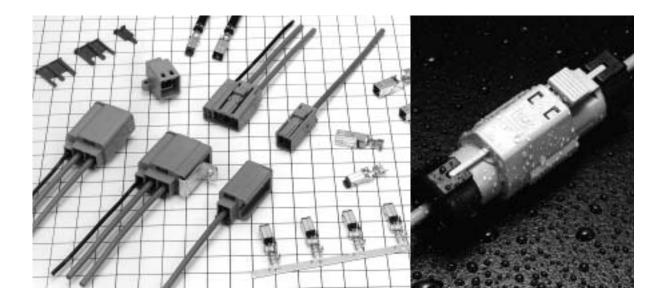
SAE/USCAR-19

Termination of coaxial cables in automotive, medical and instrumentation applications utilizes a single motion to crimp the center conductor, shield and outer insulation.

# **GT5 Series**

#### — Connectors for coaxial cables —

Several types and configurations: In-line, board mounted, combinations of coaxial cable with signal/power, Multi-position and color/ keying variations.>



#### Features

- USCAR Standard titled "Square Outer Conductor (SAE/USCAR-19)" excludes Water Proof type (GT5W)
- Cost efficient termination

Highly efficient and reliable single motion "Twin Crimp" termination allows high volume production with semi-automatic equipment.

- Space-saving Design
- Lock-release latching system
- Shock / vibration resistant electrical connections
- Verification of the full contact insertion
- Color and polarizing variations
- Excellent High Frequency Performance

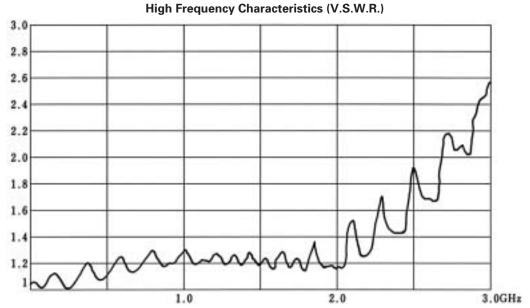
Refer to V.S.W.R. data on the following pages.

#### Applications

In-car communication, car sensors (temperature, pressure), automotive audio systems, GPS antenna systems, RACS antenna audio/video antenna systems, CRT displays, medical and measuring instrumentation, variety of communication equipment, office automation equipment, LAN systems.

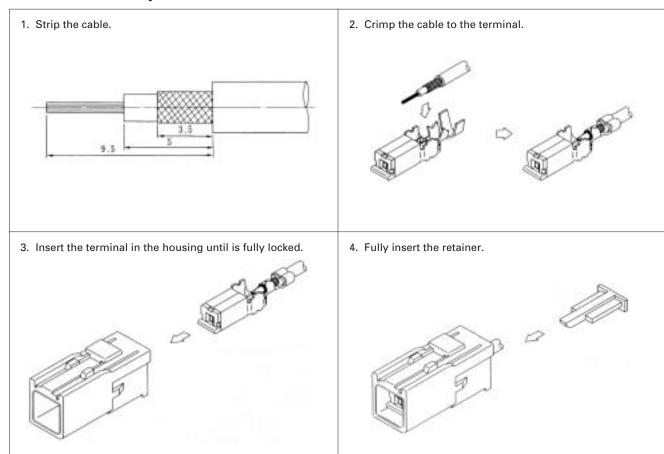
<sup>\*&</sup>quot;Twin Crimp"is a registered trade mark of Hirose Electric.

# Test Data (Using 1.5D-2V Type cable)



Note: Typical data using fully assemblied and connected GT5-1S-HU and the GT5-1PP-HU.

# Termination sequence



## Terminals for coaxial shielded cable

#### F Connector Terminals



	Part Number	CL No.	Conductor Size (AWG)	Inner Insulation Diameter	Outer Diameter	Packaging
	GT5-30/0.7-1.5SCF	755-0065-1	#30 or equivalent	0.6 to 0.9mm	1.4 to 1.8mm	1,300 pcs. per reel
	GT5-2428/1.6-2.5SCF	755-0078-3	#30 or equivalent	1.5 to 2.0mm	2.3 to 2.7mm	1,300 pcs. per reel
	GT5-30/1.6-2.9SCF	755-0022-9	#24 to 28 or equivalent			
	GT5-2428/1.6-2.9SCF	755-0002-1	#24 to 28 or equivalent	1.5 to 2.0mm	2.6 to 3.4mm	1,300 pcs. per reel
	GT5-2022/1.6-2.9SCF	755-0071-4	#20 to 22 or equivalent			
	GT5-2022/F2.7-3.5SCF	755-0077-0	#20 to 22 or equivalent	2.4 to 2.9mm	3.3 to 3.7mm	1,100 pcs. per reel
*	GT5-2022/F3.3-3.8SCF	755-0054-5	#20 to 22 or equivalent	2.5 to 2.9mm	3.6 to 4.0mm	1,100 pcs. per reel
*	GT5-30/3.3-5SCF	755-0016-6	#30 or equivalent			
*	GT5-2428/F3.3-5SCF	755-0012-5	#24 to 28 or equivalent	2.5 to 2.9mm	4.6 to 5.0mm	1,100 pcs. per reel
*	GT5-2022/F3.3-5SCF	755-0034-8	#20 to 22 or equivalent			
*	GT5-30/F4-5SCF	755-0020-3	#30 or equivalent			
*	GT5-2428/F4-5SCF	755-0024-4	#24 to 28 or equivalent	3.0 to 3.6mm	4.6 to 5.0mm	1,100 pcs. per reel
*	GT5-2022/F4-5SCF	755-0036-3	#20 to 22 or equivalent			
NI.	Durdy ste moultain with an activity thin diagte and with all activities					

Part	Material	Finish
Insulator	PBT	Color: Dark gray
Crimp terminals	Phosphor bronze	Tin plating
Outer terminals	Brass	Tin plating

Note: Products marked with an asterisk (\*) indicate polyethylene foam insulation.

