File E28476
Project 12CA56073

March 30, 2013

REPORT

on

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

Tyco Electronics Corp
Harrisburg, PA

DESCRIPTION

PRODUCT COVERED:

USR, CNR, Component Connector, Grace Inertia Connector Series GIC 2.0EV, GIC 2.0, GIC 2.5, GIC 2.5W, and GIC 3.3.

Cat. Nos. 2367943, 1971031, 1971031-1, 1971031-2, 1747062, 1747062-1, 1747062, 1747062-1, 1827290, 1827290-1, 1827290, 1827290-1, 1747063, 1747063-1, 1871859, 1871859-1, 1871859-2, 1871859-3, 1747591, 1747591-1, C-917684, C-917684-1, C-917683, C-917683-1, 1827395, 1827395-1, 1827395-2, 2400014-X.

USR, CNR, Component Connector, Grace Inertia Connector Series GIC 3.3

1827385-1, 2-1827385-1, 1827386-1, 2-1827386-1, 1827387-1, 2-1827387-3, 1939984-1, 2-1939984-3, 1871570-1, 2-1871570-3, 1871567-1, 1827391-1, 2-1827391-1, 5-1827391-1, 1827392-1, 2-1827392-1, 5-1827392-1, 1827393-1, 2-1827393-3, 5-1827393-1, 7-1827393-3, 1939983-1, 2-1939983-3, 1871571-1, 2-1871571-3, 5-1871571-1, 1871568-1.

USR, CNR Component Connector, Grace Inertia Connector Series GCI 2.0EV, Cat. Nos. X-1971030-Y, X-2367943-Y.

GENERAL:

These devices are multi-pole connectors intended for factory assembly on copper wire sizes as indicated in Ratings table below and/or printed wiring boards where the acceptability of combinations is determined by UL LLC. The devices are identified as follows:

USR – Products designated USR have been investigated using US requirements as noted in the Test Record.

* CNR – Products designated USR have been investigated using **Canadian** requirements as noted in the Test Record.

RATINGS:

Series	Voltage [Vac/Vdc]	Conductor Sizes, AWG [Str]
GIC 2.0EV	50	22-28
GIC 2.0	50	22-28
GIC 2.5	50	20-22
GIC 2.5W	250	20-26
GIC 3.3	250	20-24
GIC 3.3	250	20 AWG/4A 22AWG/2.5A 24 AWG/2.2A

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Series No.	Wire Size, AWG	No. of Poles	Current, A	Voltage [Vac/Vdc]
2400014-X	24	2-5	2.2	50
	26	2-5	2.0	50
	28	2-5	1.5	50

Disconnecting Use - see Sec Gen for required marking

The Cat Nos. 2400014-X are designated as follows:

Example: 2400014- X
I II

I: - Base Cat. No.

II: - X = 2, 3, 4, or 5, and denotes the number of positions.

The Cat No. X-2367943-Y is designated as follows:

Example: X- -Y
I II

I: - X is omitted, or equals 1, 2, 3, 4, 5, 6, or 7, and denotes color and keying.

II: - Y = 1-9, and denotes the number of positions.

The Cat No. X-1971030-Y is designated as follows:

Example: X- -Y
I II

I: - X is omitted, or equals 1, 2, 3, 4, 5, 6, or 7, and denotes color and keying.

II: - Y = 1-9, and denotes the number of positions.

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. Only the connectors listed in Condition of Acceptability No. 5. All other connectors in this report do not have an assigned current rating. The device's current carrying capability is to be reviewed in the end-use by measuring temperatures on the connector housing and/or terminals when current is flowing through the connector under conditions of normal use.

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.

Continued:

Series	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	RTI Elec, ^{0}C	Max Operating Temp, ^{0}C
GIC 2.0EV (except for SMT header), GIC 2.0, GIC 2.5, GIC 3.3	A or C	0.4 mm	V-0	-	-	130	130
GIC 2.0EV, SMT header	D	0.6 mm	V-0	0	2	130	130
GIC 2.5W	B or C	0.5 mm	(+)	3(++)	0(++)	130(++)	130
GIC 2.5W	G or H	0.5 mm	V-0	-	-	130	130

***Cat. Nos.**	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	Mold Stress Relief Temp, °C	Max Operating Temp, ^{0}C
*GIC 2.0EV, 2400014-X	I or J	**0.42** mm	V-0	0	0	150	105
X-1971030-Y	**A or C**	**0.4 mm**	**V-0**	**-**	**-**	**140**	**130**
X-1971030-Y (^)	**J**	**0.4 mm**	**V-0**	**-**	**-**	**140**	**130**
X-2367943-Y	**D**	**0.4 mm**	**V-0**	**0**	**2**	**140**	**130**

Continued:

(#) – Code for Insulating Body Material.
(+): Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class. UL 746C 12 mm Flammability test conducted.
(++): These PLCs are based on the minimum Recognized material thickness.
(^): Cat. No. X-1971030-Y, limited to a maximum of 5 poles only (Y= 2-5) for this material.

A. Tyco RM No. 704924
1. Dielectric strength (kV/mm): -
2. CTI: 2

B. Tyco RM No. 704654
1. Dielectric strength (kV/mm): 30
2. CTI: 3

C. Tyco RM No. 2136488
1. Dielectric strength (kV/mm): 8
2. CTI: 1

D. Tyco RM No. 2136398
1. Dielectric strength (kV/mm): -
2. CTI: 0

G. Tyco RM No. 1573551
1. Dielectric strength (kV/mm): -
2. CTI: 2

H. Tyco RM No. 1573716
1. Dielectric strength (kV/mm): -
2. CTI: 2

I. Tyco RM No. 2136488
1. Dielectric strength (kV/mm): 8
2. CTI: 1

J. Tyco RM No. 705999
1. Dielectric strength (kV/mm): 8
2. CTI: 1

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Mating Connectors

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

5. The following 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:

Series No.	Wire Size, AWG	No. of Poles	Current, A	Maximum Temperature °C	
				Rise	Recorded Temperature
GIC 2.0EV, 2400014-X	24	5	2.2	8.4	33.4
	26	5	2.0	10.1	35.1
	28	5	1.5	8.5	33.5