

File E28476
Project 10CA29630

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REPORT

on

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

Tyco Electronics Corp
Harrisburg, PA

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector, Series Multi-Beam XLE Board to Board Connector Series.

USR Component Connector, Series Multi-Beam XLE Board to Board Connector Series, Cat. Nos. 6450810-7, 2-6450870-3, 2328348-1, 2-6450852-7.

USR, CNR Component Connector, Series Multi-Beam XLE Board to Board Connector Series, Cat. Nos. x-64508xx-x (except for 6450810-7, 2-6450870-3, 2-6450852-7), x-2204910-x, x-23220xx-x.

USR, CNR Component Connector, Series Multi-Beam Plus Lite Board to Board Connector Series, Cat. Nos. X-2364009-X, X-2364010-X.

GENERAL:

*These devices are multi-pole connectors intended for factory assembly on printed wiring boards. These connectors may have a maximum of 4 Alternating Current Power (ACP) contacts, 48 Signal (S) contacts and 12 High Density Power (HDP) contacts or a maximum of 12 Power (P) contacts, 48 Signal (S) contacts and 12 Low Power (LP) contacts. 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.

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RATINGS:

Cat. No.	Type of Contact	Maximum Number of Contacts	Number of Contacts with Current	Current Rating, A	Voltage Rating, Vac/dc
6450840-4	ACP	4	1	70	420
6450880-3	S	48	1	4	60
	HDP	12	-	-	-
	ACP	4	4	62	420
	S	48	48	1	60
	HDP	12	12	35	60
	ACP	4	-	-	-
	S	48	-	-	-
	HDP	12	8	41	60
	ACP	4	-	-	-
	S	48	-	-	-
	HDP	12	4	45	60
*Cat. Nos. x-64508xx- x (except for 6450810-7, 2-6450870- 3, 2- 6450852- 7), x- 2204910-x, x-23220xx- x	P	12	-	-	-
	S	48	-	-	-
	LP	12	1	30	60
	P	12	4	56	200
	S	48	-	-	-
	LP	12	4	25	60
	P	12	8	50	200
	S	48	-	-	-
	LP	12	8	20	60
	P	12	12	45	200
	S	48	-	-	-
	LP	12	-	-	-
	P	12	-	-	-
	S	48	-	-	-
	LP	12	12	15	300

Cat. No.	Type of Contact	Maximum Number of Contacts	Number of Contacts with Current	Current Rating, A	Voltage Rating, Vac/dc	Interruption of Current	
						Current Rating, A	Voltage Rating, Vac/dc
*x-64508xx-x (except for 6450810-7, 2- 6450870-3, 2- 6450852-7), x-2204910-x, x-23220xx-x	P	12	-	-	-	-	-
	S	48	-	-	-	-	-
	LP	12	-	-	-	8	220

RATINGS:

Cat. No.	Type of Contact	Maximum Number of Contacts	Number of Contacts with Current	Current Rating, A	Voltage Rating, Vac/dc
2328348-1	Signal	12	12	1	60
	Power	2	2	36	60
2-6450852-7	Signal	12	12	1	60
	Power	2	2	36	60
6450810-7	Signal	16	16	1	300
2-6450870-3	Power	2	-	-	300

Cat. No.	Type of Contact	Maximum Number of Contacts	Number of Contacts with Current	Current Rating, A	Voltage Rating, Vac/dc
X-2364009-X, X-2364010-X	Power	2	2	65	600

NOMENCLATURE: The Series x-64508xx-x, x-2204910-x, **x-23220xx-x, X-2364009-X, X-2364010-X** are designated as follows:

Example: x-64508xx-x(except for 6450810-7, 2-6450870-3, 2-6450852-7)
X can be 0-9 to represent series code, no construction or electrical rating changed.

Example: x-2204910-x
X can be 0-9 to represent series code, no construction or electrical rating changed.

Example: x-23220xx-x
X can be 0-9 to represent series code, no construction or electrical rating changed.

Example: X-2364009-X
X can be 0-9 to represent series code, no construction or electrical rating changed.

Example: X-2364010-X
X can be 0-9 to represent series code, no construction or electrical rating changed.

