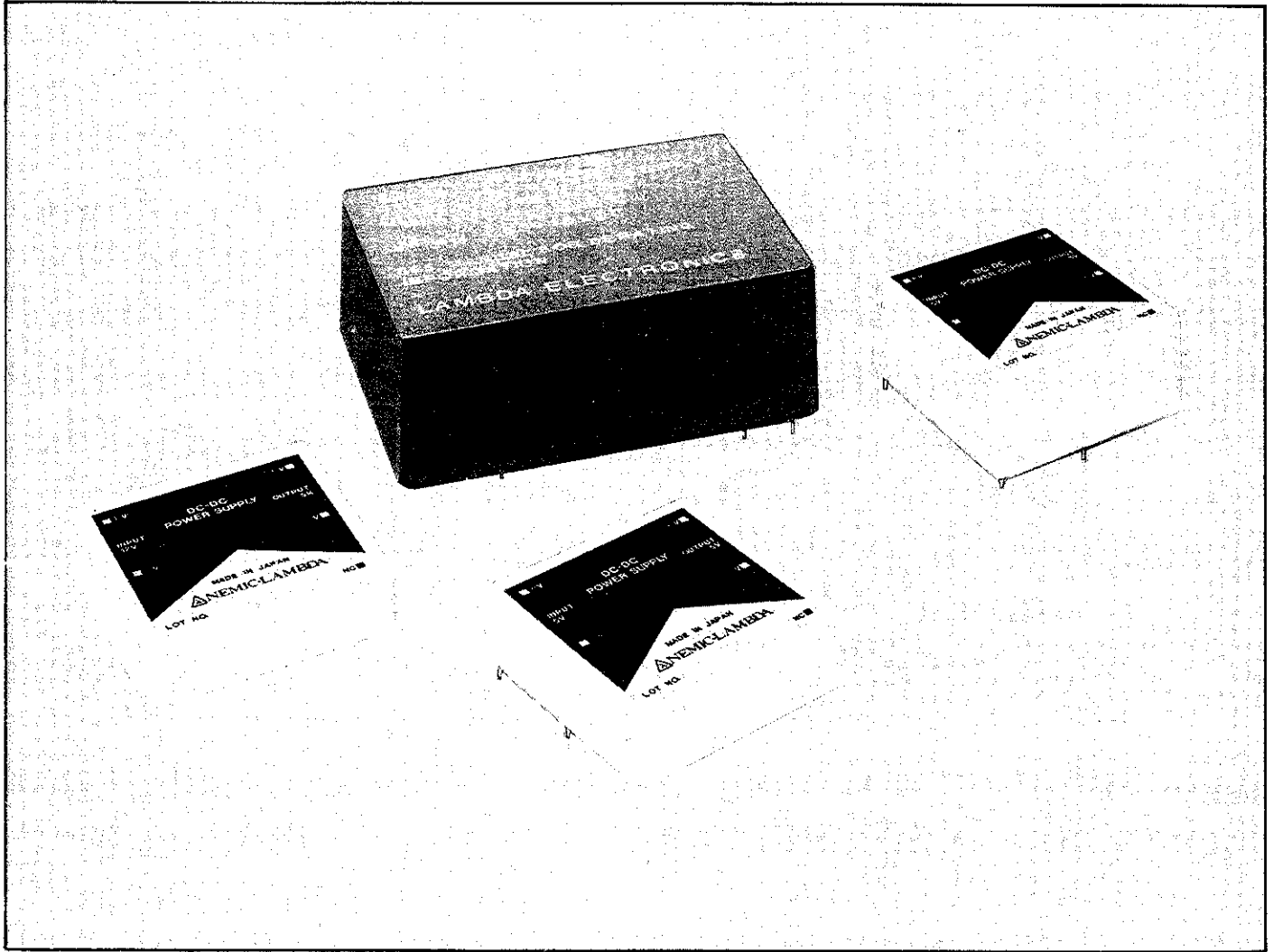


DC-TO-DC

Lambda LW series



Features—LW series

26 models to meet your exact requirements

All outputs isolated

High efficiency

Available for one day delivery from stock

All outputs regulated

PC board mountable

DC-TO-DC selector guide

DC Input, single output. LW series.

