

LW SERIES

5W WIDE INPUT RANGE

DANUBE

FEATURES

- 5W DIL PACKAGE
- INDUSTRY STANDARD PACKAGE
- NO EXTERNAL COMPONENTS REQUIRED
- 9-18V,18-36V,36-72V,9-27V,18-54V,
9-36V,18V-72V WIDE INPUT RANGE
- 100% BURN IN
- HIGH EFFICIENCY
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY



OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) ¹	100mVp-p max.
Line Regulation ²	+/-0.5% max.
Load Regulation ³	+/-0.5% max.
Minimum Load	10% of Full Load
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Over Load Protection	180% typ.
Transient Response ⁵	200uS max.

INPUT SPECIFICATIONS

Input Voltage Range	2:1 3:1 4:1 Input Range
Input Filter	Pi Network
Protection	Fuse Recommended
Start up time (Nominal Input)	30ms max.

GENERAL SPECIFICATIONS

Efficiency	70% min.
Isolation Voltage ⁴	1500VDC or 3000VDC min.
Isolation Resistance	10 ⁹ ohms min.
Isolation Capacitance	120pF max.
Switching Frequency	100 KHz min.
MTBF ⁶	>670,000 Hours
Weight	31.2g typ.
Case Material	Six-Side Shielded Case
Case Size	50.8mm*25.4mm*11.2mm
Potting Material	Epoxy(UL94V-0)
Radiated Emissions	EN55032 Class B

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25°C to +71°C
Storage Temperature	-55°C to +125°C
Humidity	95% max.
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD, AND 25°C UNLESS OTHERWISE NOTED.

¹ Measured with 1uF ceramic capacitor connect to the output pins.

² High Line to Low Line.

³ Load Regulation is for output load current change from 10% to 100%.

⁴ 1500VDC for 10 seconds, 2000VDC~3000VDC for 3 seconds.

⁵ 25% Step Load Change.

⁶ MIL-HDBK-217F @25 °C, Ground Benign.

● SELECTION GUIDE(1) 2:1 5W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁷ CURRENT(mA)		EFF (%) ⁸	CAPACITOR LOAD (Max.)
				FULL LOAD	NO LOAD		
LWS-1205H(-3K)	9-18	5	1000	556	30	75	1000uF
LWS-1209H(-3K)	9-18	9	556	520	30	80	820uF
LWS-1212H(-3K)	9-18	12	417	520	28	80	680uF
LWS-1215H(-3K)	9-18	15	333	514	28	81	470uF
LWD-1205H(-3K)	9-18	+/-5	+/-500	556	29	75	+/-560uF
LWD-1212H(-3K)	9-18	+/-12	+/-208	540	28	77	+/-330uF
LWD-1215H(-3K)	9-18	+/-15	+/-167	549	30	76	+/-220uF
LWS-2405H(-3K)	18-36	5	1000	270	14	77	1000uF
LWS-2409H(-3K)	18-36	9	556	260	14	80	820uF
LWS-2412H(-3K)	18-36	12	417	254	13	82	680uF
LWS-2415H(-3K)	18-36	15	333	257	13	81	470uF
LWD-2405H(-3K)	18-36	+/-5	+/-500	270	14	77	+/-560uF
LWD-2412H(-3K)	18-36	+/-12	+/-208	260	13	80	+/-330uF
LWD-2415H(-3K)	18-36	+/-15	+/-167	260	30	80	+/-220uF
LWS-4805H(-3K)	36-72	5	1000	135	8	77	1000uF
LWS-4809H(-3K)	36-72	9	556	130	16	80	820uF
LWS-4812H(-3K)	36-72	12	417	128	7	81	680uF
LWS-4815H(-3K)	36-72	15	333	128	12	81	470uF
LWD-4805H(-3K)	36-72	+/-5	+/-500	135	8	77	+/-560uF
LWD-4812H(-3K)	36-72	+/-12	+/-208	130	12	80	+/-330uF
LWD-4815H(-3K)	36-72	+/-15	+/-167	130	12	80	+/-220uF

ORDERING INFORMATION:

FOR EXAMPLE: **LW*-****-3K(Isolation Voltage For 3000VDC)**

⁷ NOMINAL INPUT VOLTAGE.

⁸ NOMINAL INPUT VOLTAGE, FULL LOAD.

