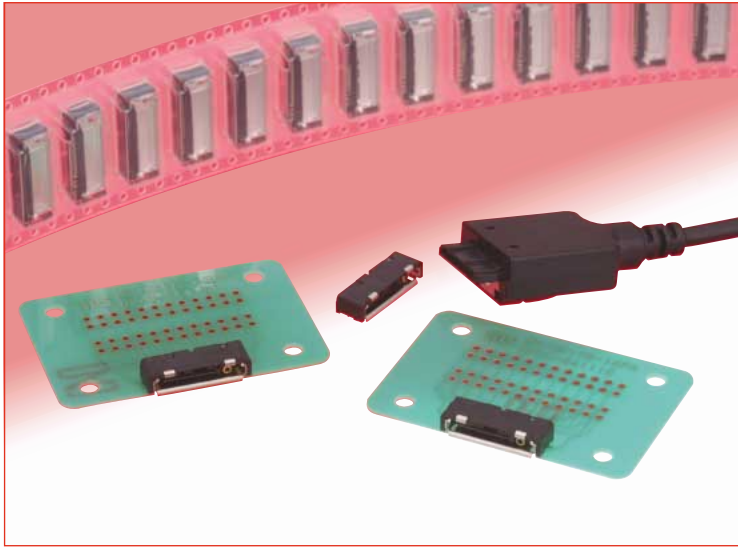
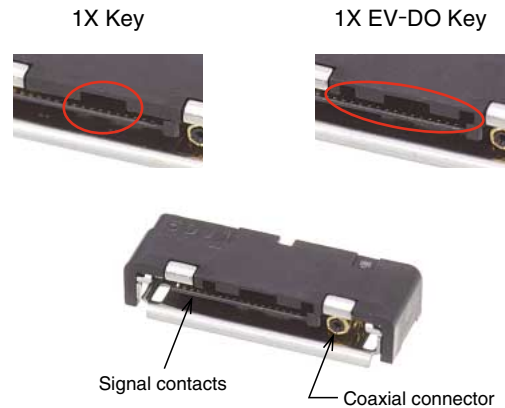


Interface Connectors for CDMA Type Cellular Phones

MQ/SF178 Series



Two interface configurations



■ Features

1. Complies with the requirements of NC-R1- 18 standards

Interface configuration also complies with the requirements for the CDMA cellular phone of KDDI Corporation.

2. Meets the trend for common AC adapters

Two interface configurations:

- For CDMA2000 1X
- For CDMA2000 1X EV-DO

3. Low-profile and small PCB mounting space

The height of 3.9mm and depth of 6.5 mm makes it suitable for use in miniature cellular phones.

4. Damage protection

Protective cover over the metal shell provides resistance excessive forces encountered in consumer applications, when mated with corresponding plug.

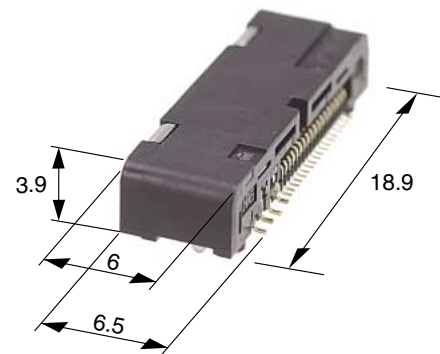
5. RoHS Compliance

All components and materials comply with applicable RoHS directives.

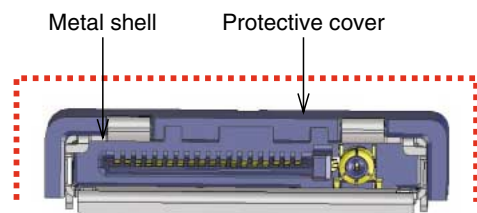
■ Application

CDMA 2000 1X or 2000 1X EV-DO cellular phone

Low profile / Small PCB mounting space



Damage protection



■ Specifications

Rating	Current rating 0.5A (2A can be carried via 2 random contacts)	Operating temperature range : -30℃ to +80℃
	Voltage rating 100V AC	Storage temperature range : -40℃ to +85℃