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 **except for x-64508xx-x (except for 6450810-7, 2-6450870-3, 2-6450852-7), x-2204910 -x, x-23220xx -x.**

Current-Carrying Capability and Current Ratings

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

Cat Nos.	Type of Contact	Number of Contacts with Current	Current, A	Maximum Temperature Rise, °C
6450840-4, 6450880-3	ACP	1	70	22
	S	1	4	18
	HDP	-	-	-
	ACP	4	62	28
	S	48	1	22
	HDP	12	35	22
	ACP	-	-	-
	S	-	-	-
	HDP	8	41	19
	ACP	-	-	-
	S	-	-	-
	HDP	4	45	16
6450840-3 6450880-4	P	-	-	-
	S	-	-	-
	LP	1	30	7
	P	4	56	17
	S	-	-	-
	LP	4	25	22
	P	8	50	26
	S	-	-	-
	LP	8	20	20
	P	12	45	23
	S	-	-	-
	LP	-	-	-
6450810-7	Signal	16	1	3.3
2-6450870-3	Signal	16	1	4.1
2328348-1	Signal	12	1	16.8
	Power	2	36	20.4
2-6450852-7	Signal	12	1	19.6
	Power	2	36	21.5

Cat No. tested	Type of Contact	Number of Contacts with Current	Current, A	Maximum Temperature Rise, °C	Represent series
7-6450831-3 (Male)	P	-	-	-	x-64508xx-x (except for 6450810-7, 2-6450870-3, 2-6450852-7); x-2204910-x
	S	-	-	-	
	LP	12	15	20.1	
3-6450861-0 (Female)	P	-	-	-	
	S	-	-	-	
	LP	12	15	20.1	
7-2322031-3 (Male)	P	-	-	-	x-23220xx-x
	S	-	-	-	
	LP	12	15	22.9	
2322071-1 (Female)	P	-	-	-	
	S	-	-	-	
	LP	12	15	23.0	

Cat No. tested	Wire Size AWG	Current, A	Maximum Temperature Rise, °C	Represent series
2364009-1	6	65	19.6	X-2364009-X
2364010-1	6	65	18.5	X-2364010-X

Insulating Materials

3. The insulating materials used in these devices comply with the direct support, electrical insulation and enclosure requirements of UL 746C, the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations.

4. The flame class rating of the insulating materials used in the connector housing is V-0.

5. 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.

Series	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	RTI Elec	RTI Str	Max Operating Temp, °C
Multi-Beam XLE Connector	A	0.75 mm	V-0	0	0	140	120	120
x-64508xx-x (except for 6450810-7, 2-6450870-3, 2-6450852-7)	A	0.75 mm	V-0	0	0	140	120	125
x-2204910-x	A	0.75 mm	V-0	0	0	140	120	125
x-23220xx-x	B	0.75 mm	V-0	0	0	140	125	125
6450810-7	A	0.8 mm	V-0	0	0	140	120	125
2-6450870-3	A	0.35 mm	(+)	(+)	(+)	140	120	125
2328348-1	A	0.25 mm	(+)	(+)	(+)	140	120	125
2-6450852-7	A	0.38 mm	(-)	(-)	(-)	140	120	125
X-2364009-X	B	0.75 mm	V-0	0	0	140	125	125
X-2364010-X	B	0.75 mm	V-0	0	0	140	125	125

(#) - Code for Insulating Body Material.

(+): Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class. UL 746C (12mm) Flammability test conducted.

(-): Refer to Cat. No. 2-6450870-3

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- A. **Tyco Raw Material # 704968 (color: black)**
1. Dielectric strength (kV/mm): -
 2. CTI: 1
- B. Tyco Raw Material # 2136739
1. Dielectric strength (kV/mm): -
 2. CTI: 0

Miscellaneous

6. 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.
7. The suitability of connector mounting means to the printed wiring board have not been evaluated and shall be evaluated in the end use product.
8. The electrical and mechanical contact between the connector and the printed wiring board is to be judged in the end-use equipment.
9. The printed wiring boards used in the end-use shall have suitable temperature ratings, refer to COA #2 for temperature determination.