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REPORT

On

COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY EQUIPMENT  
INCLUDING ELECTRICAL BUSINESS EQUIPMENT

**TDK-Lambda Americas Inc.**  
San Diego, CA

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## DESCRIPTION

## PRODUCT COVERED:

USR/CNR Component - Switching Power Supplies, Information Technology Equipment including Electrical Business Equipment, Models LZS-A500-3, LZS-A1000-2, LZS-A1000-2-009, LZS-A1000-3, LZS-A1500-3, LZS-A1500-3-001 and LZS-A1500-4. The basic model may be followed by up to 4 alpha-numeric characters denoting minor cosmetic, logic or SELV modifications not affecting product safety.

USR/CNR indicates investigation to the U.S. and Canadian (Bi-National) Standard for Information Technology Equipment - Safety - Part 1: General Requirements, CAN/CSA-C22.2 No. 60950-1-07; UL 60950-1, 2<sup>nd</sup> Edition **Dated March 27, 2007.**

## ELECTRICAL RATINGS:

Model(s)	Input Rating	Output Rating (dc)			Maximum
		V	A	W	Temperature
LZS-A500-3	100-240 V ac, 7.3 A, 47-63 Hz Operating Range 85-265 V ac	18.0-29.4	21 12.6	504 302	60°C 70°C
LZS-A1000-3	100-240 V ac, 15 A, 47-63 Hz Operating Range 85-265 V ac	18.0-29.4 18.0-29.4	42 25.5	1008 605	60°C 70°C
LZS-A1000-2	100-240 V ac, 15 A, 47-63 Hz Operating Range 85-265 V ac	10.0-15.75 10.0-15.75	84 50.4	1008 605	60°C 70°C
LZS-A1000-2-009	100-240 Vac, 15 A, 47-63 Hz Operating Range 85-265 V ac	9.2-15.75 9.2-15.75	84 50.4	1008 605	60°C 70°C
LZS-A1500-3	100-240 V ac, 15 A, 47-63 Hz Operating Range 85-265 V ac	18.0-29.4 18.0-29.4	63 37.8	1512 907	60°C 70°C
LZS-A1500-3-001	100-240 V ac, 18 A, 47-63 Hz Operating Range 85-265 V ac	18.0-29.4 18.0-29.4	63 37.8	1512 907	60°C 70°C
LZS-A1500-4	100-240 V ac, 18 A, 47-63 Hz Operating Range 85-265 V ac	36.0-56.0 36.0-56.0	31.5 25.2	1512 907	60°C 70°C

Table I: LZS-A1500-3 Output De-rating

Input Voltage (V ac)	Output Voltage (V dc)	Max Output Current (A)	Max Output Power (W)	Max Ambient (°C)
85	18	56	1008	60
	24	42	1008	
	29.4	34.3	1008	
85	18	33.6	605	70
	24	25.2	605	
	29.4	20.6	605	
100	18	61.4	1104	60
	24	46	1104	
	29.4	37.6	1104	
100	18	36.8	662	70
	24	27.6	662	
	29.4	22.5	662	
120	18	63	1134	60
	24	50	1200	
	29.4	40.9	1200	
120	18	40	720	70
	24	30	720	
	29.4	24.5	720	
180 to 265	18	63	1134	60
	24	63	1512	
	29.4	51.5	1512	
180 to 265	18	50.4	907	70
	24	37.8	907	
	29.4	30.9	907	