Characteristic	Specification	Conditions
1. Contact resistance	50m Ω max.	100mA
2. Insulation resistance	1000 M Ω	250V DC (Signal) 100V DC (Coaxial)
3. Dielectric withstanding voltage	No flashover or insulation breakdown.	350V AC / one minute (Signal) 100V AC / one minute (Coaxial)
4. Vibration	No electrical discontinuity of 1 μ sec. Max. Contact resistance: 75 m Ω max.	Frequency: 10 to 55 Hz, single amplitude of 1.5mm, 2 hours, 3 axis.
5. Shock	No electrical discontinuity of 1 μ sec. Max. Contact resistance: 75 m Ω max.	Acceleration of 490m/s ² , 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis.
6. Mating/un-mating forces	Mating: 29.4N max. Un-mating: 2N min.	With corresponding connector (including coaxial connector)
7. Durability (mating/un-mating)	Contact resistance: 75 m Ω max.	10,000 cycles
8. Temperature cycle	Contact resistance: 75 m Ω max. Insulation resistance: 1000 M Ω	Temperature : -55℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃ Time : 30 → 5 → 30 → 5 (Minutes) 5 cycles
9. Humidity	Contact resistance: 75 m Ω max. Insulation resistance: 1000 M Ω (Dry state)	96 hours at temperature of 60℃ and humidity of 90% to 95%
10. Salt spray	No corrosions.	5% salt water solution at 35 ℃ for 48 hours

Note: Includes temperature rise caused by current flow.

■ Materials

Part	Material	Finish	Remarks
Insulator	Polyamide	Black color	UL94V-0
Contacts	Copper alloy	Contact area and termination area: Selective gold plated	_____
Shell	Stainless steel	Tin reflow plated	_____

■ Ordering information

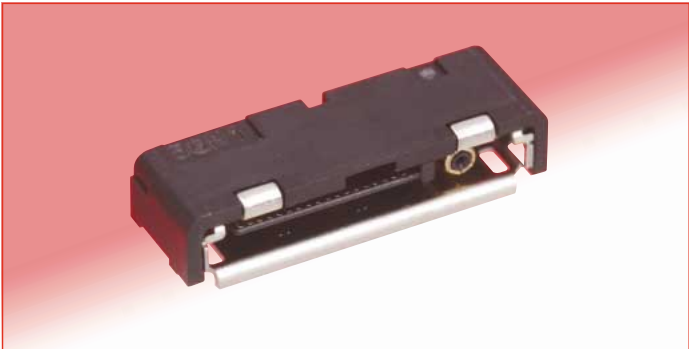
MQ / SF178 - E - 18 P R (01)

① ② ③ ④ ⑤ ⑥

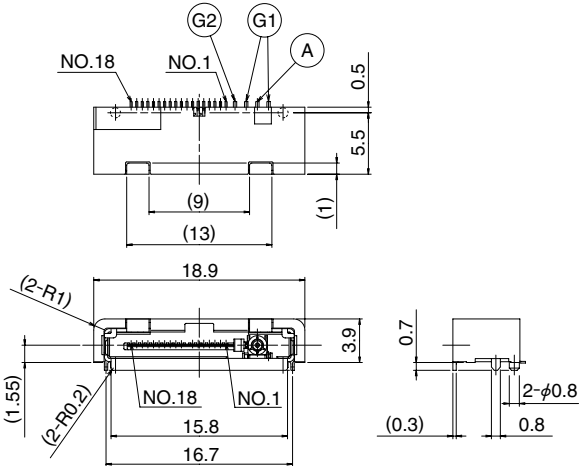
① Series name	MQ/SF178 Series (/SF: Built-in coaxial connector)
② Key type	C : CDMA2000 1X keys E : CDMA2000 1X EV-DO keys
③ Number of contacts	18 : 18
④ Type of contact	P : Male contact
⑤ Interface orientation	R : Reverse
⑥ Plating specifications	Blank : 0.2 μm min. thick at contact point, gold flash on termination area (01) : 0.5 μm min thick at contact point, gold flash on termination area

