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REPORT

on

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

Tyco Electronics Corp
MIDDLETOWN, PA, US

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector, Series POD-LOK Connector series, models 2299282-1, 1-2299282-1, 2-2299282-1, 3-2299282-1, 2299282-2, 1-2299282-2, 2-2299282-2, 3-2299282-2, 2299282-3, 1-2299282-3, 2-2299282-3, 3-2299282-3, 2299280-1, 1-2299280-1, 2-2299280-1, 3-2299280-1, 2299280-2, 1-2299280-2, 2-2299280-2, 3-2299280-2, 2299280-3, 1-2299280-3, 2-2299280-3, 3-2299280-3, 2299286-1, 1-2299286-1, 2-2299286-1, 3-2299286-1, 2299286-2, 1-2299286-2, 2-2299286-2, 3-2299286-2, 2299287-1, 1-2299287-1, 2-2299287-1, 3-2299287-1, 2299287-2, 1-2299287-2, 2-2299287-2, 3-2299287-2, **assembly of Housing 2357275-1 and Contacts/ Terminals 2299293-1.**

GENERAL:

These devices are single connectors intended for factory assembly on where the acceptability of combinations is determined by UL LLC. 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.

RATINGS:

Models	Voltage Vac/Vdc	Ampere (A)	Conductor Sizes, AWG Str
2299282-1, 1-2299282-1, 2- 2299282-1, 3-2299282-1	600	3	22
		4	20
		7	18
2299282-2, 1-2299282-2, 2- 2299282-2, 3-2299282-2	600	7	18
		10	16
		15	14
2299282-3, 1-2299282-3, 2- 2299282-3, 3-2299282-3	600	15	14
		20	12
2299280-1, 1-2299280-1, 2- 2299280-1, 3-2299280-1	600	3	22
		4	20
		7	18
*			
2299280-2, 1-2299280-2, 2- 2299280-2, 3-2299280-2	600	10	16
		15	14
2299280-3, 1-2299280-3, 2- 2299280-3, 3-2299280-3	600	15	14
		20	12
2299286-1, 1-2299286-1, 2- 2299286-1, 3-2299286-1	600	2	24
		3	22
		4	20
2299286-2, 1-2299286-2, 2- 2299286-2, 3-2299286-2	600	4	20
		7	18
		10	16
2299287-1, 1-2299287-1, 2- 2299287-1, 3-2299287-1	600	2	24
		3	22
		4	20
2299287-2, 1-2299287-2, 2- 2299287-2, 3-2299287-2, assembly of 2357275-1 and 2299293-1	600	4	20
		7	18
		10	16

Disconnecting Use - see Sec Gen for required marking

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 UL LLC.

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

2. These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise and recorded temperature (adjusted to 25°C ambient) values tabulated below:

Models	Wire size, AWG	Current, A	Maximum Temperature °C		Represented models
			Rise	Recorded Temperature	
2299282-1	22	3	2.2	27.2	2299282-1, 2299282-2, 2299282-3 2299280-1, 2299280-2
	20	4	2.6	27.6	
	18	7	6.1	31.1	
2299282-2	16	10	11.6	36.6	1-2299282-1, 1-2299282-2, 1-2299282-3 1-2299280-1, 1-2299280-2
	14	15	13.7	38.7	
2299282-3	12	20	17.8	42.8	2-2299282-1, 2-2299282-2, 2-2299282-3 2-2299280-1, 2-2299280-2, 2299280-3, 1-2299280-3, 2-2299280-3 3-2299282-1, 3-2299282-2, 3-2299282-3, 3-2299280-1, 3-2299280-2, 3-2299280-3
2299286-1	24	2	1.8	26.8	2299286-1, 2299286-2 2299287-1, 2299287-2 1-2299286-1, 1-2299286-2
	22	3	2.2	27.2	
	20	4	3.3	28.3	
2299286-2	18	7	7.1	32.1	1-2299287-1, 1-2299287-2 2-2299286-1, 2-2299286-2 2-2299287-1, 2-2299287-2 3-2299286-1, 3-2299286-2, 3-2299287-1, 3-2299287-2
	16	10	9.4	34.4	

Models	Wire size, AWG	Current, A	Maximum Temperature °C		Represented models
			Rise	Recorded Temperature	
assembly of 2357275-1 and 2299293-1	20	4	5.2	30.2	-
	18	7	15.0	40.0	
	16	10	18.1	43.1	

Insulating Materials

3. These devices employ insulating materials with properties as tabulated below at the minimum thickness employed in the connector housing, the suitability of the insulating materials based on the documented values shall be determined in the end-use application. Please note the values specified in the table when multiple materials are indicated represent the minimum values for the group of materials.

