CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20191125-E52653 E52653-20111114 2019-NOVEMBER-25

Issued to:

HIROSE ELECTRIC CO., LTD. YOKOHAMA CENTER 2-6-3 NAKAGAWA CHUOH TSUZUKI-KU, YOKOHAMA-SHI KANAGAWA 224-8540 JAPAN

This certificate confirms that representative samples of COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL, CONTROL AND POWER APPLICATIONS Refer to addendum page

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety:UL 1977, Component Connector for Use in Data, Signal,
Control and Power Applications
CAN/CSA C22.2 No. 182.3-16, Special Use Attachment
Plugs, Receptacles and ConnectorsAdditional Information:See the UL Online Certifications Directory at
https://ig.ulprospector.com
for additional information.



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20191125-E52653 E52653-20111114 2019-NOVEMBER-25

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Barnely Bruce Mahrenholz, Director North American Certification Program UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20191125-E52653 E52653-20111114 2019-NOVEMBER-25

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Component Connector, Cat. Nos. DF57, followed by -2P thru -6P, followed by -1.2V. DF57H, followed by -2P thru -6P, followed by -1.2V. DF57H, followed by -2P thru -6P, followed by -2.4V. DF57H, followed by -2S thru -6S, followed by -1.2C. DF57AH, followed by -2S, -4S, -5S or -6S, followed by -1.2C.

All cat. nos. may or may not be followed by (01) through (99).

Barnally Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

File E52653 Project 11CA10412

November 14, 2011

REPORT

on

COMPONENT - Connectors for Use in Data, Signal, Control and Power Applications - Component

> HIROSE ELECTRIC CO LTD C/O JAPAN QUALITY ASSURANCE ORGN Yokohama, Japan

Copyright $\ensuremath{\mathbb{C}}$ 2011 Underwriters Laboratories Inc.

Underwriters Laboratories Inc. authorizes the above named company to reproduce this Report provided it is in its entirety.

Underwriters Laboratories Inc. authorizes the above named company to reproduce the latest pages of that portion of this Report consisting of this Cover Page through Page 4

File E52653	Vol. 11	Sec. 18	Page 1	Issued:	2011-11-14
		and Report		Revised:	2019-11-21

DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector,

Cat. Nos. DF57, followed by -2P thru -6P, followed by -1.2V. DF57H, followed by -2P thru -6P, followed by -1.2V. DF57H, followed by -2P thru -6P, followed by -2.4V. DF57H, followed by -2S thru -6S, followed by -1.2C. DF57AH, followed by -2S, **-4S**, -5S or -6S, followed by -1.2C. DF57, followed by -2S thru -6S, followed by -1.2C.

All cat. nos. may or may not be followed by (01) through (99).

GENERAL:

The Cat. No. Series DF57-*S-1.2C devices are multi-pol Socket connectors intended for factory assembly onto 28-34 AWG stranded copper conductors, Cat. No. Series DF57-*P-1.2V devices are multi-pol Plug connectors intended for factory assembly onto printed wiring boards where the acceptability of combinations is determined by Underwriters Laboratories Inc. The devices are identified as follows:

USR indicates investigation to United States Standards, UL 1977. CNR indicates investigation to Canadian National Standards, C22.2 No. 182.3.

File E52653	Vol. 11	Sec. 18	Page 1A	Issued:	2011-11-14
		and Report		Revised:	2019-11-21

RATINGS:					
Connector Type: (Contact pitch		Number of contacts		Voltage	
1.2mm)	Contact Type		Wire Size	(V)	Amps
*DF57 Plug		2	PWB Mounted	29	3.0
		3,4,5,6	PWB Mounted	29	2.5
*DF57H Plug		2	PWB Mounted	29	3.0
		3,4,5,6	PWB Mounted	29	2.5
DF57AH Socket	DF57-2628SCF	2	26 AWG	29	3.0
			28 AWG		2.5
		4 , 5 or 6	26 AWG		1.5
			28 AWG		1.5
DF57 or DF57H Socket	DF57-2830SCF	2	28 AWG	29	2.5
			30 AWG		1.5
		3	28 AWG		2.0
			30 AWG		1.5
		4 to 6	28 AWG		1.5
			30 AWG		1.0
	DF57-3234SCF	2 to 3	32 AWG	29	1.2
			34 AWG		1.0
		4 to 6	32 AWG		1.0
			34 AWG		1.0

Connector Type: (Contact pitch		Number of contacts		Voltage	
2.4 mm)	Contact Type		Wire Size	(V)	Amps
DF57H Plug		2,3,4,5,6	PWB	100	2.5
			mounted		

File E52653	Vol. 11	Sec. 18	Page 2	Issued:	2011-11-14
		and Report		Revised:	2015-08-20

NOMENCLATURE: DF57 Socket Connector

Example: $\frac{DF57}{I}$ $\frac{2}{II}$ $\frac{S-1.2C}{III}$ (99)

I: - DF57, DF57H, DF57AH - Series Designation

DF57H: Same as DF57 except has improved mating operation type by adding a guide key. DF57AH: Improved mating operation type and applicable AWG26 **and AWG 28** wire with contact type DF57-2628SCF.

II: - 2,3,4,5,6 - Alternate Dimensions/Number of poles (See Ill 3)

III: - S- 1.2C- Series Designation

IV: - Minor differences, may be 01-99 indicating packaging differences, plating variations or Insulator material color variations

NOMENCLATURE: DF57 Plug Connector

Example: $\frac{\text{DF57}}{\text{I}}$ $\frac{2}{\text{II}}$ $\frac{\text{P-1.2V}}{\text{III}}$ (99)

I: - DF57, DF57H - Series Designation

DF57H: Same as DF57 except has improved mating operation type by adding a guide key.

II: - 2,3,4,5,6 - Alternate Dimensions/Number of poles (See Ill 4)

III: - P- 1.2V Series Designation

- Series Designation 1.2V: 1.2 mm pitch SMT type 2.4V: 2.4 mm pitch SMT type

IV: - Minor differences, may be 01-99 indicating packaging differences, plating variations or Insulator material color variations

File E52653	Vol. 11	Sec. 18	Page 3	Issued:	2011-11-14
		and Report		Revised:	2015-08-20

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - The following are among the considerations to be made when evaluating the device in the end-use product.

Interruption of Current

1. These devices are not suitable for interrupting the flow of current by connecting or disconnecting the mating connector.

Current-Carrying Capability and Current Ratings

These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise values tabulated below.

Cat Nos.	Current, A	Maximum Temperature Rise, °C
DF57-2S-1.25C with DF57-2P-1.25V	2.5	22.9
DF57-3S-1.25C with DF57-3P-1.25V	1.2	12.0
(32 AWG) DF57-3S-1.25C with DF57-3P-1.25V	2.0	24.8
(28 AWG) DF57-6S-1.25C with DF57-6P-1.25V	1.5	16.0
(28 AWG) DF57-6S-1.25C with DF57-6P-1.25V	1.0	15.4
(34 AWG)	1 5	15.0
(28 AWG)	1.5	15.3
DF57AH-2S-1.2C with DF57H-2P-1.2V (28 AWG)	2.5	17.3
DF57AH-2S-1.2C with DF57H-2P-1.2V (26 AWG)	3	16.2