Receptacles

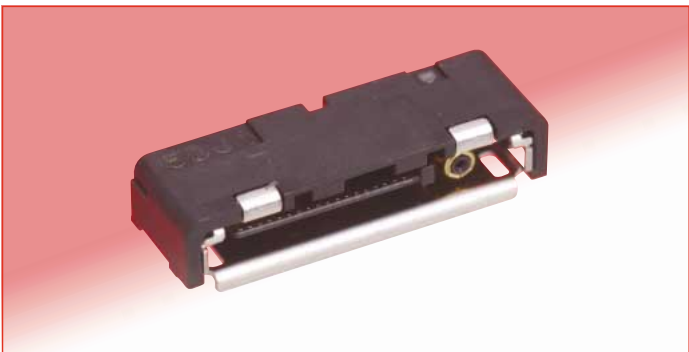
CDMA2000 1X key type



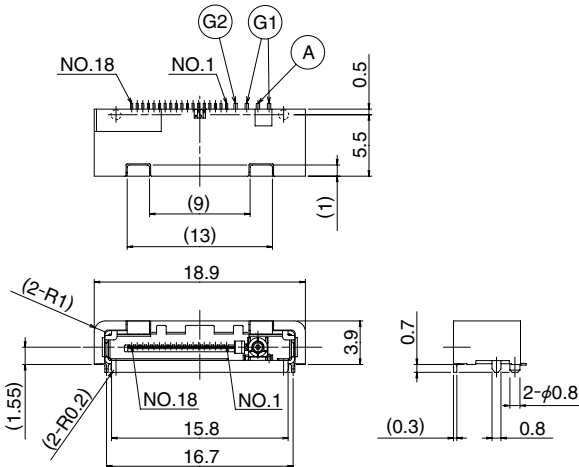
Part number	CL No.	Packaging	RoHS
MQ/SF178-C-18PR	206-2495-0	1,000 pieces per reel	YES



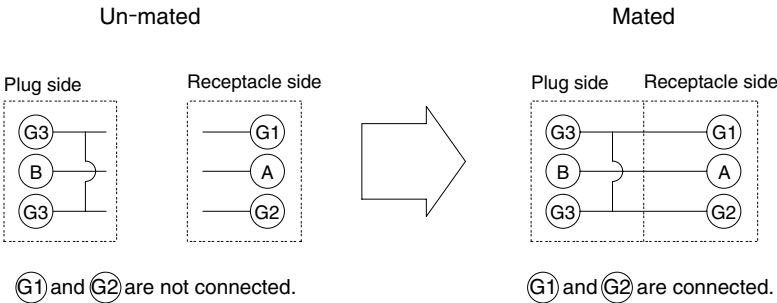
CDMA2000 1X EV-DO key type



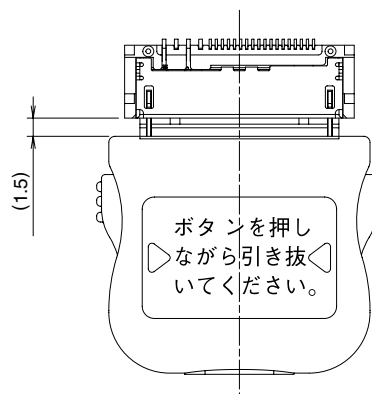
Part number	CL No.	Packaging	RoHS
MQ/SF178-E-18PR	206-2496-3	1,000 pieces per reel	YES



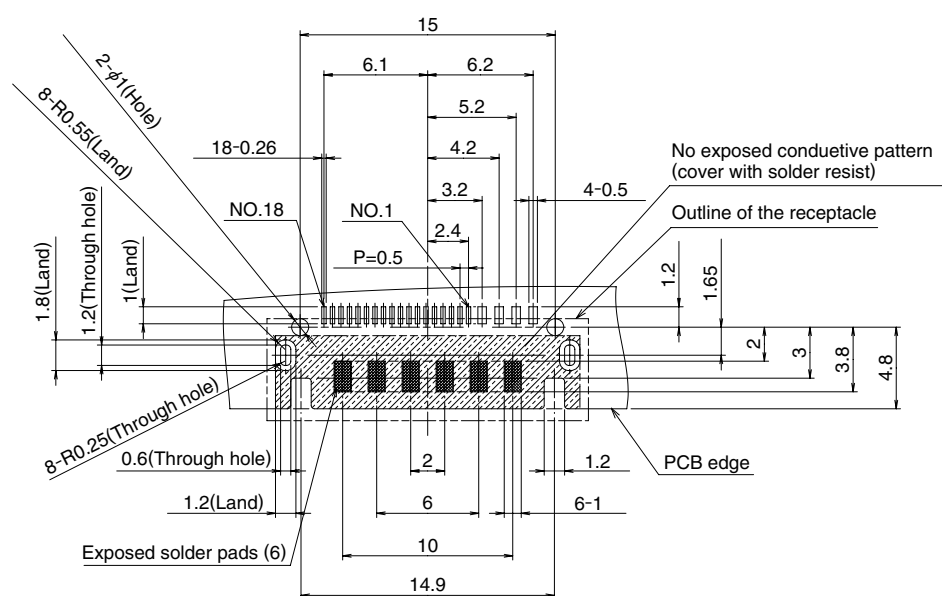
Coaxial circuit diagram



■ Mated condition (Shown for reference)



◆ Recommended PCB mounting pattern



● Embossed carrier tape dimensions

● Embossed carrier tape dimensions



- Solder paste : 96.5%Sn, 3.0%Ag, 0.5%Cu
- Test Board : Glass epoxy, 35mm × 35mm × 0.8mm thick

Note 2: The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals.

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