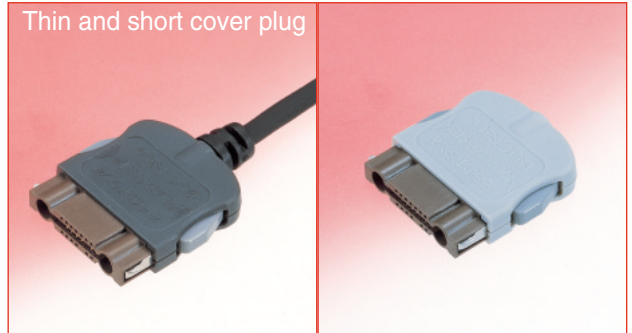
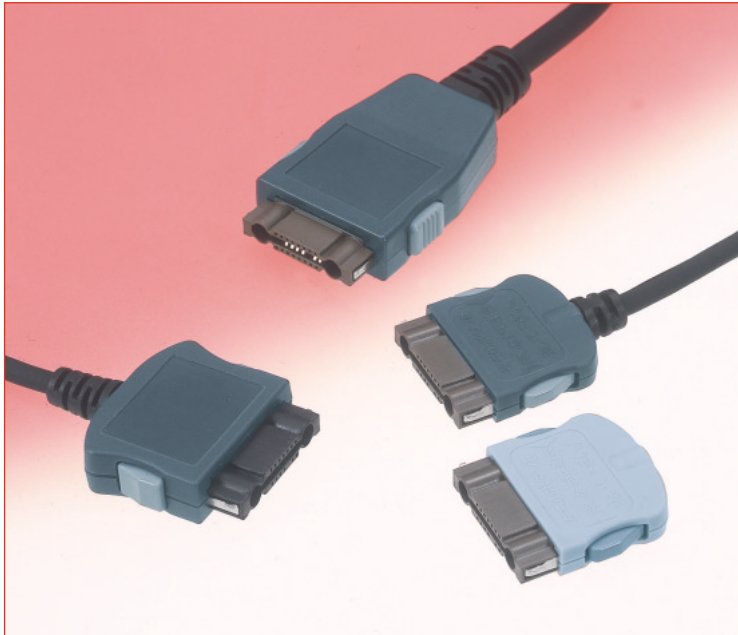


**NEW**

# Universal Plug connectors for PDC Type Digital Cellular Phones

## MQ138 Series



### Overview

The universal plug connectors will mate with most PDC type digital cellular phones. The major use of these connectors is for the connections of cellular phones with peripheral equipment. Three out of 16 contacts are removed from the housing for protection purpose of the cellular phones.

### Features

**1. Will interface with NTT DoCoMo, Vodafone and Tu-Ka cellular phones.**

### 2. Variations

Thin and short cover plugs, short cover plugs, and reverse cover plugs are available. Plugs with colors not listed in the catalog can be custom made. Please contact our sales representative for details.

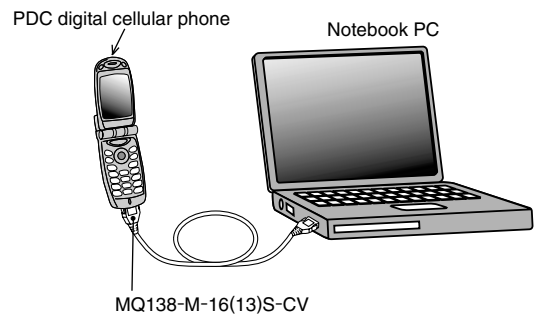
### 3. Easy Wire Termination

The lock spring and release buttons are incorporated in the outer shell, allowing easy placement of the terminated insulator, strain relief clamp and flexible boot.

