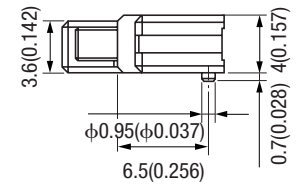
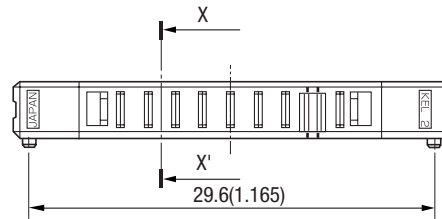
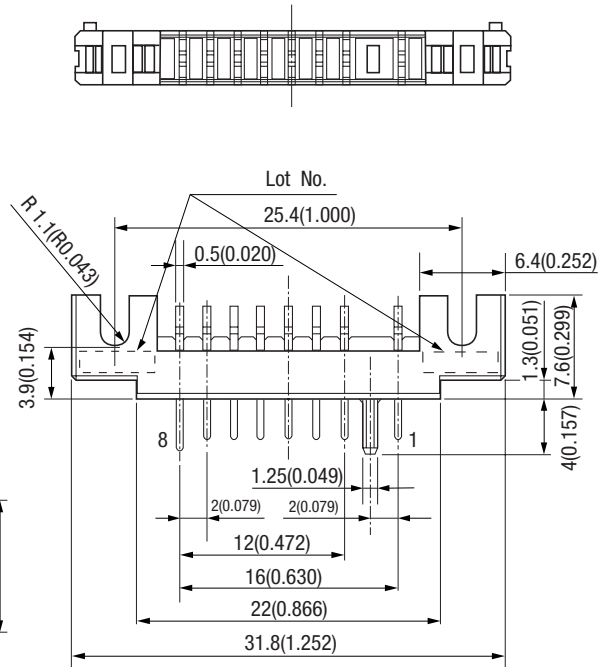
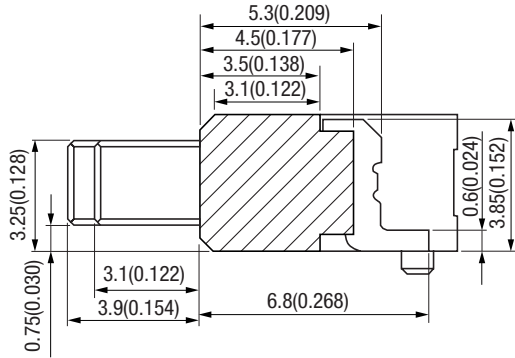
### GF01-08-12F (Plug)

Unit:mm(inch)

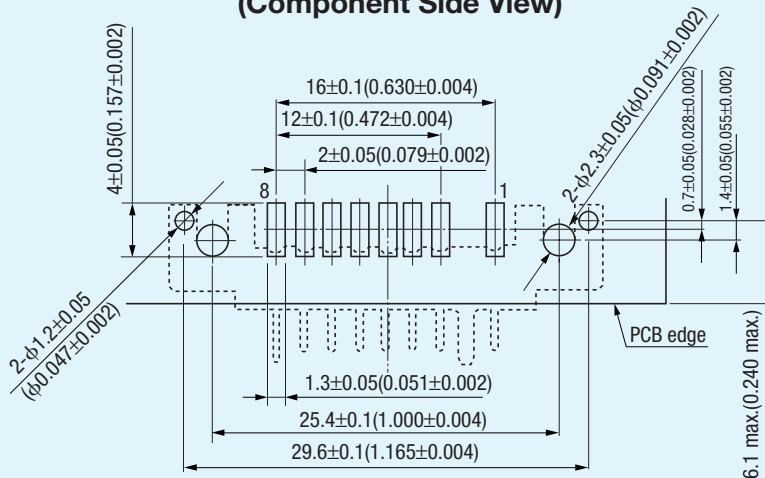
Plug (SMT, Standard, w/o Nuts)