#### M Connector Terminals



	Part Number	CL No.	Conductor Size (AWG)	Inner Insulation Diameter	Outer Diameter	Packaging
	GT5-30/0.7-1.5PCF	755-0017-9	#30 or equivalent	0.6 to 0.9mm	1.4 to 1.8mm	900 pcs. per reel
	GT5-30/1.6-2.9PCF	755-0021-6	#30 or equivalent			
	GT5-2428/1.6-2.9PCF	755-0001-9	#24 to 28 or equivalent	1.5 to 2.0mm	2.6 to 3.4mm	900 pcs. per reel
	GT5-2022/1.6-2.9PCF	755-0094-0	#20 to 22 or equivalent			
	GT5-2022/F2.7-3.5PCF	755-0076-8	#20 to 22 or equivalent	2.4 to 2.9mm	3.3 to 3.7mm	900 pcs. per reel
*	GT5-2022/F3.3-3.8PCF	755-0053-2	#20 to 22 or equivalent	2.5 to 2.9mm	3.6 to 4.0mm	900 pcs. per reel
*	GT5-30/F3.3-5PCF	755-0015-3	#30 or equivalent			
*	GT5-2428/F3.3-5PCF	755-0011-2	#24 to 28 or equivalent	2.5 to 2.9mm	4.6 to 5.0mm	900 pcs. per reel
*	GT5-2022/F3.3-5PCF	755-0033-5	#20 to 22 or equivalent			
<del>*</del>	GT5-30/F4-5PCF	755-0019-4	#30 or equivalent			
*	GT5-2428/F4-5PCF	755-0023-1	#24 to 28 or equivalent	3.0 to 3.6mm	4.6 to 5.0mm	900 pcs. per reel
*	GT5-2022/F4-5PCF	755-0035-0	#20 to 22 or equivalent			

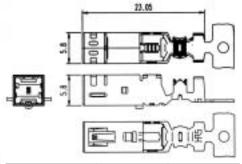
Part	Material	Finish
Insulator	PBT	Color: Dark gray
Crimp terminals	Brass	Tin plating
Outer terminals	Brass	Tin plating

Note: Products marked with an asterisk (\*) indicate polyethylene foam insulation.

#### Low-insertion M Connector Terminals



Part Number	HRS No.	Conductor Size (AWG)	Inner Insulation Diameter	Outer Diameter	Packaging
GT5L-30/0.7-1.5PCF	755-0068-0	#30 or equivalent	0.6 to 0.9mm	1.4 to 1.8mm	900 pcs. per reel
GT5L-30/1.6-2.9PCF	755-0067-7	#30 or equivalent			
GT5L-2428/1.6-2.9PCF	755-0066-4	#24 to 28 or equivalent	1.5 to 2.0mm	2.6 to 3.4mm	900 pcs. per reel
GT5L-2428/1.6-2.5PCF	755-0079-6	#24 to 28 or equivalent			



Part	Material	Finish
Insulator	PBT	Color: Dark gray
Crimp terminals	Brass	Tin plating
Outer terminals	Brass	Tin plating

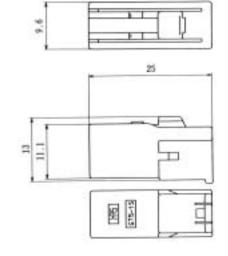
# For Single-Conductor coaxial shielded cable