### Applications

PDC type digital cellular phones

### Example of Connections with Peripheral Equipment



## ■ Specifications

Rating	Current rating	1A	Operating temperature range -55°C to +80°C (Note 1)
	Voltage rating	100V AC	

Characteristic	Specification	Conditions
1. Contact resistance	30 m ohms max.	10 mA (DC or 1000 Hz)
2. Insulation resistance	1000 M ohms min.	250 V DC
3. Dielectric Withstanding Voltage	No flashover or insulation breakdown.	350 V AC / one minute
4. Lock Strength	No damage, cracks, or parts dislocation.	Pull force: 30N max.
5. Mating/un-mating forces	Mating : 29.4N max.	With corresponding connector.
6. Durability (mating/un-mating)	Contact resistance: 50 m ohms max.	5000 cycles
	No damage, cracks or parts dislocation.	
7. Vibration	No electrical discontinuity of 10 <sup>-4</sup> sec. max. Contact resistance: 50 m ohms max.	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours, 3 axis.
8. Shock	No damage, cracks, or parts dislocation.	Acceleration of 490 m/s <sup>2</sup> , 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis.
9. Temperature cycle	Contact resistance: 50 m ohms max.	Temperature : -55°C → +5°C to +35°C → +85°C → +5°C to +35°C Time (Minutes) : 30 → 5 → 30 → 5 5 cycles
	Insulation resistance: 1000 M ohms min. No damage, cracks, or parts dislocation.	
10. Humidity	Contact resistance: 50 m ohms max. Insulation resistance: 10 M ohms min. No damage, cracks, or parts dislocation.	96 hours at temperature of 40°C and humidity of 90% to 95%
11. Salt Spray	Contact resistance: 50 m ohms max. No corrosions	5% salt water solution for 48 hours
12. Solderability	No deformation of the insulator parts affecting form, fit or function.	Soldering temperature: 280°C to 300°C Recommended solder immersion time: 4 seconds max.

Note: Includes temperature rise caused by current flow.

## ■ Materials

Component	Material	Finish	Remarks
Insulator	Polyamide	Color: Black or Brown	UL94V-0
Female contacts	Copper alloy	Gold plating	—————
Cover	Polycarbonate or ABS	Color: Black (Note1)	—————
Lock Push Button	Thermoplastic compound	Color: Light gray	—————
Lock spring	Stainless steel	—————	—————

Note1: Outer shells available in various colors. Refer to page 3.

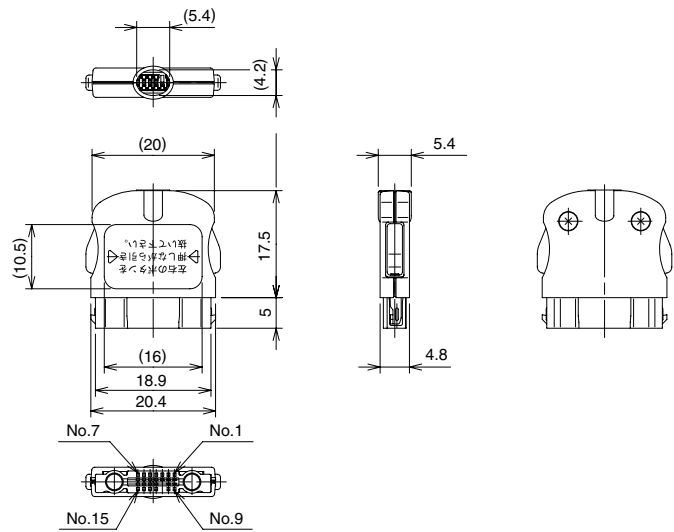
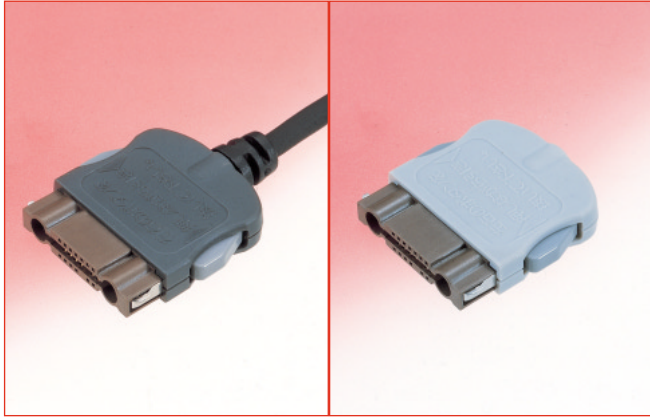
## ■ Ordering Information

