File E28476
Project 08CA39621

Issued: March 5, 2009
Revised: March 25, 2009

REPORT

on

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

TYCO ELECTRONICS CORP
Harrisburg, PA

Recognized Company: TYCO ELECTRONICS CORP

DESCRIPTION

PRODUCT COVERED:

USR, Component - Series SEC II Power Connector
USR, Component – Series MBCE Power Connector
USR, Component – Series SCE Power Connector
USR, Component - Series HD+ Card Edge Power Connector, 5 Beam
USR, CNR Component - Series HD+ Card Edge Power Connector, 8 Beam
USR, Component – Series 2 in 1 Card Edge Power Connector
USR, CNR Component – Series SBCE power connector
USR, CNR – Series Heighten-CE Power Connector
USR, CNR - Series LPCE Power Connector

GENERAL:

These devices are multi-pole, right angle, vertical and co-planar edge-card connectors intended for factory assembly on 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.

RATINGS: 40 A, 250 V for Series SEC II Power Connector
25 A, 250 V for Series MBCE Power Connector
24 A, 250 V for Series SCE Power Connector

Series No.	Contact	USR Rating Voltage, V	USR Rating Current, A	CNR Rating Voltage, V	CNR Rating Current, A
HD+ Card Edge Power Connector, 5 Beam	Power	250	36	-	-
	Signal	Not assign	Not assign	-	-
*HD+ Card Edge Power Connector, 8 Beam	Power	250	61.2	250	**51.5**
	Signal	60	3	60	**4**
2 in 1 Card Edge Power Connector	Power	250	250	-	-
	Signal	100	1	-	-
SBCE power Connector	Power	100	9.3	100	9.3

Series No.	Contact	USR Rating Voltage, V	USR Rating Current, A	CNR Rating Voltage, V	CNR Rating Current, A
Heighten-CE Power Connector	Power	100	35	100	35
	Signal	-	-	-	-
LPCE Power Connector	**Power**	**100**	**10.5**	**100**	**10.5**
	Signal	**28**	**1.2**	**28**	**1.2**

Flammability – V-2 for Series SEC II Power Connector

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 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

2. These devices have been subjected to the (USR)Temperature Test with the rated currents and maximum temperature values tabulated below.

Series	Current, A	Maximum Temperature, °C
SEC II Power	40	58.1 #
MBCE Power Connector	25	84.2 #2
SCE Power Connector	24	49.1 #3

series	Contact	USR Current, A	Maximum Temperature °C	Cat. No. tested to Represent
HD+ Card Edge Power Connector, 5 Beam	Power	36	75.9	2345246
	Signal	Not assign	-	
HD+ Card Edge Power Connector, 8 Beam #4	Power	61.2	82.7	2343428
	Signal	3	61.9	
2 in 1 Card Edge Power Connector	Power	250	66.0	2341077
	Signal	1	46.4	

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

series	Contact	CNR Current, A	Maximum Temperature Rise °C	Cat. No. tested to Represent
*HD+ Card Edge Power Connector, 8 Beam #5	Power	**51.5**	**29.7**	2343428
	Signal	**4**	**22.4**	

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

series	Contact	USR and CNR Current, A	Maximum Temperature Rise °C	Cat. No. tested to Represent
SBCE power connector #6	Power	9.3	23.2	2358256
Heighten-CE Power Connector #7	Power	35	24.3	2363332
LPCE Power Connector #8	**Power**	**10.5**	**5.2**	**2375562 (TYCO RM 704129)**
	Signal	**1.2**	**4.9**	

Note: # - With mating printed wiring board laminate 1.3 mm thick, copper alloy pads 0.24 mm thick and a min. of 5 mm wide.
#2 - With mating printed wiring board laminate 1.57 mm thick, 4 layers, 2 ounce copper on out layers and 1 ounce copper on internal layers.

#3 - With mating printed wiring board laminated 1.57 mm thick, 6 layers, 2-ounce copper on each layer.

#4
Terminal Side - With mating printed wiring board laminate 2.36 mm thick, 6 layers, 2 ounce copper on each layer.
Mating Side – With mating printed wiring board laminate 1.57 mm thick, 6 layers, 2 ounce copper on each layer.

#5
Terminal Side - With mating printed wiring board laminate 2.36 mm thick, 6 layers, 6 ounce copper on each layer.
Mating Side – With mating printed wiring board laminate 1.57 mm thick, 6 layers, 5 ounce copper on each layer.

#6
Terminal Side - With mating printed wiring board laminate 1.57 mm thick, 6 layers, 2 ounce copper on each layer.
Mating Side – With mating printed wiring board laminate 1.57 mm thick, 6 layers, 2 ounce copper on each layer.

#7 - With mating printed wiring board laminated 2.00 mm thick, 6 layers, 2-ounce copper on each layer.

#8
Terminal Side - With mating printed wiring board laminate 1.57 mm thick, 6 layers, 2 ounce copper on each layer.
Mating Side – With mating printed wiring board laminate 1.57 mm thick, 6 layers, 2 ounce copper on each layer.

Voltage

3. These devices(except for SBCE power Connector, **Heighten-CE Power Connector, LPCE Power connector**) have been evaluated at a potential of 250 V based on
the result of a Dielectric Withstand Test performed at 1500 Vac.

Miscellaneous

4. 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.

5. The suitability of the mounting means shall be determined in the end-use product.

Insulating Materials

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

5. The flame class rating of the insulating materials used in the connector housing is V-2 **for series SEC II Connector.**

6. 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, ^{0}C
SEC II	A	0.94 mm	V-2	0	1	150	150	150
MBCE, right angle	B for housing, C for organizer	0.45 mm	V-0	4	3	105	65	105
MBCE, co-planar	B	0.45 mm	V-0	0	1	105	65	105
MBCE, vertical	C	0.45 mm	V-0	4	3	130	130	130
SCE Power Connector	D	0.2 mm	V-0	-	-	130	130	130
HD+ Card Edge Power Connector, 5 Beam	**D**	**0.3 mm**	**V-0**	**4**	**0**	**130**	**130**	**130**
HD+ Card Edge Power Connector, 8 Beam	**D**	**0.3 mm**	**V-0**	**4**	**0**	**130**	**130**	**130**
2 in 1 Card Edge Power Connector	**D**	**0.40 mm**	**V-0**	**4**	**0**	**130**	**130**	**130**

*

Series	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	RTI Elec	RTI Str	Max Operating Temp, ^{0}C
SBCE power Connect	E	0.30 mm	V-0	4	4	130	130	130
Heighten-CE Power Connector	E	0.20mm	V-0	4	4	130	130	130
LPCE power Connector	**D or E**	**0.20mm**	**V-0**	**4**	**4**	**130**	**130**	**130**

(#) - Code for Insulating Body Material.

A. Tyco RM 704584.
1. Dielectric strength (kV/mm): 26
2. CTI: 1

B. Tyco RM 704556.
1. Dielectric strength (kV/mm): 23
2. CTI: 1

C. Tyco RM 1573551.
1. Dielectric strength (kV/mm): -
2. CTI: 2

D. Tyco RM 1573878
1. Dielectric strength (kV/mm):39
2. CTI: 4

E. Tyco RM 704129
1. Dielectric strength (kV/mm):39
2. CTI: 4