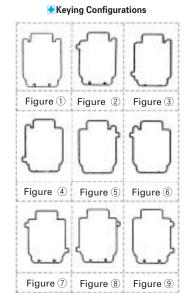
#### F Connectors

Housing



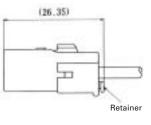
**GT5-1S-HU** 



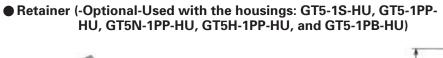


Part Number	CL No.	Material	Color	Key polarizing code	Corresponding M Connector Housing- In-line	Corresponding M Connector Assembly- Board Mounting	USCAR-19 Coding
GT5-1S-HU	755-0004-7		Light gray	Figure ①	GT5-1PP-HU	GT5-1P-DS	-
GT5-1S-HU(A)	755-0037-6		Brown	Figure 2	GT5-1PP-HU(A)	GT5-1P-DS(A)	Α
GT5-1S-HU(B)	755-0038-9		Green	Figure 3	GT5-1PP-HU(B)	GT5-1P-DS(B)	В
GT5-1S-HU(C)	755-0080-5		Blue	Figure 4	GT5-1PP-HU(C)	GT5-1P-DS(C)	С
GT5-1S-HU(D)	755-0081-8	PBT	Purple	Figure 5	GT5-1PP-HU(D)	GT5-1P-DS(D)	D
GT5-1S-HU(E)	755-0082-0		Pink	Figure 6	GT5-1PP-HU(E)	GT5-1P-DS(E)	Е
GT5-1S-HU(I)	Note 1		Black	Figure 7	GT5-1PP-HU(I)	GT5-1P-DS(I)	I
GT5-1S-HU(J)	Note 1		Cream white	Figure ®	GT5-1PP-HU(J)	GT5-1P-DS(J)	J
GT5-1S-HU(K)	Note 1		Pastel orange	Figure 9	GT5-1PP-HU(K)	GT5-1P-DS(K)	К

Shown with inserted retainer.

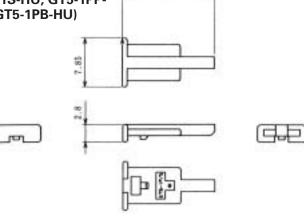


Terminal extraction tool: GT-PO(A), Note 1: concept only





Part Number	CL No.	Material	Color
GT5-1P/S-R	755-0006-2	PBT	Dark gray



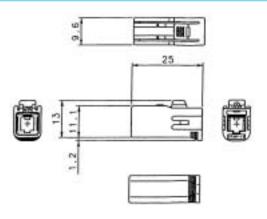
#### Housing (Not requiring use of the retainer)



GT5R-1S/HU

Part Number	CL No.	Material	Color
GT5R-1S-HU	755-0047-0	PBT	Light gray

Terminal extraction tool: GT-PO(A)



#### **M Connectors**

#### Housing

Part Number

GT5-1PP-HU

GT5-1PP-HU(A)

GT5-1PP-HU(B)

GT5-1PP-HU(C)



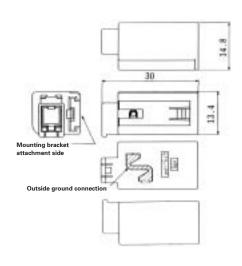
CL No.

755-0005-0

755-0039-1

755-0040-0

755-0103-9



USCAR-19

Coding

В

С

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Key polarizing

Figure ①

Figure 2

Figure 3

Figure 4

Color

Light Gray

Brown

Green

Blue

•	Keying Configurations				
6					
Figure ①	Figure ②	Figure ③			
Figure ④	Figure ⑤	Figure ⑥			
Figure ⑦	Figure ®	Figure 9			

#### Shown with inserted retainer.

	(31.35)		
	A		
Retainer			

GT5-1PP-HU(D) 755-0104-1 GT5-1S-HU(D) Purple Figure 5 GT5-1PP-HU(E) 755-0105-4 GT5-1S-HU(E) Pink Figure 6 GT5-1PP-HU(I) Note 1 GT5-1S-HU(I) Black  $\mathbf{Figure} \ 7)$ GT5-1PP-HU(J) Note 1 GT5-1S-HU(J) Cream white Figure ® GT5-1PP-HU(K) Note 1 GT5-1S-HU(K) Figure 9

GT5-1S-HU

GT5-1S-HU(A)

GT5-1S-HU(B)

GT5-1S-HU(C)

Corresponding F Connector

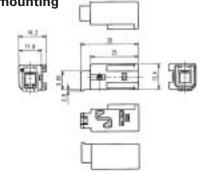
Housing

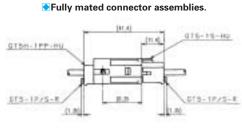
- \* Refer to pages 32 and 34 for panel brackets used with in-line connectors.

\* Terminal extraction tool: GT-PO(A) Note 1: concept only

Part	Material	Finish
Housing	PBT	Color: Dark gray
Ground terminal	Phosphor bronze	Tin plating



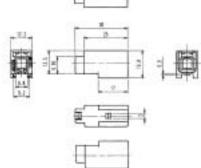




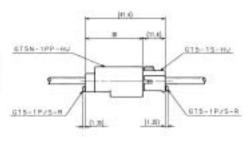
Part Number	CL No.	Color	Corresponding F Connector Housing
GT5H-1PP-HU (10)	755-0093-7 10	Light Gray	GT5-1S-HU
GT5H-1PP-HU (41)	755-0093-7 41	Blue	GT5R-1S-HU

#### Housing (For use with N type mounting bracket)





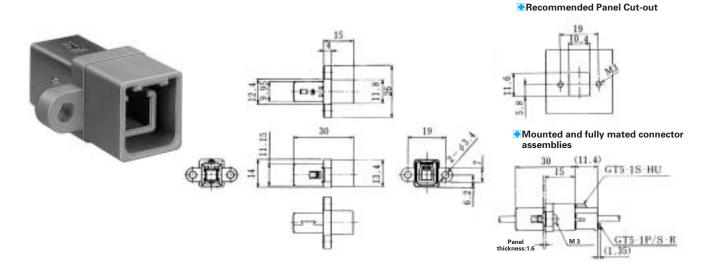
#### Fully mated connector assemblies.