X-X' Cross Section



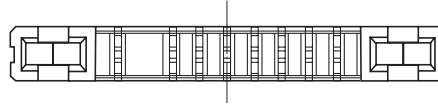
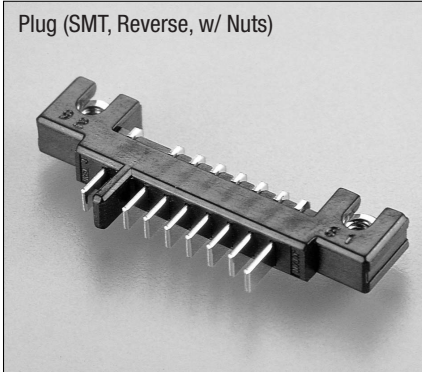
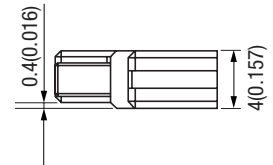
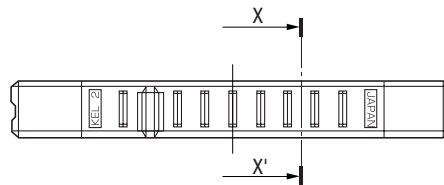
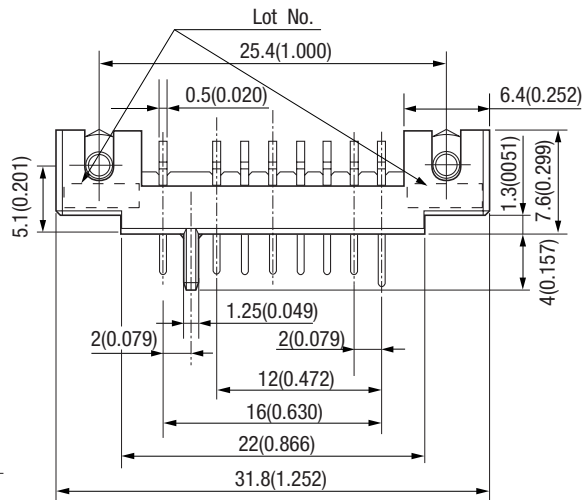
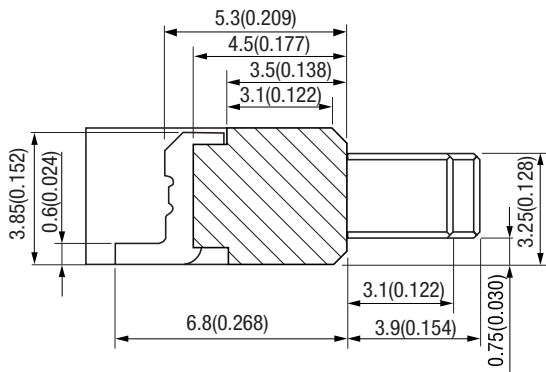
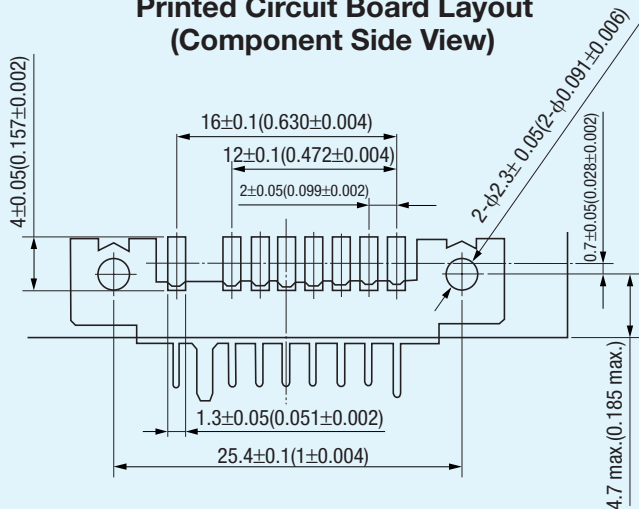
Printed Circuit Board Layout  
(Component Side View)



**GF02-08-1F (Plug)**

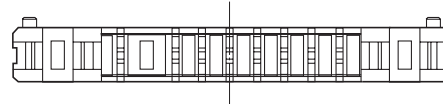
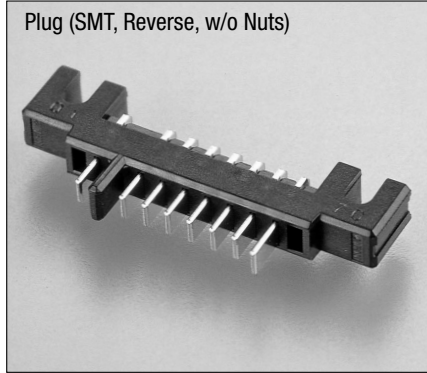
Unit:mm(inch)