DC INPUT 4.5-6.0 VDC

MODEL	REGULATION (line, load)	RIPPLE (mV pk-pk)	MAX CURRENT (AMPS AT)				COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE QTY. 100	QTY. 1000
			45°C	50°C	60°C	65°C							
5V ±5% NON-ADJ.													
LWS-190-5	0.5%, 1.0%	120	0.5	0.5	—	0.2	64	90	1.85 x 0.47 x 1.85	132	\$49	\$39	\$20
LWS-191-5	0.5%, 1.0%	120	1.0	—	0.4	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25
12V ±5% NON-ADJ.													
LWS-190-12	0.5%, 1.0%	150	0.21	0.21	—	0.084	64	90	1.85 x 0.47 x 1.85	132	49	39	20
LWS-191-12	0.5%, 1.0%	150	0.42	—	0.168	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25
15V ±5% NON-ADJ.													
LWS-190-15	0.5%, 1.0%	150	0.17	0.17	—	0.060	64	90	1.85 x 0.47 x 1.85	132	49	39	20
LWS-191-15	0.5%, 1.0%	150	0.34	—	0.136	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25

DC INPUT 4.5-10.0 VDC

MODEL	REGULATION (line, load)	RIPPLE (mV pk-pk)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE QTY. 100	QTY. 1000
			40°C	50°C	60°C							
4.75-16 VOLTS ADJ.												
LWS-193-5	0.1%, 0.4%	100	2.0	1.7	1.5	64	93	1.25 x 3.5 x 2.5	132	\$89	\$76	\$62
LWS-194-5	0.1%, 0.4%	100	3.0	2.6	2.3	64	94	1.25 x 3.5 x 2.5	132	119	101	75
15-30 VOLTS ADJ.												
LWS-193-24	0.1%, 0.4%	200	0.65	0.57	0.50	64	93	1.25 x 3.5 x 2.5	132	89	76	62
LWS-194-24	0.1%, 0.4%	200	1.00	0.90	0.75	64	94	1.25 x 3.5 x 2.5	132	119	101	75

DC INPUT 10.0-15.0 VDC

MODEL	REGULATION (line, load)	RIPPLE (mV pk-pk)	MAX CURRENT (AMPS AT)				COMPLETE ELEC. SPEC.	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC.	QTY. 1	PRICE	QTY. 100	QTY. 1000
			45 °C	50 °C	60 °C	65 °C	PG			PG				
5V ±5% NON-ADJ.														
LWS-290-5	0.5%, 1.0%	120	0.60	0.60	—	0.24	64	90	1.85 x 0.47 x 1.85	132	\$49	\$39	\$20	
LWS-291-5	0.5%, 1.0%	120	1.20	—	0.48	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25	
12V ±5% NON-ADJ.														
LWS-290-12	0.5%, 1.0%	150	0.25	0.25	—	0.10	64	90	1.85 x 0.47 x 1.85	132	49	39	20	
LWS-291-12	0.5%, 1.0%	150	0.50	—	0.20	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25	
15V ±5% NON-ADJ.														
LWS-290-15	0.5%, 1.0%	150	0.20	0.20	—	0.08	64	90	1.85 x 0.47 x 1.85	132	49	39	20	
LWS-291-15	0.5%, 1.0%	150	0.40	—	0.16	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25	

DC INPUT 10.0-30.0 VDC

MODEL	REGULATION (line, load)	RIPPLE (mV pk-pk)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC.	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC.	QTY. 1	PRICE	QTY. 1000
			40 °C	50 °C	60 °C	PG			PG		QTY. 100	
4.75-16 VOLTS ADJ.												
LWS-294-5	0.1%, 0.4%	100	3.0	2.6	2.3	64	94	1.25 x 3.5 x 2.5	132	\$119	\$101	\$75
15-30 VOLTS ADJ.												
LWS-294-24	0.1%, 0.4%	200	1.0	0.9	0.75	64	94	1.25 x 3.5 x 2.5	132	119	101	75

DC-TO-DC selector guide

DC Input, single output. LW series.

