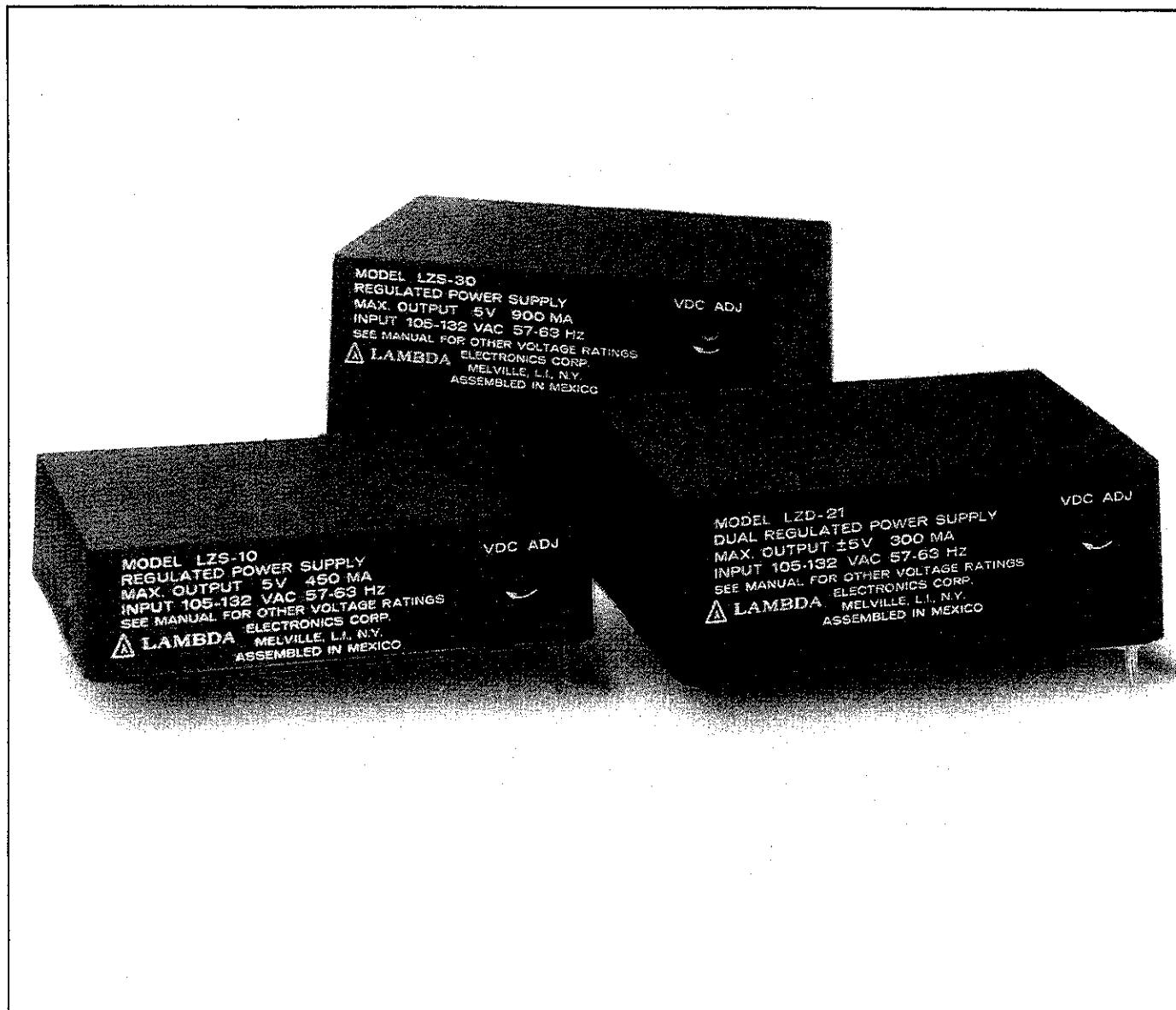


PART IB—AC-TO-DC LINEAR POWER SUPPLIES

LAMBDA'S COMMERCIAL LZ SERIES



PC BOARD MOUNTABLE FOR EASY IMPLEMENTATION

- Lambda's LZ Series has been designed using Lambda's standard derating criteria. All models are repairable. Should a failure occur, there is no need to scrap the device as in competitive units.
- AC input 105–132VAC or 187–242VAC, 47–63Hz.
- No heatsink required for operation at full output power.
- All models are printed circuit board mountable for ease of implementation during OEM production.
- All models are designed for wide range adjustable outputs.
- Grade 3 design.

PART IB—AC-TO-DC LINEAR POWER SUPPLIES

LAMBDA'S COMMERCIAL LO SERIES and LZ SERIES

DC OUTPUT

Voltage range shown in tables.