Plug (SMT, Reverse, w/ Nuts)

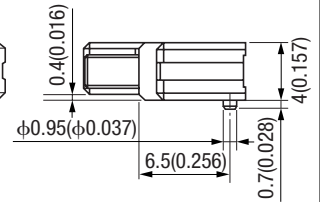
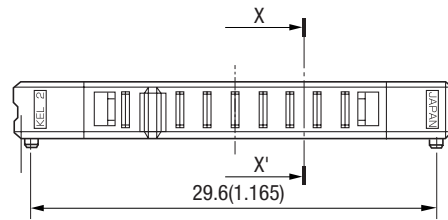
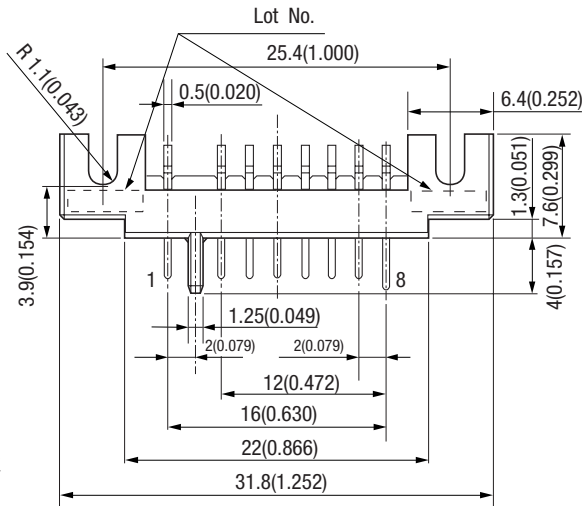
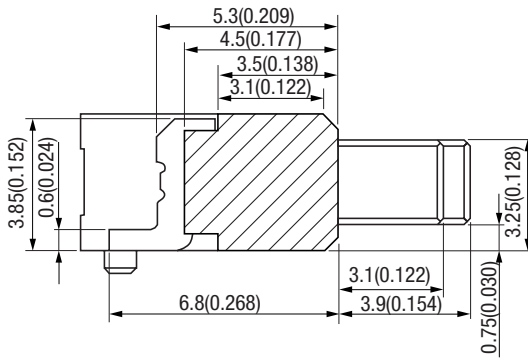

**X-X' Cross Section**

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


### GF02-08-12F (Plug)

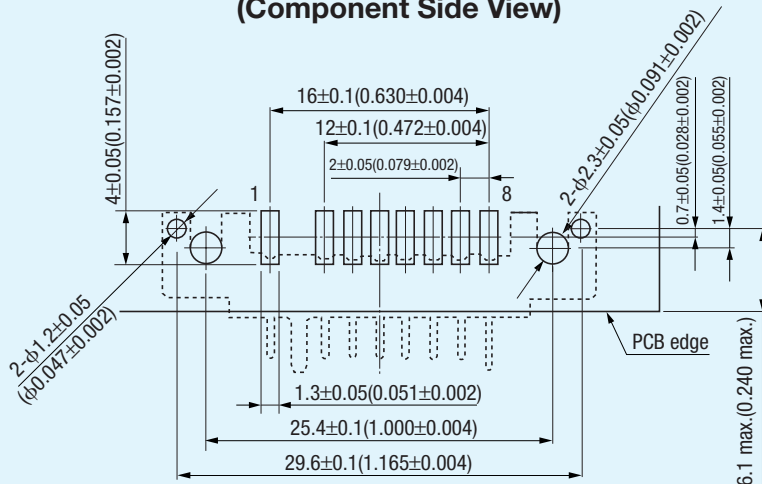
Unit:mm(inch)