DC INPUT 20.0-30.0 VDC

MODEL	REGULATION (line, load)	RIPPLE (mV pk-pk)	MAX CURRENT (AMPS AT)				COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE QTY. 100	QTY. 1000
			45°C	50°C	60°C	65°C							
5V ±5% NON-ADJ.													
LWS-390-5	0.5%, 1.0%	120	0.60	0.60	—	0.24	64	90	1.85 x 0.47 x 1.85	132	\$49	\$39	\$20
LWS-391-5	0.5%, 1.0%	120	1.20	—	0.48	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25
12V ±5% NON-ADJ.													
LWS-390-12	0.5%, 1.0%	150	0.25	0.25	—	0.10	64	90	1.85 x 0.47 x 1.85	132	49	39	20
LWS-391-12	0.5%, 1.0%	150	0.50	—	0.20	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25
15V ±5% NON-ADJ.													
LWS-390-15	0.5%, 1.0%	150	0.20	0.20	—	0.08	64	90	1.85 x 0.47 x 1.85	132	49	39	20
LWS-391-15	0.5%, 1.0%	150	0.40	—	0.16	—	64	91	1.85 x 0.75 x 1.85	132	59	47	25

DC INPUT 20.0-60.0 VDC

MODEL	REGULATION (line, load)	RIPPLE (mV pk-pk)	MAX CURRENT (AMPS AT)			COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	QTY. 1	PRICE QTY. 100	QTY. 1000
			40 °C	50 °C	60 °C							
4.75-16 VOLTS ADJ.												
LWS-394-5	0.1%, 0.4%	100	3.0	2.6	2.3	64	94	1.25 x 3.5 x 2.5	132	\$119	\$101	\$75
15-30 VOLTS ADJ.												
LWS-394-24	0.1%, 0.4%	200	1.0	0.9	0.75	64	94	1.25 x 3.5 x 2.5	132	119	101	75

Specifications—LW series

DC Output

Voltage range shown in tables.

REGULATED VOLTAGE

regulation, line 0.1% from minimum to maximum on LWS-194, LWS-294, LWS-394, and LWS-193 models. 0.5% on all other models.

regulation, load 0.4% for load variations from no-load to full load, or full load to no load on LWS-194, LWS-294, LWS-394 and LWS-193 models. 1.0% on all other models.

ripple and noise 100mV pk-pk for 5V models of LWS-194, LWS-294, LWS-394, and LWS-193.
200mV pk-pk for 24V models of LWS-194, LWS-294, LWS-394, and LWS-193.
120mV pk-pk for 5V output of LWS-191, LWS-291, LWS-391, LWS-190, LWS-290, LWS-390.

150mV pk-pk for 12V and 15V outputs of LWS-191, LWS-291, LWS-391, LWS-190, LWS-290, LWS-390.

efficiency 50% minimum for LWS-194, LWS-294, LWS-394, and LWS-193.

58% minimum for LWS-190.

60% minimum for LWS-191.

64% minimum for LWS-391.

67% minimum for LWS-390.

68% minimum for LWS-291.

70% minimum for LWS-290.

temp. coeff. 0.03%/°C on LWS-194, LWS-294, LWS-394, and LWS-193.

0.02%/°C on all other models.

Ambient Operating Temperature

Continuous duty 0 to 60°C with suitable derating above 40°C for LWS-194, LWS-294, LWS-394 and LWS-193. Continuous duty -5°C to 60°C with suitable derating above 45°C for LWS-191, LWS-291, LWS-391. Continuous duty -5°C to 65°C with suitable derating above 50°C for LWS-190, LWS-290, LWS-390.

Overload Protection

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.