### MQ138 T-M-16(13)S-CV

①      ②      ③      ④      ⑤      ⑥

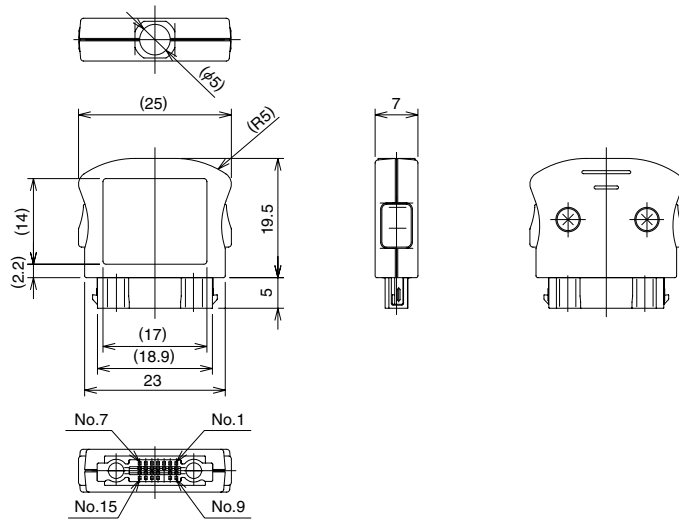
① Series name	: MQ138 Series	④ Number of contact	13		
② Plug length	Blank	: Standard	⑤ Contact type	S: Female contact	
	T	: Thin and Short		⑥ Plug type	CV
	S	: Short	CVR		: Reverse type
③ Connector type	M: Universal Plug				

## ■Thin and short cover type



Color of outer housings	Part Number	CL No.
Gray	MQ138T-M-16(13)S-CV	CL206-2252-9
Ivory White	MQ138T-M-16(13)S-CV(03)	CL206-2252-9-03

## ■Short cover type

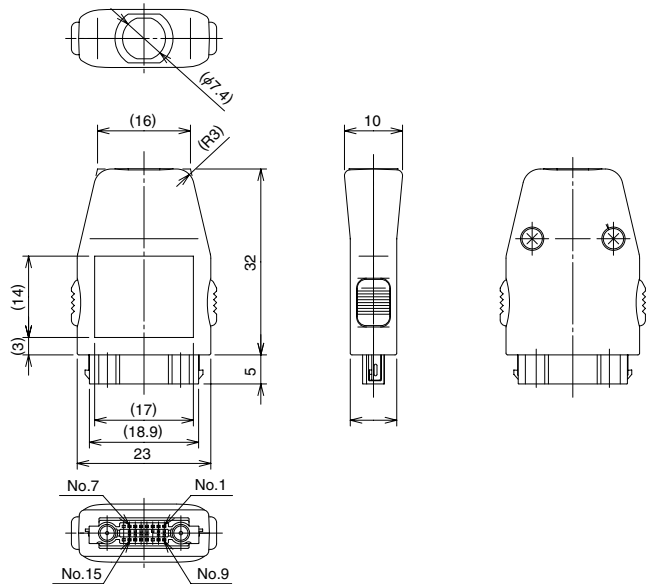


Marking	Cover Color	Part Number	CL No.
NTT DoCoMo	Gray	MQ138S-M-16(13)S-CV1	CL206-2157-8
	Black	MQ138S-M-16(13)S-CV1(01)	CL206-2157-8-01
	Light Gray	MQ138S-M-16(13)S-CV1(02)	CL206-2157-8-02
	Ivory White	MQ138S-M-16(13)S-CV1(03)	CL206-2157-8-03
Vodafone or Tu-Ka	Gray	MQ138S-M-16(13)S-CV2	CL206-2191-6
	Black	MQ138S-M-16(13)S-CV2(01)	CL206-2191-6-01
	Light Gray	MQ138S-M-16(13)S-CV2(02)	CL206-2191-6-02
	Ivory White	MQ138S-M-16(13)S-CV2(03)	CL206-2191-6-03
No marking	Gray	MQ138S-M-16(13)S-CV	CL206-2192-9
	Black	MQ138S-M-16(13)S-CV(01)	CL206-2192-9-01
	Ivory White	MQ138S-M-16(13)S-CV(03)	CL206-2192-9-03