Cat. No.	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI (++)	HAI (++)	RTI Elec	Max Operating Temp, °C
2299282-1 2299282-2 2299282-3 1-2299282-1 1-2299282-2 1-2299282-3 3-2299282-1, 3-2299282-2, 3-2299282-3	A	0.5 mm	V-0	0	0	130	105
2299280-1 2299280-2 1-2299280-1 1-2299280-2 2299280-3, 1- 2299280-3 3-2299280-1, 3-2299280-2, 3-2299280-3	A	0.5 mm	V-0	0	0	130	105
2299286-1 2299286-2 1-2299286-1 1-2299286-2 3-2299286-1, 3-2299286-2	A	0.5 mm	V-0	0	0	130	105
2299287-1 2299287-2 1-2299287-1 1-2299287-2 3-2299287-1, 3-2299287-2	A	0.5 mm	V-0	0	0	130	105
2-2299282-1, 2-2299282-2, 2-2299282-3	B	0.5 mm	V-0	0	0	130	105
2-2299280-1, 2-2299280-2, 2-2299280-3	B	0.5 mm	V-0	0	0	130	105
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Cat. No.	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI (++)	HAI (++)	RTI Elec	Max Operating Temp, 0C
2-2299286-1, 2-2299286-2 3-2299286-1 3-2299286-2	B	0.5 mm	V-0	0	0	130	105
2-2299287-1, 2-2299287-2 3-2299287-1 3-2299287-2	B	0.5 mm	V-0	0	0	130	105
assembly of 2357275-1 and 2299293-1	B	0.6 mm	V-0	0	0	130	105

Note:

(#) - Code for Insulating Body Material.

(++) : These PLCs are based on the minimum Recognized material thickness.

- A. Tyco RM 2136488.
1. Dielectric strength (kV/mm): 8
2. CTI: 1
- B. Tyco RM 2136700.
1. Dielectric strength (kV/mm): 17
2. CTI: 2

Terminations

4. The terminals have not been evaluated for compliance with the dimensional requirements of UL 310, the Standard for Electrical Quick-Connect Terminals and CSA C22.2 No. 153, Quick-Connect Terminals.

5. Crimp contacts of series as tabulated below are intended for crimp termination on stranded copper conductor using the tooling shown as tabulated below for information purpose only.

Model	Conductor Sizes	Crimp tool	Crimp tool Manufacturer
2299282-1/1-2299282-1/2-2299282-1/3-2299282-1	22-18	1855703	TE
2299282-2/1-2299282-2/2-2299282-2/3-2299282-2	18-14	1855700	TE
2299282-3/1-2299282-3/2-2299282-3/3-2299282-3	14-12	1855705	TE
2299280-1/1-2299280-1/2-2299280-1/3-2299280-1	22-18	1855704	TE
2299280-2/1-2299280-2/2-2299280-2/3-2299280-2	16-14	1855701	TE
2299280-3, 1- 2299280-3, 2- 2299280-3, 3- 2299280-3	14-12	1855701	TE
2299286-1/1-2299286-1/2-2299286-1/3-2299286-1	24-20	1855706	TE
2299286-2/1-2299286-2/2-2299286-2/3-2299286-2	20-16	1855707	TE
2299287-1/1-2299287-1/2-2299287-1/3-2299287-1	24-20	1855708	TE
2299287-2/1-2299287-2/2-2299287-2/3-2299287-2, assembly of 2357275-1 and 2299293-1	20-16	1855709	TE

Mating Connectors

6. These devices have only been assessed for use with specific types of connectors within their product family as tabulated below. They have not been assessed to operate with any other similar devices from any other manufacturer.

Models	Mating tabs size	Mating Connector Manufacturer
2299282-1, 2299282-2, 2299282-3 1-2299282-1, 1-2299282-2, 1-2299282-3 2-2299282-1, 2-2299282-2, 2-2299282-3 3-2299282-1, 3-2299282-2, 3-2299282-3 2299280-1, 2299280-2 1-2299280-1, 1-2299280-2 2-2299280-1, 2-2299280-2, 2299280-3, 1-2299280-3, 2-2299280-3 3-2299280-1, 3-2299280-2, 3-2299280-3	6.35 x 0.8 mm	Tyco
2299286-1, 2299286-2 1-2299286-1, 1-2299286-2 2-2299286-1, 2-2299286-2 3-2299286-1, 3-2299286-22299287-1, 2299287-2 1-2299287-1, 1-2299287-2 2-2299287-1, 2-2299287-2 3-2299287-1, 3-2299287-2, assembly of 2357275-1 and 2299293-1	4.8 x 0.5 mm	Tyco

Miscellaneous

7. The enclosure of the device has live parts that may be exposed to user contact when the connector is energized. The device is suitable for use only within an acceptable enclosure.