Part Number	CL No.	Color	Corresponding F Connector Housing
GT5N-1PP-HU	755-0090-9 Light Gray		GT5-1S-HU
G15N-1FF-HO	755-0090-9	Light Gray	GT5R-1S-HU

#### Housings

# [ Panel mounting, enhanced ] shielding configuration

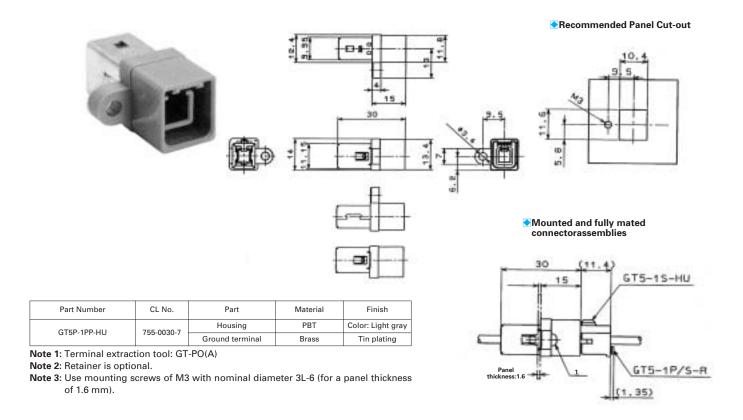


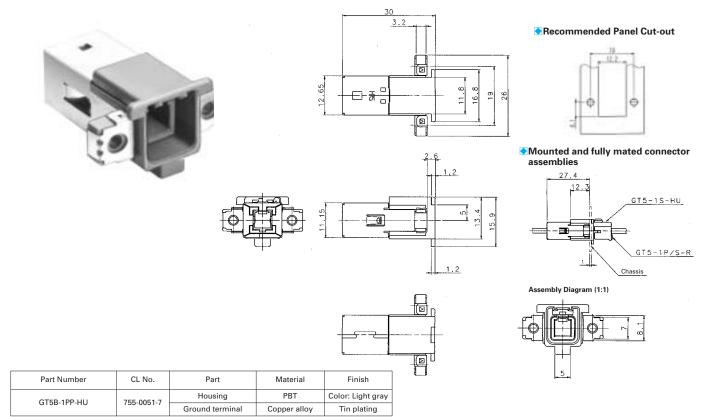
Part Number	CL No.	Part	Material	Finish
GT5A-1PP-HU	755-0025-7	Housing	PBT	Color: Light gray
GT5A-TFT-HO	755-0025-7	Ground terminal	Brass	Tin plating

Note 1: Terminal extraction tool: GT-PO(A)

Note 2: Retainer is optional.

Note 3: Use mounting screws of M3 with nominal diameter 3L-6 (for a panel thickness of 1.6 mm).

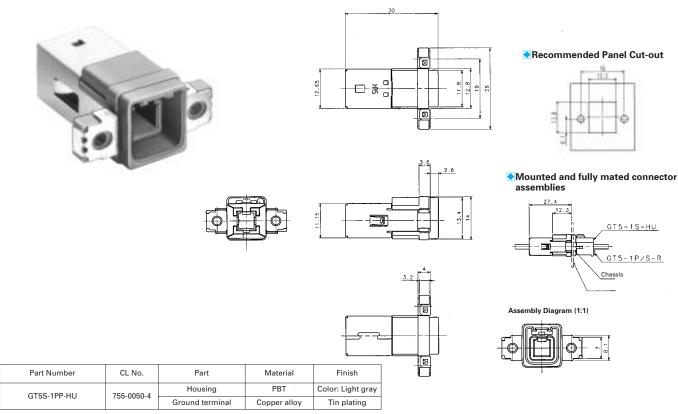




Note 1: Terminal extraction tool: GT-PO(A) with nominal diameter 3L-6 (for a board thickness of 1.6 mm).

Note 2: Retainer is optional.

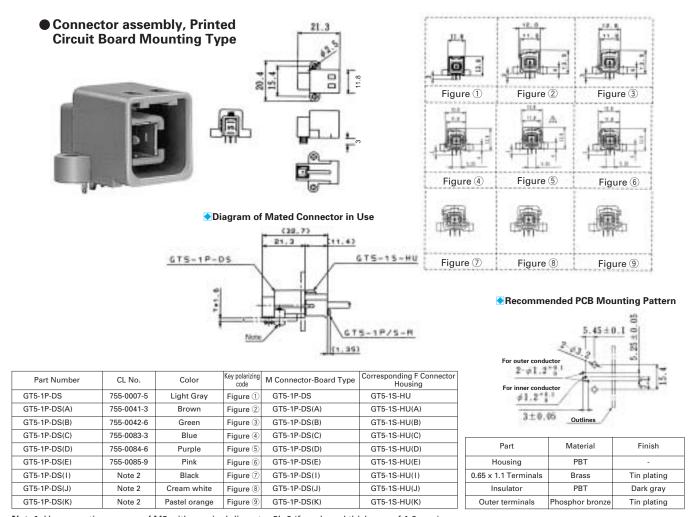
Note 3: Use mounting screws of M3 with nominal diameter 3L-6 (for a panel thickness of 1.6 mm).



Note 1: Terminal extraction tool: GT-PO(A) with nominal diameter 3L-6 (for a board thickness of 1.6 mm).

Note 2: Retainer is optional.