REGULATED VOLTAGE

regulation, line	0.15% from 105 to 125VAC (105 to 132VAC for LZ Series).
regulation, load	0.15% for 100% load change.
ripple and noise (20MHz Bandwidth)	1.5mV RMS, 5mV pk-pk with either positive or negative terminal grounded.
temperature coefficient	0.03%/°C.
remote programming resistance	200 ohms/volt nominal (LOS units only).
remote programming voltage	volt/volt (LOS units only).

AC INPUT

line	LO Series: 105 to 125VAC/210 to 250VAC, 47-440Hz (derate 10% at 50Hz). Consult factory for operation at frequencies other than 47 to 63Hz. Units are factory wired from 105 to 125VAC. LZ Series: 105 to 132VAC, 47-63Hz. For 220VAC operation, see options.
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EFFICIENCY

25% min for 5V and 6V models. 35% min for 12V, 15V and triple output models. 48% min for 20V, 24V, 28V models and $\pm 15V$ to $\pm 12V$ models.

TRACKING ACCURACY

(Dual and Triple Output Models Only) 4% absolute voltage difference (2% for LZ Series), 0.2% change for all conditions of line, load, and temperature.

OVERSHOOT

No overshoot on turn-on, turn-off or power failure.

OPERATING TEMPERATURE RANGE

Continuous duty from 0°C to 60°C for LO Series. From 0 to 50°C for LZ Series.

STORAGE TEMPERATURE RANGE

-55°C to +85°C for LO Series. -25°C to +85°C for LZ Series.

OVERLOAD PROTECTION ELECTRICAL

External overload protection; automatic electronic current limiting circuit limits the output current to a preset value, thereby providing protection for the load as well as the power supply.

OVERVOLTAGE PROTECTION

Available for LO Series only. Lambda will mount an overvoltage protector to a standard LO Series power supply. Consult factory for part numbers and prices.

COOLING

All LO Series are rated at 40°C in free air and must be derated or fan cooled when mounted in a confined area with no air circulation.

DC OUTPUT CONTROLS

Simple screwdriver voltage adjustment over the entire voltage range.

INPUT AND OUTPUT CONNECTIONS

LO Series:

AC Input — Heavy duty terminals on transformer.

DC Output — Heavy duty stud terminals on printed circuit board.

LZ Series:

Printed circuit solder pins on lower surface of unit.

MOUNTING

The LO Series has three mounting surfaces and three mounting positions for W, X, Y, Z models and one mounting surface for R models. The LZ Series is designed with two 4 × 40 tapped holes on the lower surface of the LZ-10; three 4 × 40 tapped holes on lower surface of LZ-20, 30 models.

REMOTE SENSING

Provision is made for remote sensing on LO Series to eliminate the effects of power output lead resistance on DC regulation. Connected for local sensing at factory.

PHYSICAL DATA

Package Model	Lbs. Net	Lbs. Ship	Size Inches
LZ-10	0.63	1.13	2 1/2 × 3 1/2 × 7/8
LZ-20	1.06	1.56	2 1/2 × 3 1/2 × 1 1/4
LZ-30	1.50	2.00	2 1/2 × 3 1/2 × 1 7/8
LO-Z	2.00	2.25	4 7/8 × 4 × 1 5/8
LO-Y	4.00	4.25	5 5/8 × 4 7/8 × 2 1/2
LO-X	6.50	7.00	7 × 4 7/8 × 2 3/4
LO-W	7.75	8.25	9 × 4 7/8 × 2 3/4
LO-R	14.75	16.25	4 7/8 × 16 3/4 × 4 7/8

ACCESSORIES

For rack adapters and other accessories, see Part IV of this catalog.

OPTIONS AC INPUT

Add Suffix	For Operation At:	Price*
-V	187 to 242VAC 47-63Hz	

*Price Added for "V" option which is available for these models only.

LZS-10, LZD-23: \$10

LZS-30, LZS-33, LZD-35: \$20

Derate current 10%.

FINISH

Gray, Fed. Std. 595, No. 26081.

GUARANTEED FOR 90 DAYS

90-day guarantee includes labor as well as parts. Guarantee applies to operation at full published specification at end of 90 days.

NOTES:

1. All LZ models are adjustable between the following limits: LZS-10, LZS-30 (2.5 to 6V); LZS-11, LZS-33 (8.0 to 15V); LZD-21 (± 2.5 to $\pm 6V$); LZD-22, LZD-23 (± 8.0 to $\pm 15V$); LZD-35 (± 8.0 to 15V). Contact factory for current ratings at voltage setting not indicated in tables.
2. Single output ratings for dual output models connected in series.

SAFETY AGENCY APPROVALS

All LO Series models are UL recognized.