TABLE II- LZS-A1500-3-001 Output De-rating

Input Voltage (V ac)	Output Voltage (V dc)	Max Output Current (A) @50°C max ambient	Max Output Power (W) @50°C max ambient	Max Output Current (A) @60°C max ambient	Max Output Power (W) @60°C max ambient	Max Output Current (A) @70°C max ambient	Max Output Power (A) @70°C max ambient
85	18	63	1134	62.5	1125	37.5	675
	24	50	1200	46.9	1125	28.2	675
	29.4	40.8	1200	38.3	1125	23.0	675
90	18	63	1134	63	1134	40	720
	24	54.2	1300	50	1200	30	720
	29.4	44.2	1300	40.8	1200	24.5	720
95	18	63	1134	63	1134	42.5	765
	24	58.4	1400	53.1	1275	31.9	765
	29.4	47.6	1400	43.4	1275	26.1	765
100	18	63	1134	63	1134	45	810
	24	63	1512	56.3	1350	33.8	810
	29.4	51.4	1512	46.0	1350	27.6	810
105	18	63	1134	63	1134	47.5	855
	24	63	1512	59.4	1425	35.7	855
	29.4	51.4	1512	48.5	1425	29.1	855
110 - 265	18	<b>63</b>	<b>1134</b>	63	1134	50.4	907
	24	<b>63</b>	<b>1512</b>	63	1512	37.8	907
	29.4	<b>51.4</b>	<b>1512</b>	51.42	1512	30.9	907

TABLE III - LZS-A1500-4 Output De-rating

Input Voltage (V ac)	Output Voltage (V dc)	Max Output Current (A) @50°C max ambient	Max Output Power (W) @50°C max ambient	Max Output Current (A) @60°C max ambient	Max Output Power (W) @60°C max ambient	Max Output Current (A) @70°C max ambient	Max Output Power (A) @70°C max ambient
85	36	31.5	1134	31.25	1125	18.75	675
	48	25	1200	23.45	1125	14.1	675
	56	21.45	1200	20.1	1125	12.05	675
90	36	31.5	1134	31.5	1134	20	720
	48	27.1	1300	25	1200	15	720
	56	23.25	1300	21.45	1200	12.9	720
95	36	31.5	1134	31.5	1134	21.25	765
	48	29.2	1400	26.6	1275	15.95	765
	56	25	1400	22.8	1275	13.7	765
100	36	31.5	1134	31.5	1134	22.5	810
	48	31.5	1512	28.15	1350	16.9	810
	56	27	1512	24.15	1350	14.5	810
105	36	31.5	1134	31.5	1134	23.75	855
	48	31.5	1512	29.7	1425	17.85	855
	56	27	1512	25.45	1425	15.3	855
110 - 265	36	<b>31.5</b>	<b>1134</b>	31.5	1134	25.2	907
	48	<b>31.5</b>	<b>1512</b>	31.5	1512	18.9	907
	56	<b>27</b>	<b>1512</b>	27	1512	16.2	907

## ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

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

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Conditions of Acceptability - When installed in the end-use equipment, the following are among the considerations to be made:

1. These components have been judged on the basis of the required spacing in the Standard Information Technology Equipment - Safety - Part 1: General Requirements, CAN/CSA-C22.2 No. 60950-1-07; UL 60950-1, 2<sup>nd</sup> Edition Dated March 27, 2007, Sub-clause 2.10, which would cover the component itself, if submitted for Listing.
2. These units shall be installed in compliance with the enclosure, mounting, spacing, casualty, markings and segregation requirements of the end-use application.
3. These units have only been evaluated for use in commercial and industrial, controlled environment application, Pollution Degree 2.
4. These units were investigated for Class I construction as defined in CAN/CSA-C22.2 No. 60950-1-07; UL 60950-1, 2<sup>nd</sup> Edition Dated March 27, 2007.
5. These units have been evaluated for use in a 60°C maximum ambient at full load, de-rated to 60% load in a 70°C ambient.
6. The output from these units comply with all the requirements for SELV.
7. The output from these units are considered hazardous energy as the available energy exceeds 240 VA.
8. The end product Electric Strength test is to be based on the max. working voltage of 358 Vrms and 465 Vpk.
9. The Power Supply terminals and/or connectors are not investigated for field wiring.
10. Maximum investigated branch circuit rating is 20 **A**.
11. Proper bonding to the end product main protective earthing terminal is required.
12. An investigation of the bonding terminals as protective earth terminals has not been conducted.
13. The following end product enclosures are required: Electrical, fire, and Mechanical.