Note 3: Use mounting screws of M3 with nominal diameter 3L-6 (for a panel thickness of 1.6 mm).



Note1: Use mounting screws of M3 with nominal diameter 3L-6 (for a board thickness of 1.6 mm).

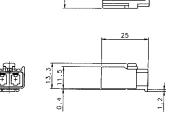
Note2: concept only

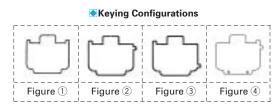
# Two-position type-Each Single-Conductor coaxial cable

#### F Connectors

#### Housing









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	_	1	

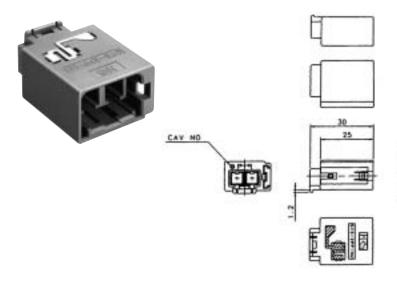
Part Number	CL No.	Material	Color	Key polarizing code	USCAR-19 Coding
GT5-2S-HU	755-0044-1		Light Gray	Figure 1	D2
GT5-2S-HU(A)	755-0059-9	PBT	Brown	Figure 2	A2
GT5-2S-HU(B)	755-0060-8	FBI	Green	Figure 3	B2
GT5-2S-HU(C)	755-0097-8		Blue	Figure 4	C2

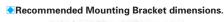
Note 1: Terminal extraction tool: GT-PO(A)

Note 2: Used with separate retainer (GT-5-2P/S-R).

#### M Connectors

#### • Housing[Panel Mounted Housing]





Shown with inserted retainer.

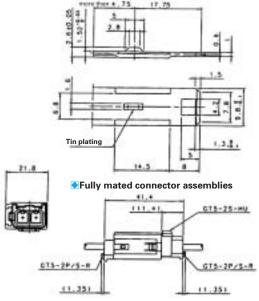
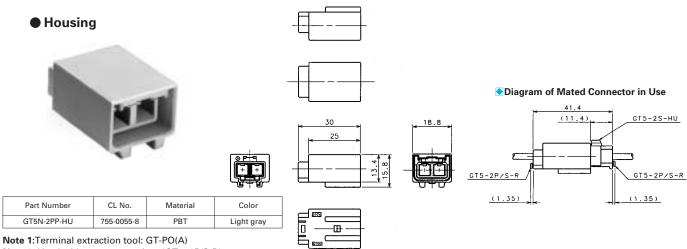


Figure ① Figure ② Figure ③ Figure ④

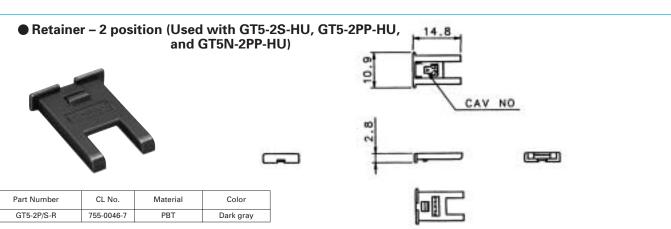
Part Number	CL No.	Color	Key polarizing code
GT5-2PP-HU	755-0045-4	Light Gray	Figure ①
GT5-2PP-HU(A)	755-0063-6	Brown	Figure ②
GT5-2PP-HU(B)	755-0064-9	Green	Figure 3
GT5-2PP-HU(C)	_	Blue	Figure (4)

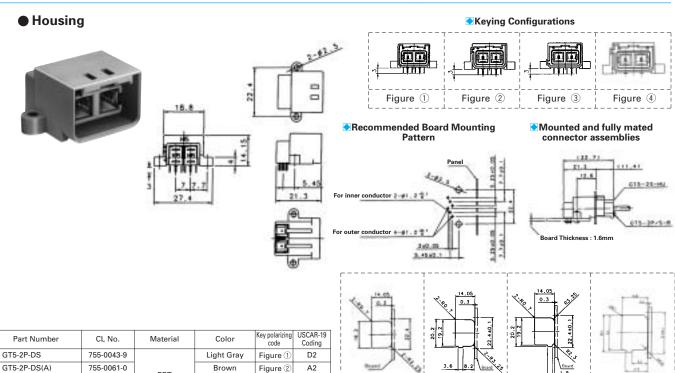
Part	Material	Finish
Housing	PBT	-
Ground terminal	Phosphor bronze	Tin plating

Note: Used with separate retainer (GT-5-2P/S-R). Coding D2 at USCAR-19 is GT5-2PP-HU.



Note 2: Used with separate retainer (GT-5-2P/S-R).





Note: Use mounting screws of M3 with nominal diameter 3L-6 (for a board thickness of 1.6 mm). Coding D2 at USCAR-19 is GT5-2P-DS.