#### X-X' Cross Section



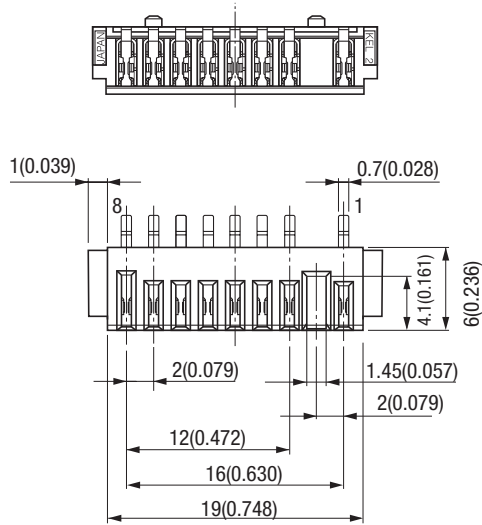
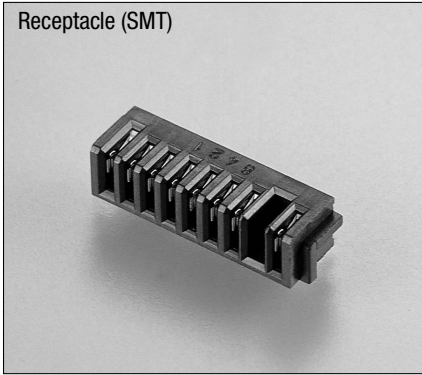
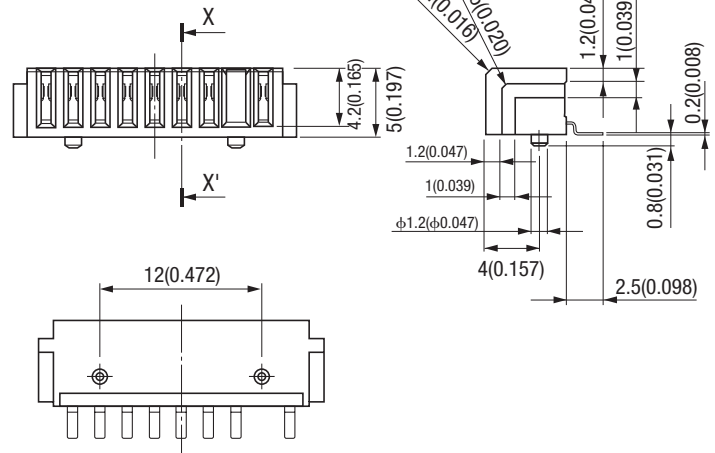
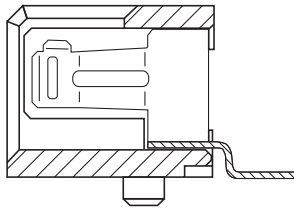
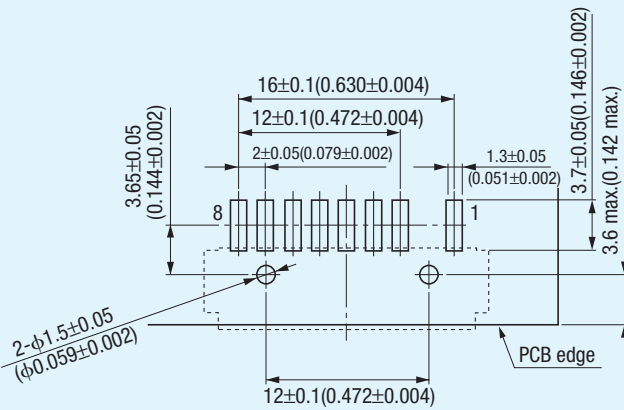
#### Printed Circuit Board Layout (Component Side View)



**GF11-08-1F (Receptacle)**

Unit:mm(inch)

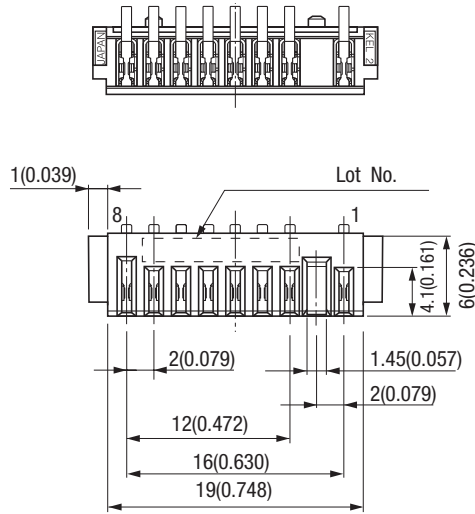
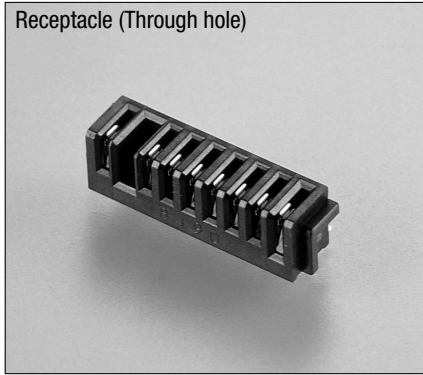
Receptacle (SMT)