Storage Temperature Range

-55°C to +85°C for LWS-194, LWS-294, LWS-394, and LWS-193. -20°C to +85°C for all other models.

Overshoot

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

Cooling

All units are convection cooled. No fans or blowers needed.

Mounting

PC board mountable. Refer to outline drawings.

Output Voltage Adjust

LWS-194, LWS-294, LWS-394, LWS-193

Output voltage can be set to desired value within the entire range by inserting a resistor between +V and RP terminals. Resistor can be selected as per table supplied in instruction manual.

Input/Output Connections

DC input and outputs are via pin type connections. Refer to outline drawings.

Physical Data

Package Model	Weight		Size Inches
	Lbs. Net	Lbs. Ship	
LWS-194	.65	.9	2.5 x 3.5 x 1.25
LWS-294	.65	.9	2.5 x 3.5 x 1.25
LWS-394	.65	.9	2.5 x 3.5 x 1.25
LWS-193	.65	.9	2.5 x 3.5 x 1.25
LWS-190	.10	.12	1.85 x 0.47 x 1.85
LWS-290	.10	.12	1.85 x 0.47 x 1.85
LWS-390	.10	.12	1.85 x 0.47 x 1.85
LWS-191	.16	.19	1.85 x 0.75 x 1.85
LWS-291	.16	.19	1.85 x 0.75 x 1.85
LWS-391	.16	.19	1.85 x 0.75 x 1.85



Under evaluation

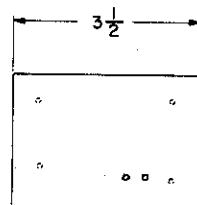
Guarantee

90 day guarantee includes labor as well as parts.

PART IV—DIMENSIONAL DRAWINGS

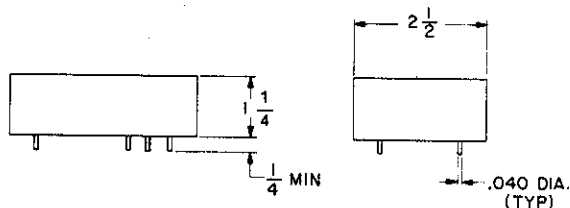
LW SERIES POWER SUPPLIES

LWS-193
LWS-194
LWS-294
LWS-394



NOTES:

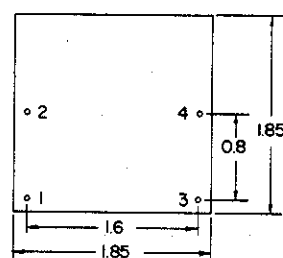
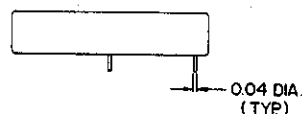
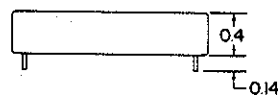
1. WEIGHT - 10 OZ. NET
14 OZ. SHIPPING



LWS-190
LWS-290
LWS-390

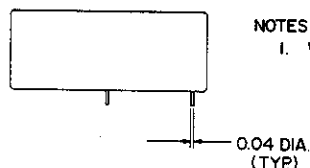
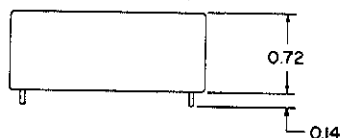
NOTES:

1. WEIGHT - 142 OZ. NET
182 OZ. SHIPPING



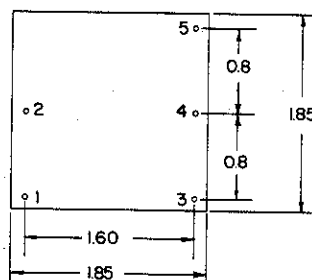
1-----+V] INPUT
2-----+V]
3-----+V] OUTPUT
4-----+V]

LWS-191
LWS-291
LWS-391



NOTES:

1. WEIGHT - 249 OZ. NET
289 OZ. SHIPPING



1-----+V] INPUT
2-----+V]
3-----+V] OUTPUT
4-----+V]
5----- NO CONNECTION