755-0062-3

PBT

Green

Blue

Figure 3

Figure 4

B2

C2

GT5-2P-DS (D)

GT5-2P-DS (C)

GT5-2P-DS (B)

GT5-2P-DS (A)

**Recommended Panel Cut-out** 

GT5-2P-DS(B)

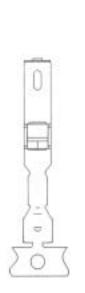
GT5-2P-DS(C)

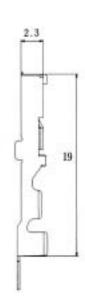
# **Power Supply Terminals**

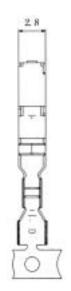
( For use with combination type assemblies: GT5-2/1S-HU, GT5-2/1P-DS, GT5-2/1PP-HU, GT5N-2/1PP-HU)

#### F Connector Terminals







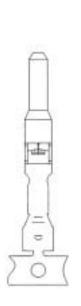


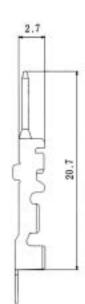
Part Number	CL No.	Material	Finish	Conductor Size (AWG)	Outer Diameter	Packaging
GT7-2022SCF	757-0001-1	Copper alloy	y Tin plating	#20 to 22	1.4 to 2.4mm	5,000
GT7A-2022SCF	757-0003-7	сорры апоу		#20 to 22	2.6 to 3.1mm	3,000

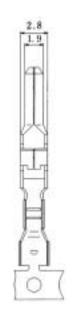
Note 1: Sold by the reel. (See above table for number of Packaging.)
Note 2: This component is used only with applicable HRS housings.

#### M Connector Terminals









	Part Number	CL No.	Material	Finish	Outer Diameter	Packaging
G	GT7-2022PCF	757-0002-4	Brass Tin plating	Tip plating	1.4 to 2.4mm	5,000
G	GT7A-2022PCF	757-0004-0		riii piatiiig	2.6 to 3.1mm	3,000

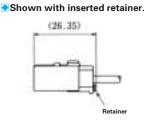
# Combinaton Type (Two Single-Conductor Coaxial Cables + One Power contact)

#### **F Connectors**

Housing



25



	Part Number	CL No.	Material	Color
ĺ	GT5-2/1S-HU	755-0009-0	PBT	Light gray

Note 1:Terminal extraction tool: GT-PO(A)

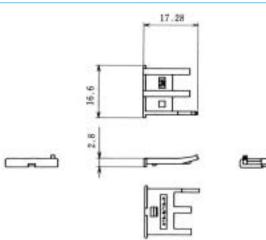
Note 2: Used with separate retainer (GT5-2/1S-R).



#### Retainer (exclusively for GT5-2/1S-HU)



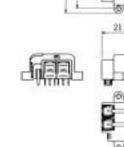
Part Number	CL No.	Material	Color
GT5-2/1S-R	755-0003-4	PBT	Dark gray

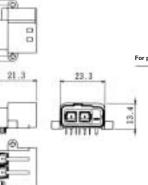


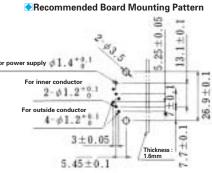
#### **M Connectors**

Connector assembly, Printed **Circuit Board mounting** 





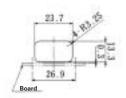




● Recommended Panel Cut-out

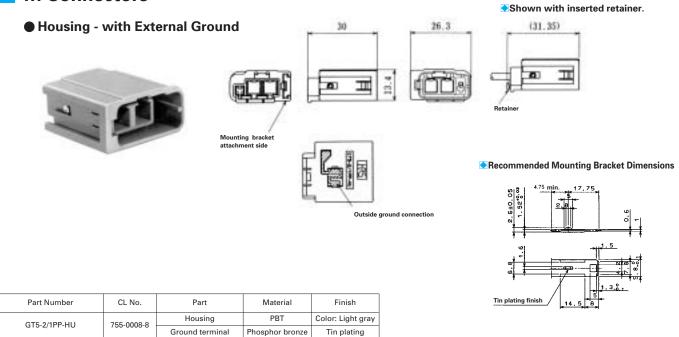
	Part	Material	Finish
	Housing	PBT	Color: Light gray
	0. 64x1.1 Terminal	Brass	Tin plating
	Insulator	PBT	Dark gray
CL No.	Outer terminal	Phosphor bronze	Tin plating
55-0014-0	Tub terminal for DS 070	Brass	Tin plating

		Outer terminar	1 Hospitor Bronze	I III plating
GT5-2/1P-DS	755-0014-0	Tub terminal for DS 070	Brass	Tin plating
Note: Use mounting	screws of N	13 with nominal diameter	3L-6 (for a board	d thickness of 1



Part Number

#### M Connectors



Note 1: Terminal extraction tool: GT-PO(A)

Note 2: Used with separate retainer (GT5-2/1PP-R ).

#### Housing - without External Ground





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Part Number	CL No.	Material	Color
GT5N-2/1PP-HU	755-0013-8	PBT	Light gray

Note 1: Terminal extraction tool: GT-PO(A)

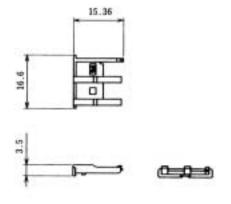
Note 2: Used with separate retainer GT5-2/1PP-R and mounting bracket GT-BK or GT-BK (01).