**X-X' Cross Section**

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


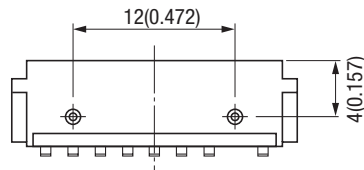
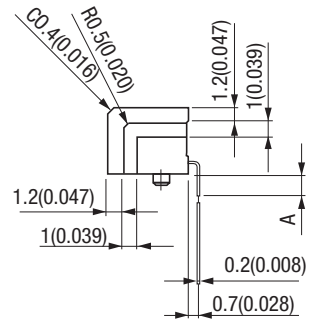
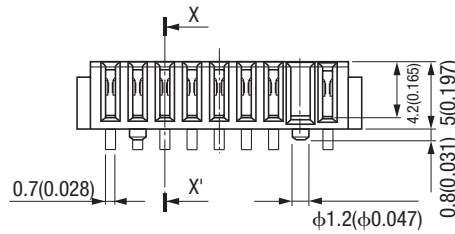
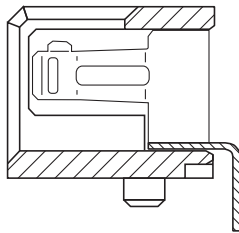
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Unit:mm(inch)

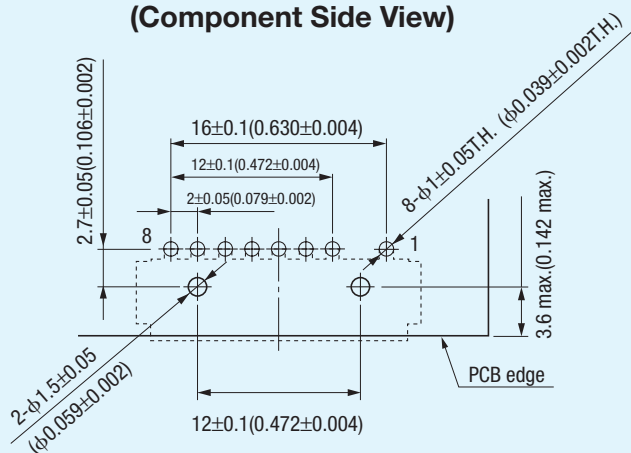
Receptacle (Through hole)



X-X' Cross Section



Printed Circuit Board Layout  
(Component Side View)



