



ULTRA LEVEL TECH CO., LTD.

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We Supply the Power Customers Need ISO9001

100W ~ 250W AC-DC SWITCHING POWER SUPPLY RL0603D DUAL OUTPUT SERIES

FEATURES:

- ◆ Compact 250W with 1U height Power Density: 10.4 watts/cu in.
- ◆ Low Leakage Current 500uA @ 240Vac / 300uA @ 120Vac
- ◆ U-Chassis & Enclosed with built-in fan Mechanical Options
- ◆ 5/ 12/ 24V Dual Output Optional Combinations
- ◆ Variable Fan Speed & Low Acoustical Noise
- ◆ High Quality & Reliable Component Usage
- ◆ Approved to UL CUL TUV CB and CE.
- ◆ AC Input Range Auto-Selectable
- ◆ Output Voltages from 2 ~ 60Vdc



RL0603DU Series (U-Chassis Type): 5(L) x 3.2(W) x 1.5(H) inches.
 RL0603DF Series (U-Chassis with top built-in fan): 5(L) x 3.2(W) x 2(H) inches.
 RL0603DE Series (Enclosed with end built-in fan): 5.39(L) x 3.2(W) x 1.6(H) inches.

PRODUCT SPECIFICATIONS:

Input Voltage: 90-132 / 180-264Vac, 47-63Hz auto selectable.
Input Current: 6/3A at 110-120 / 200-240VAC.
Inrush Current: Max. 70A@230Vac & 35A@115Vac; cold start.
PFC: Power factor corrected to EN61000-3-2 class A.
Transient Response: Output voltage returns to within 1% in less than 2.5mS for a 50% load change, peak does not exceed 5%.
Overshoot: Turn-on & off overshoot < 5% over nominal voltage.
Efficiency: 75% ~ 85% depends on model.
Turn On Delay: 1 second maximum at 230 Vac.
Hold Up Time: 20mS min. at 80% of full load.
Adjustability: Output user adjustable +/-5% minimum.
Input Fusing Protection: One T8A/250V fuse inserted in primary.
Over Voltage Protection: Unit latching down when output exceed 130% and recycle AC input to reset.
Over-Power Protection: 110-140% of I-Max; Auto-recovery.
Short Circuit Protection: Trip without damage and auto-recovery.
Over-Temperature Protection: Unit protected of excessive operating ambient 110 °C, and automatic recovery.
Operating Temperature: 0°C to 70°C ambient, de-rating at 2.5% per degree from 50°C to 70°C.
Operating Humidity: 5% to 90% RH, Non-condensing.
Storage Humidity: 5% to 95% RH, Non-condensing.
Storage Temperature: -20 to 85 °C.
Vibration: 5 ~ 50 Hz, acceleration 7.35 m/s*s on X,Y and Z Axis.
Switching Frequency: 25K Hz fixed frequency.
Remote On-Off: Designated as **RMSW** on the CN1, requires a low signal to inhibit output. Hiccup mode.
Warranty: 2 years.

Power Supply On: Green LED designated as **LED1** on the PCB.
Power Good: **PG** on CN1 goes high 100-500mS after DC regulation and low at least 1mS before loss of regulation (Open collector).
Fan Drive: 12VDC/300mA is available to drive an external fan.
EMC: **EN 55032: 2015+A11: 2020**
 •EN 61000-3-2: 2014, EN 61000-3-3: 2013
EN 55035: 2017+A11: 2020
 •IEC 61000-4-2: 2008, IEC 61000-4-3: 2020
 •IEC 61000-4-4: 2012, IEC 61000-4-5: 2014+A1:2017
 •IEC 61000-4-6: 2013+C1: 2015, IEC 61000-4-8: 2009
 •IEC 61000-4-11: 2020+C1:2020
Safety Regulation:IEC/EN/UL 62368-1
Leakage Current: < 1mA @ 264Vac.
 (optional for 500uA max. at 240Vac / 300uA max. at 120Vac input)
Hi-POT Withstand Voltage: 1500 VAC input line to chassis (10mA DC cut off current); Isolating 3000VAC primary to secondary windings; Primary to core 1500VAC. All for 3 sec.
Grounding Test: Apply 25 A from ground pin of the three prong plug to the far most earth. Max allowable resistance 0.1 ohm.
MTBF: 100000 Hrs (according to MIL-HBK-217F) at 30 degree C.
Cooling: Type **U** (with min. 16CFM forced air) & **F & E:** Max. 250W total combined power of V1 and V2 for RL0603Dx-1224 and 200W for other models.
 Type **U** (with convection cooling): Max. 135W total combined power of V1 and V2 for RL0603DU-1224 and 100W for other models.
Burn in: 45 +/- 5 degree C for 1 hour @230Vac with full load.
Enclosure:
 RL0603DU Series (U-Chassis Type): 5(L) x 3.2(W) x 1.5(H) inches.
 RL0603DF Series (U-Chassis with top built-in fan): 5(L) x 3.2(W) x 2(H) inches.
 RL0603DE Series (Enclosed with end built-in fan): 5.39(L) x 3.2(W) x 1.6(H) inches.
Weight: RL0603DU Series: 450g; RL0603DF&DE Series: 550g.