# ● Retainer (Used with GT5N-2/1PP-HU and GT5-2/1PP-HU)



GT5-2/1PP-R

Part Number	CL No.	Material	Color
GT5-2/1PP-R	755-0010-0	PBT	Dark gray

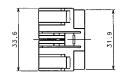


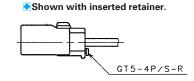


# 4-Position – Single conductor Coaxial cable

#### F Connectors













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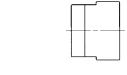
Part Number	CL No.	Material	Color	USCAR-19 Coding
GT5-4S-HU	755-0056-0	PBT	Light gray	D4

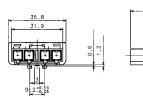
Note: Used with separate retainer (GT-5-4P/S-R).



#### M Connectors









Part Number	CL No.	Material	Color	USCAR-19 Coding
GT5N-4PP-HU	755-0057-3	PBT	Light gray	D4

Note 1: The product should be used with a low-force insertion/withdrawal M connector terminal.

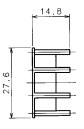
Note 2: Used with separate retainer GT-5-4P/S-R.



#### ● Retainer (Used with GT5-4S-HU and GT5N-4PP-HU)











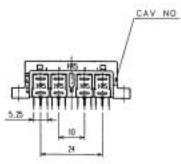
Part Number	CL No.	Material	Color
GT5-4P/S-R	755-0058-6	PBT	Dark gray



#### M Connectors

#### Connector assembly, Printed Circuit Board Mounting

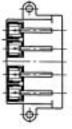




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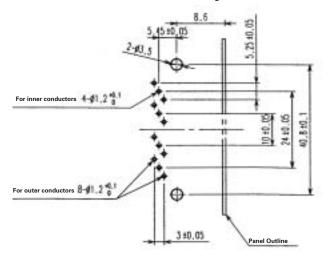
8.8

Part Number	CL No.	USCAR-19 Coding
GT5-4P-DS	755-0087-4	D4

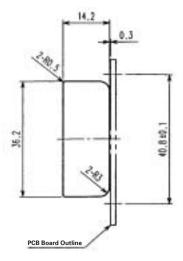


0

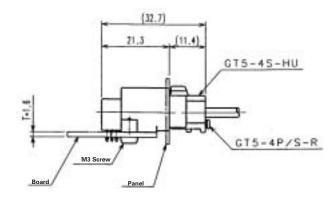
#### Recommended Board Mounting Pattern



#### **● Recommended Panel Cut-out**



**▶** Recommended Board and Panel installation



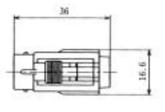
# Single Conductor Coaxial Cable - Waterproof Type

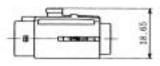
#### F Connectors

#### Housing









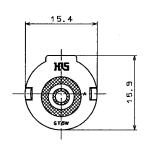


Part Number	CL No.	Material	Color
GT5W-1S-HU	755-0027-2	PBT	Light gray

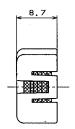
Note: Specific retainer is determined by the type of the cable used.

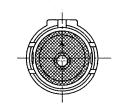
# ● Retainer (Used with GT5W-1P-HU, GT5JW-1PP-HU, GT5W-1S-HU and GT5W-1P-HU)











Part Number	CL No.	Material	Color	
GT5W-1P/S-R	755-0028-5	PBT	Dark gray	
G1344-11/3-11			Silicon rubber Compound	Dark gray

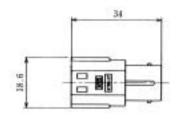
**Note:** Outer diameter of the cable must be within 2.9 to 3.4 mm. Consult nearest HRS representative for other diameters.

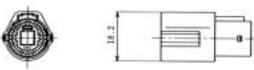


#### M Connectors

#### Housing







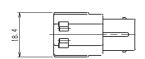


Part Number	CL No.	Part	Material	Color
GT5W-1P-HU	755-0026-0	Housing	PBT	Light gray
G15W-11-110	G15W-1F-HO /55-0026-0	Connector seal	Silicon rubber	White

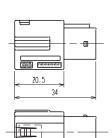
Note: Use correct retainer.

#### Housing - Bracket Mounting



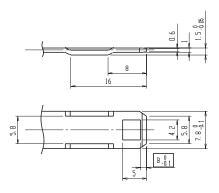




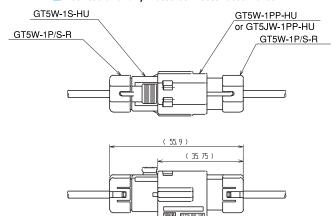




#### **▶**Recommended Bracket Dimensions



#### Mounted and fully mated connector assemblies

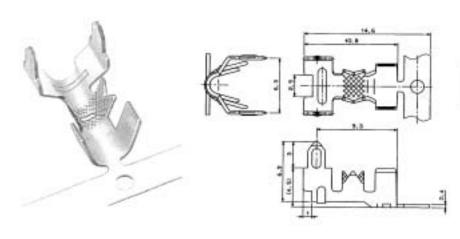


Part Number	CL No.	А	В
GT5W-1PP-HU	755-0070-1	1.5	1.3
GT5JW-1PP-HU	755-0069-2	3.2	3.0

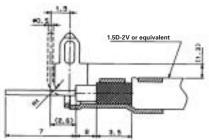
Part	Material	Color	
Housing	PBT	Light gray	
Connector seal	Silicon rubber Compound	White	