Product Table/Dimensions

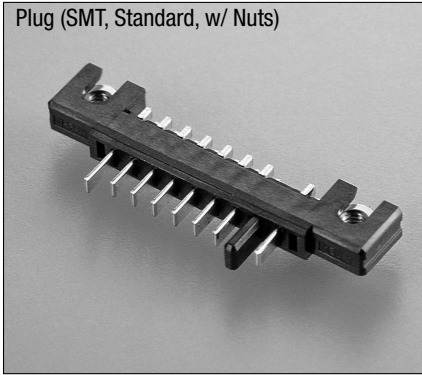
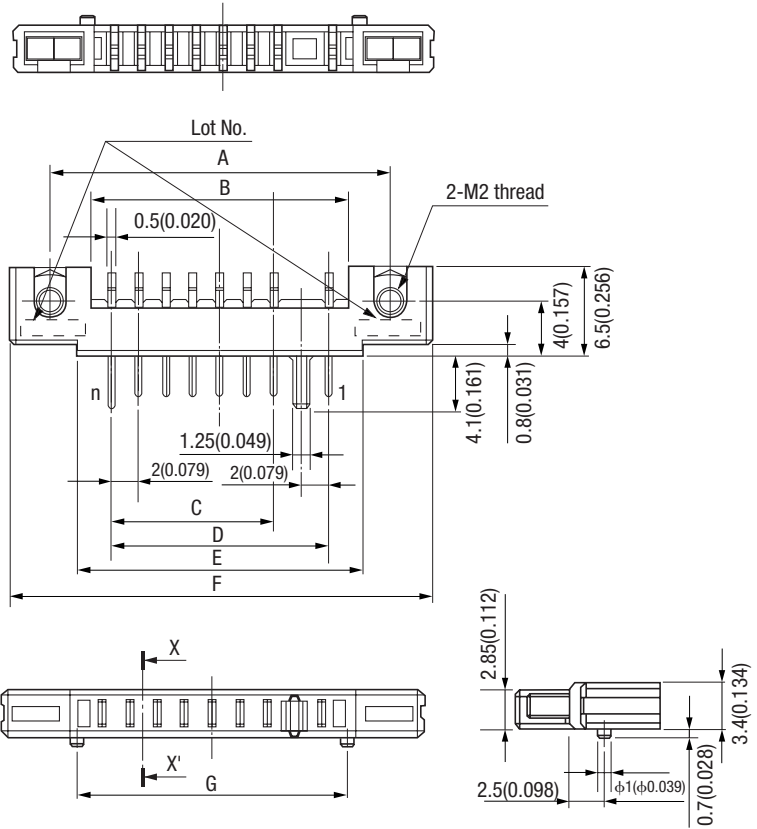
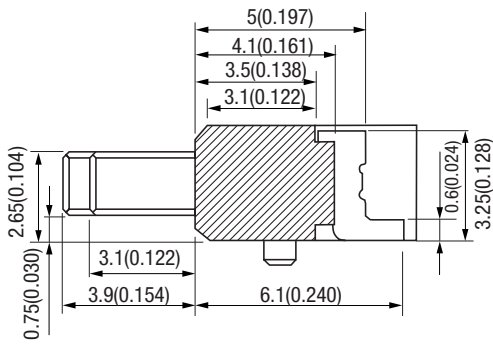
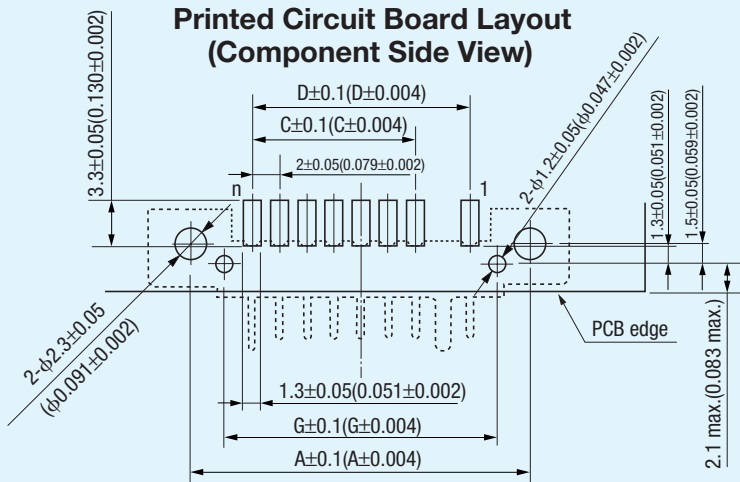
Part Number	A
GF12-08-1F	1.5(0.059)
GF12-08-2F	2.3(0.091)



**GF21-□□-1F (Plug)**

Unit:mm(inch)

Plug (SMT, Standard, w/ Nuts)


**X-X' Cross Section**

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


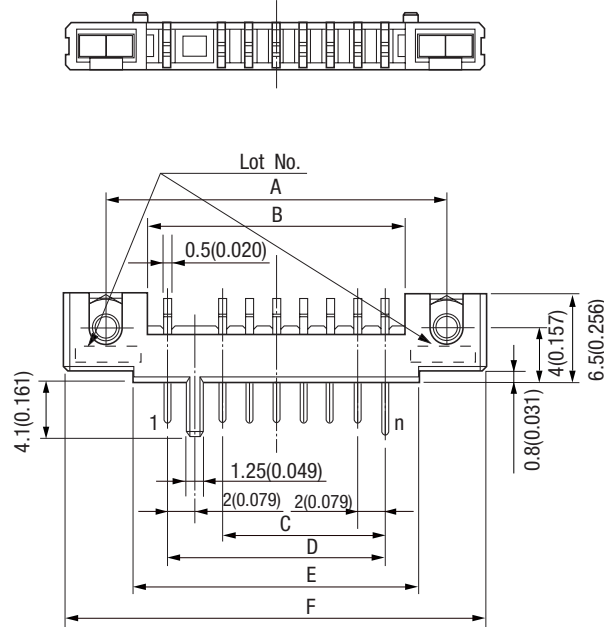
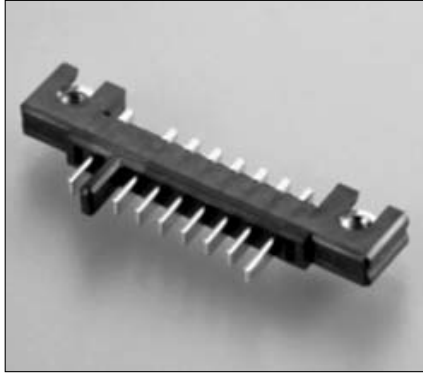
"n" is number of contacts.