### ◆Remarks[Thin and short cover plugs and Short cover plugs]

- 1 Thin and short cover plugs, and short cover plugs will not accept coaxial connectors. Use standard cover plugs for installing coaxial connectors.
- 2 The short cover plugs will not be supplied with the cable bushing. The cable bushing needs to be integrately molded to the cable. Refer to the customer drawing for recommended dimensions.
- 3 Power contacts are removed from the housing.

## ■Standard cover type



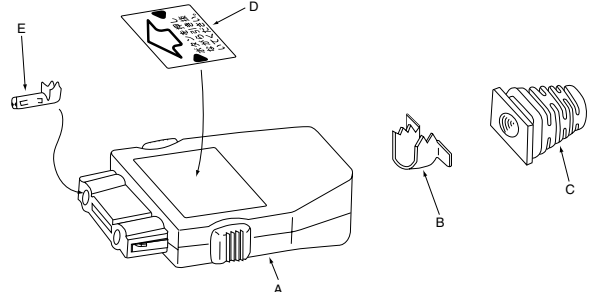
Connector type	Part Number	CL No.
Standard type	MQ138-M-16(13)S-CV	CL206-0749-6
Reverse type	MQ138-M-16(13)S-CVR	CL206-2031-0

## ■Cable bushing(For standard cover only)



Cable Dia.	Part Number	CL No.
4mm	MQ138-BS(4.0)(01)	CL206-0890-4-01
4.8mm	MQ138-BS(4.8)(01)	CL206-0683-0-01
5.2mm	MQ138-BS(5.2)(01)	CL206-0662-0-01

## ■Standard cover type



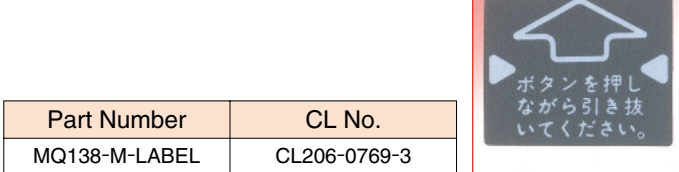
Option	A	Plug
	B	Strain Relief Clamp
	C	Flexible Boot
	D	Label
	E	Coaxial contact

## ■Clamp



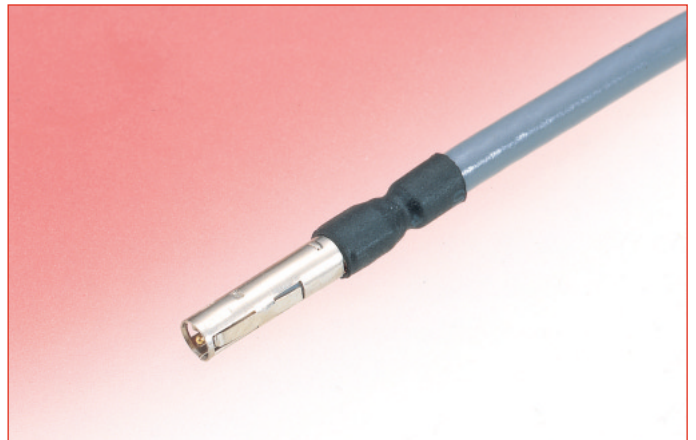
Cable Dia.	Part Number	CL No.
4mm	MQ138-CM(4.0)	CL206-0891-7
4.8mm	MQ138-CM(4.8)	CL206-0684-2
5.2mm	MQ138-CM(5.2)	CL206-0664-5

## ■Label



Part Number	CL No.
MQ138-M-LABEL	CL206-0769-3

## ■Coaxial contact



Applicable cable	Part Number	CL No.
Coaxial/signal combined cable	MS-138-C(P)	CL358-0088-3
1.5D-2W	MS-138-C(P)-1	CL358-0100-7
0.8D-2W	MS-138-C(P)-2	CL358-0101-0



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