● SELECTION GUIDE (2)

3:1 5W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁹ CURRENT(mA)		EFF (%) ¹⁰	CAPACITOR LOAD (Max.)
				FULL LOAD	NO LOAD		
LWS-1205HG	9-27	5	1000	535	30	78	1000uF
LWS-1209HG	9-27	9	556	548	30	76	820uF
LWS-1212HG	9-27	12	417	527	28	79	680uF
LWS-1215HG	9-27	15	333	520	28	80	470uF
LWD-1205HG	9-27	+/-5	+/-500	541	28	77	+/-560uF
LWD-1212HG	9-27	+/-12	+/-208	541	28	77	+/-330uF
LWD-1215HG	9-27	+/-15	+/-167	520	28	80	+/-220uF
LWS-2405HG	18-54	5	1000	277	14	75	1000uF
LWS-2409HG	18-54	9	556	267	14	78	820uF
LWS-2412HG	18-54	12	417	260	13	80	680uF
LWS-2415HG	18-54	15	333	257	13	81	470uF
LWD-2412HG	18-54	+/-12	+/-208	257	13	81	+/-330uF
LWD-2415HG	18-54	+/-15	+/-167	257	12	81	+/-220uF

Note: Other input to output voltages may be available. Please contact factory.

⁹ NOMINAL INPUT VOLTAGE.

¹⁰ NOMINAL INPUT VOLTAGE, FULL LOAD.

● SELECTION GUIDE(3)

4:1 5W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ¹¹ CURRENT(mA)		EFF (%) ¹²	CAPACITOR LOAD (Max.)
				FULL LOAD	NO LOAD		
LWS-1205HT(-3K)	9-36	5	1000	535	30	78	1000uF
LWS-1209HT(-3K)	9-36	9	556	548	30	76	820uF
LWS-1212HT(-3K)	9-36	12	417	541	28	77	680uF
LWS-1215HT(-3K)	9-36	15	333	541	28	77	470uF
LWD-1205HT(-3K)	9-36	+/-5	+/-500	541	28	77	+/-560uF
LWD-1212HT(-3K)	9-36	+/-12	+/-208	541	28	77	+/-330uF
LWD-1215HT(-3K)	9-36	+/-15	+/-167	541	28	77	+/-220uF
LWS-2405HT(-3K)	18-72	5	1000	277	14	75	1000uF
LWS-2409HT(-3K)	18-72	9	556	267	14	78	820uF
LWS-2412HT(-3K)	18-72	12	417	260	13	80	680uF
LWS-2415HT(-3K)	18-72	15	333	257	13	81	470uF
LWD-2412HT(-3K)	18-72	+/-12	+/-208	257	13	81	+/-330uF
LWD-2415HT(-3K)	18-72	+/-15	+/-167	257	12	81	+/-220uF

Note: Other input to output voltages may be available. Please contact factory.

ORDERING INFORMATION:

FOR EXAMPLE: **LW*-****HT-3K(Isolation Voltage For 3000VDC)**

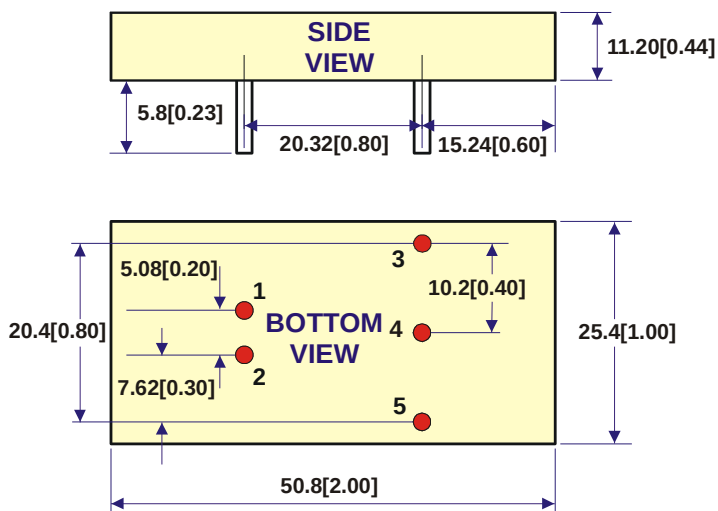
¹¹ NOMINAL INPUT VOLTAGE.

¹² NOMINAL INPUT VOLTAGE, FULL LOAD.

● PART NUMBERS STRUCTURE

Model Name	Difference
LWVv-x1x2Hx3(-z1)-zzz	L=Series Name W=Wide Input Range v=Type of output voltage (S=Single output ; D=Dual output) x1=12V (9~18V ; 9~27V ; 9~36V Input voltage) 24V (18~36V ; 18~54V ; 18~72V Input voltage) 48V (36~72V Input voltage) x2=Output voltage x3=Input Voltage Range (G=3:1 ; T=4:1) (-z1)=ISOLATION (-3K=3000VDC) zzz= 0~9 , A~Z or blank for market purpose.

● MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	NO PIN	Common
5	-Vout	-Vout

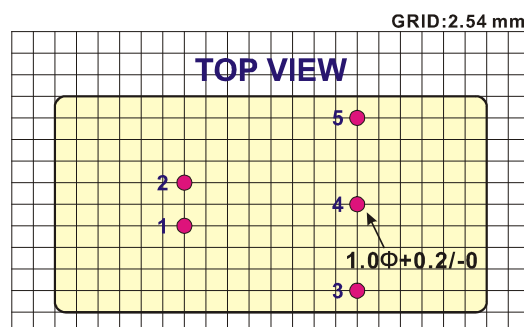
NOTE:

All dimensions are in millimeters [inches]

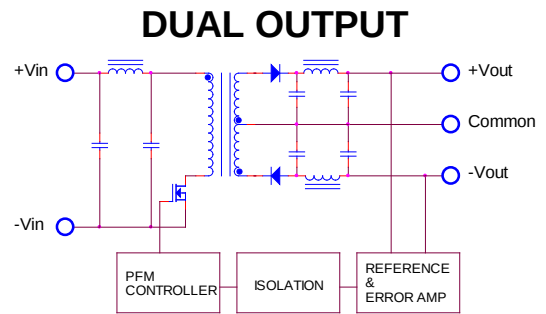
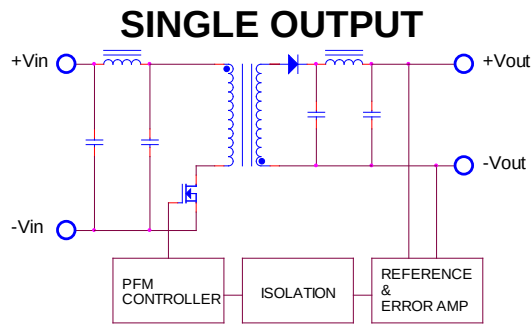
Pin Size is Tolerance $0.8\Phi \pm 0.10\text{mm}$

Tolerance .X or .XX= $\pm 0.80\text{mm}$

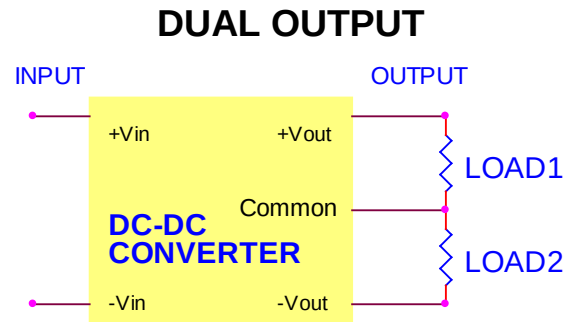
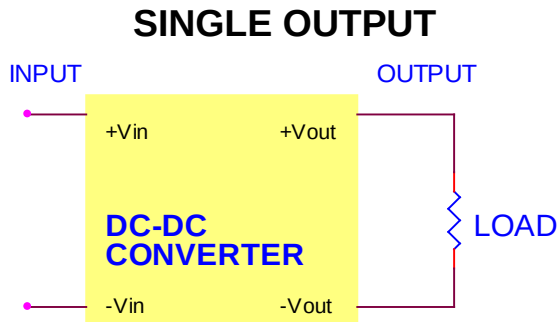
All dimensions are in millimeters[inches]



● SIMPLIFIED SCHEMATIC



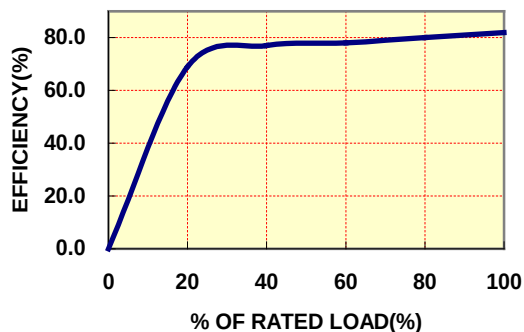
● TYPICAL APPLICATIONS



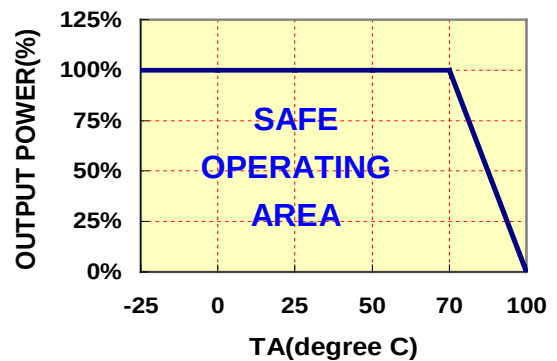
● TYPICAL PERFORMANCE CURVES

Specifications typical at $T_a=25^\circ\text{C}$, nominal input voltage, rated output current unless otherwise specified.

OUTPUT LOAD VS EFFICIENCY



TEMPERATURE DERATING



● INPUT FUSE SELECTION GUIDE

9-18V or 9-27V or 9-36V INPUT VOLTAGE(VDC)	18-36V or 18-54V or 18-72V INPUT VOLTAGE(VDC)	36-72V INPUT VOLTAGE(VDC)
900mA Slow-Blow Type	500mA Slow-Blow Type	250mA Slow-Blow Type
		

Note: Certain applications may require the installation of external fuse in front of the input.

LW SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the LW series.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 100 KHz is required.

External output capacitance is not required for operation; however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.

FOR MORE INFORMATION CALL:

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Home Page

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