**Product Table/Dimensions**

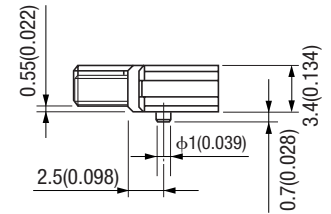
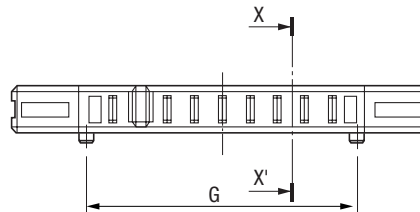
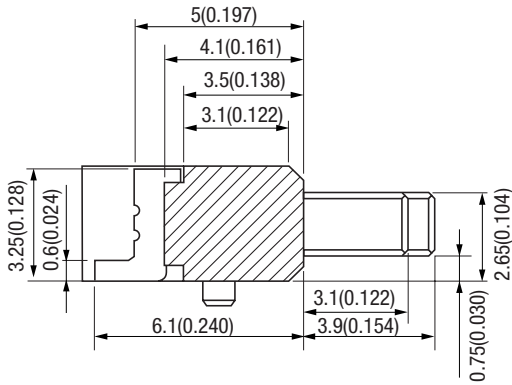
Part Number	A	B	C	D	E	F	G
GF21-08-1F	25.0(0.984)	19.0(0.748)	12.0(0.472)	16.0(0.630)	21.0(0.827)	31.0(1.220)	20.0(0.787)
GF21-10-1F	29.0(1.142)	23.0(0.906)	16.0(0.630)	20.0(0.787)	25.0(0.984)	35.0(1.378)	24.0(0.945)

### GF22-□□-1F (Plug)

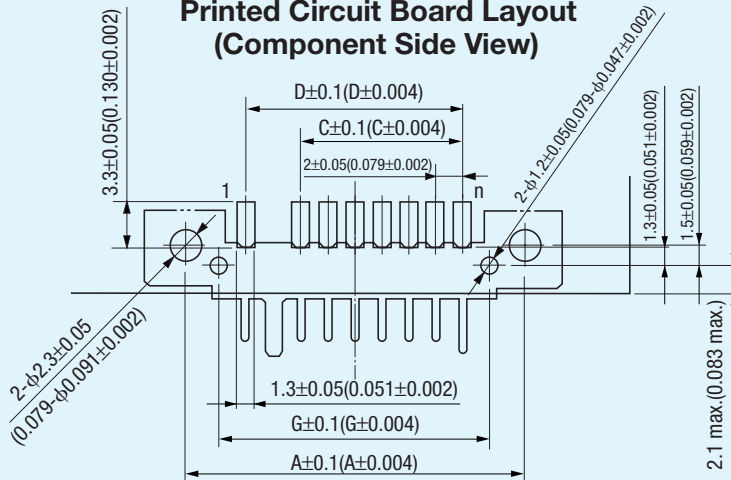
Unit:mm(inch)