PART IB—AC-TO-DC LINEAR POWER SUPPLIES

COMMERCIAL LINEAR SELECTOR GUIDE

LZ Series. AC Input. Single Output.

MAX CURRENT AT AMBIENT OF (mA) 50°C	COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	QTY. 1	QTY. 10	PRICE QTY. 25	QTY. 100	MODEL
5V ADJ.⁽¹⁾								
450	89	183	2 1/2 × 3 1/2 × 7/8	\$110	\$106	\$101	\$ 65	LZS-10
900	89	183	2 1/2 × 3 1/2 × 1 7/8	193	184	176	116	LZS-30
6V ADJ.⁽¹⁾								
450	89	183	2 1/2 × 3 1/2 × 7/8	110	106	101	65	LZS-10
900	89	183	2 1/2 × 3 1/2 × 1 7/8	193	184	176	116	LZS-30
10V ADJ.⁽¹⁾								
300	89	183	2 1/2 × 3 1/2 × 1 1/4	161	154	147	97	LZD-21 ⁽²⁾
293	89	183	2 1/2 × 3 1/2 × 1 7/8	193	184	176	116	LZS-33
12V ADJ.⁽¹⁾								
300	89	183	2 1/2 × 3 1/2 × 1 1/4	161	154	147	97	LZD-21 ⁽²⁾
336	89	183	2 1/2 × 3 1/2 × 1 7/8	193	184	176	116	LZS-33
15V ADJ.⁽¹⁾								
400	89	183	2 1/2 × 3 1/2 × 1 7/8	193	184	176	116	LZS-33
20V ADJ.⁽¹⁾								
61	89	183	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-22 ⁽²⁾
114	89	183	2 1/2 × 3 1/2 × 1 1/4	161	154	147	97	LZD-23 ⁽²⁾
200	89	183	2 1/2 × 3 1/2 × 1 7/8	273	261	249	165	LZD-35 ⁽²⁾
24V ADJ.⁽¹⁾								
73	89	183	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-22 ⁽²⁾
129	89	183	2 1/2 × 3 1/2 × 1 1/4	161	154	147	97	LZD-23 ⁽²⁾
240	89	183	2 1/2 × 3 1/2 × 1 7/8	273	261	249	165	LZD-35 ⁽²⁾
28V ADJ.⁽¹⁾								
84	89	183	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-22 ⁽²⁾
143	89	183	2 1/2 × 3 1/2 × 1 1/4	161	154	147	97	LZD-23 ⁽²⁾
280	89	183	2 1/2 × 3 1/2 × 1 7/8	273	261	249	165	LZD-35 ⁽²⁾

LZ Series. AC Input. Dual Output.

MAX CURRENT AT AMBIENT OF (mA) 50°C	COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	QTY. 1	QTY. 10	PRICE QTY. 25	QTY. 100	MODEL
± 5V ADJ.⁽¹⁾								
300	89	184	2 1/2 × 3 1/2 × 1 1/4	\$161	\$154	\$147	\$ 97	LZD-21
± 6V ADJ.⁽¹⁾								
300	89	184	2 1/2 × 3 1/2 × 1 1/4	161	154	147	97	LZD-21
± 10V ADJ.⁽¹⁾								
61	89	184	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-22
114	89	184	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-23
200	89	184	2 1/2 × 3 1/2 × 1 7/8	273	261	249	165	LZD-35
± 12V ADJ.⁽¹⁾								
73	89	184	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-22
129	89	184	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-23
240	89	184	2 1/2 × 3 1/2 × 1 7/8	273	261	249	165	LZD-35
± 15V ADJ.⁽¹⁾								
90	89	184	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-22
150	89	184	2 1/2 × 3 1/2 × 1 1/4	124	118	112	79	LZD-23
300	89	184	2 1/2 × 3 1/2 × 1 7/8	273	261	249	165	LZD-35

NOTES: ⁽¹⁾ All LZ Models are adjustable between the following limits: LZS-10 (2.5V to 6.0V), LZS-11 (8.0V to 15.0V), LZS-30 (2.5V to 6.0V), LZS-33 (8.0V to 15.0V), LZD-21 (± 2.5V to 6.0V), LZD-22 (± 8.0V to ± 15.0V), LZD-23 (± 8.0V to ± 15.0V), LZD-35 (± 8.0V to 15.0V). Contact factory for current ratings at voltage setting not indicated in above tables.
⁽²⁾ Single output ratings for dual output models connected in series.

DSP SERIES AND VZ SERIES

NOTES
1. CUSTOMER'S MOUNTING SCREW MUST NOT PROTRUDE
INTO POWER SUPPLY BY MORE THAN 1/4".

OUTPUT VOLTAGE ADJUST(S)