## **G** Terminals

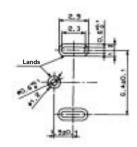
#### For Direct Coaxial Cable Termination

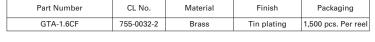


#### **○**Completed Termination cross section

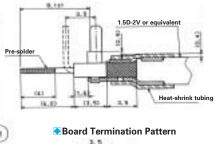


**●**Board Termination Pattern



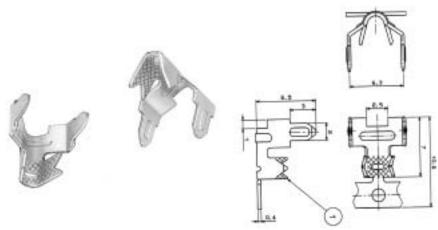


#### **○Completed Termination cross section**



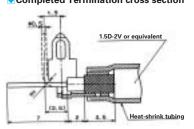
Part Number	CL No.	Material	Finish	Packaging
GTB-1.6CF	755-0049-5	Brass	Tin plating	1,500 pcs. Per reel

# Board Termination Patro

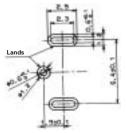


Part Number	CL No.	Material	Finish	Packaging
G-1.6PCF	755-0029-8	Brass	Tin plating	1,500 pcs. Per reel

#### **●**Completed Termination cross section



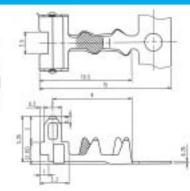
**●**Board Termination Pattern



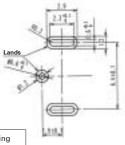
# For Direct Coaxial Cable Termination



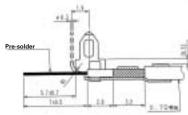
L.	
Recommended Board Termination Pattern	







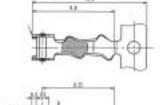




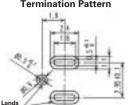
Part Number	CL No.	Material	Finish	Packaging
GTA-0.7CF	755-0074-2	Brass	Tin plating	1,500 pcs. Per ree



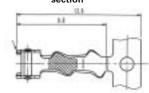




 Recommended Board **Termination Pattern** 



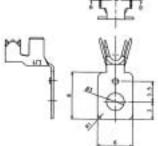
Recommended Completed T	Termination <b></b>	cross
section		

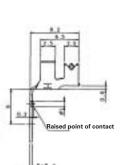


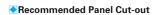
Part Number	CL No.	Material	Finish	Packaging
GTB-0.7CF	755-0075-5	Brass	Tin plating	1,500 pcs. Per reel

# For Mid-Cable Termination

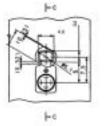


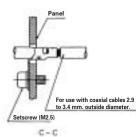








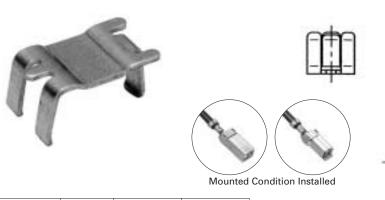




Part Number	CL No.	Material	Finish	Packaging
GT-1.6PG-C	755-0031-0	Brass	Tin plating	1

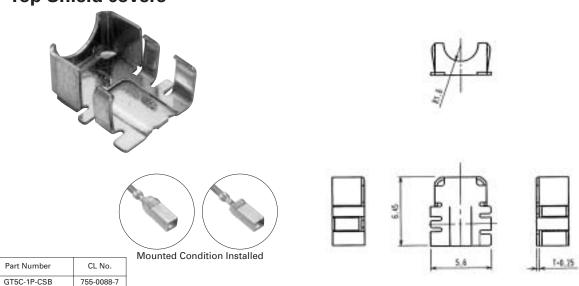
#### Bottom Shield cover





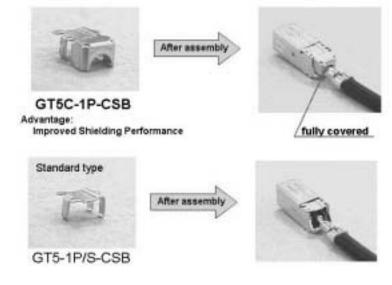
Part Number	CL No.	Material	Finish
GT5-1P/S-CSB	755-0048-2	Brass	Tin plating

# Top Shield covers



5.6

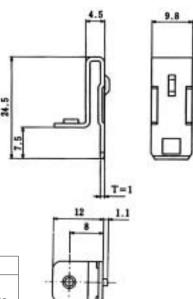
# **GT5** with New Shielding Cover



# Panel Mounting In-line Bracket







### **►** Termination Tools

User's manuals are available. Please ask your Hirose Electric account representative.

#### **Automatic crimping machine**



#### **Specifications**

		1
Item	Specification	Remarks
Specification	1.5tons	
Stroke length	30mm	
Number of strokes	200spm(50Hz)	200spm(60Hz)
Weight	75kg	
Motor	0.2kW	AC100V
Crimping speed	2000 to 4000pcs. Per day	

<sup>\*</sup> Crimp height setting tables are available for each cable type. Please contact your nearest Hirose Electric account representative.

Different cables will require different crimp height settings.