#### X-X' Cross Section



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



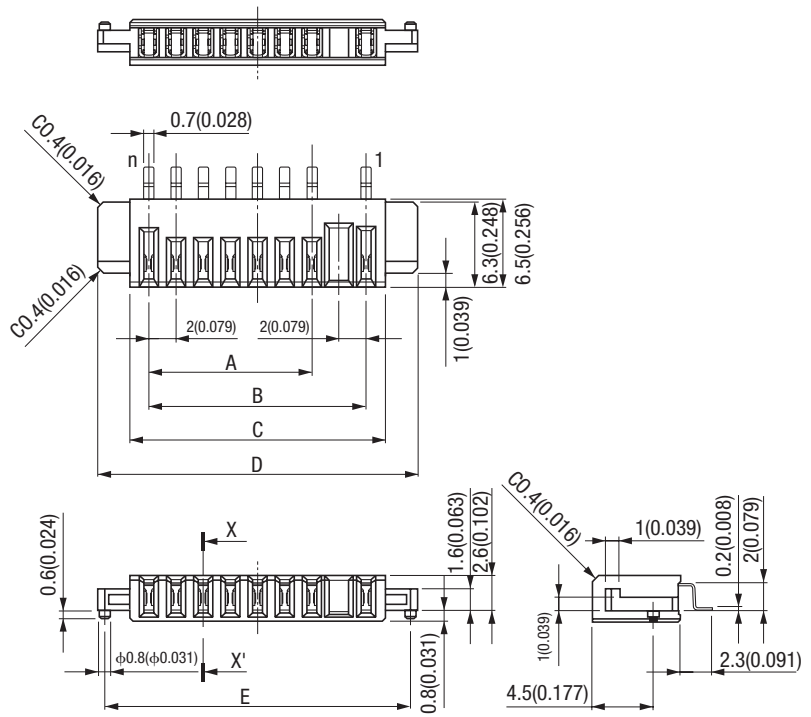
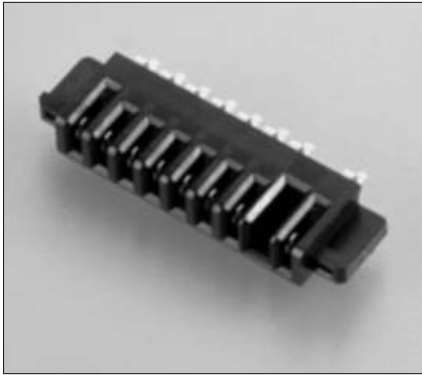
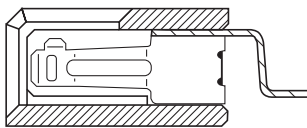
"n" is number of contacts.

#### Product Table/Dimensions

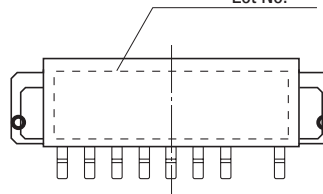
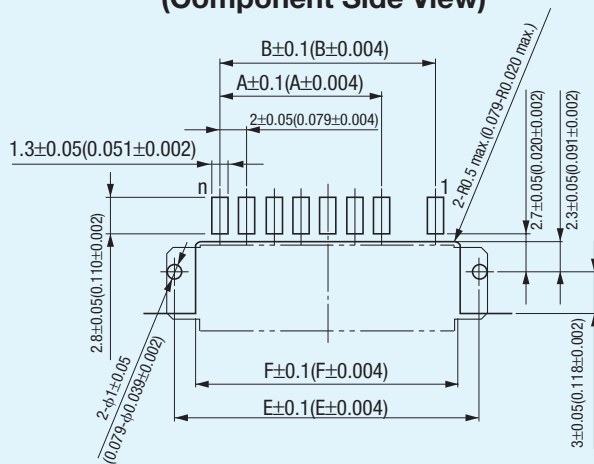
Part Number	A	B	C	D	E	F	G
GF22-08-1F	25.0(0.984)	19.0(0.748)	12.0(0.472)	16.0(0.630)	21.0(0.827)	31.0(1.220)	20.0(0.787)
GF22-10-1F	29.0(1.142)	23.0(0.906)	16.0(0.630)	20.0(0.787)	25.0(0.984)	35.0(1.378)	24.0(0.945)

**GF31-□□-1F (Receptacle)**

Unit:mm(inch)


**X-X' Cross Section**


Lot No.


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


"n" is number of contacts.  
PCB must be cut away.

**Product Table/Dimensions**

Part Number	A	B	C	D	E	F
GF31-08-1F	12.0(0.472)	16.0(0.630)	18.8(0.740)	23.5(0.925)	22.5(0.886)	19.5(0.768)
GF31-10-1F	16.0(1.630)	20.0(0.787)	22.8(0.898)	27.5(1.083)	26.5(1.043)	23.5(0.925)

Schareggstrasse 3, CH-5506 Mägenwil  
Tel. +41 62 896 00 48, Fax. +41 62 896 25 80  
info@admaterc.ch, www.admaterc.ch