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OUTPUT VOLTAGE / CURRENT RATING CHART: Measured at output power connector.

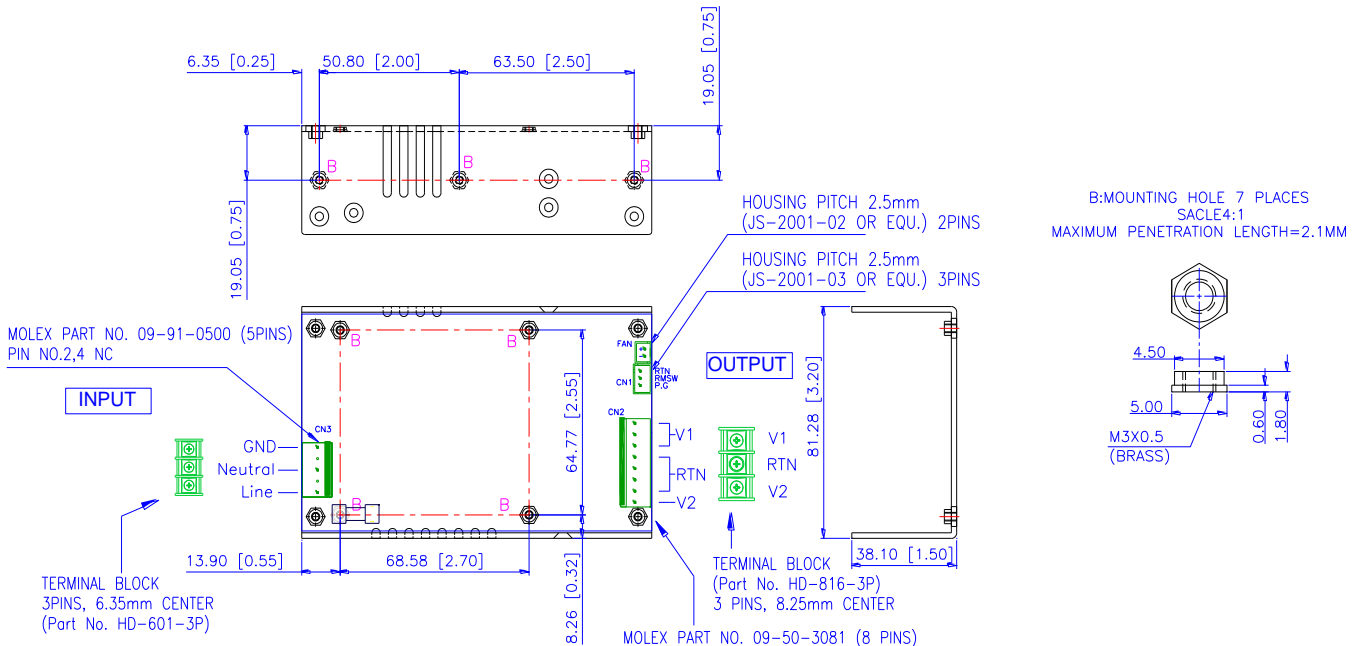
Model Number	Output Voltage	Max. Output Current		Regulation	Ripple & Noise
		Type U (with min. 16CFM forced air) & F & E	Type U (Convection)		
RL0603Dx-0512	V1:+5V	24A	12A	+/- 5%	1%
	V2:+12V	12A	7A	+/- 5%	1%
RL0603Dx-0524	V1:+5V	24A	12A	+/- 5%	1%
	V2:+24V	6A	4A	+/- 5%	1%
RL0603Dx-1224	V1:+12V	12A	7A	+/- 5%	1%
	V2:+24V	6A	4A	+/- 5%	1%

NOTE:

- * RL0603D series are designated as RL0603Dx-y where x can be **U** (U-Chassis Type) or **F** (U-Chassis with Cover and built-in Fan installed) or **E** (Enclosed with end built-in fan); y can be **0512**, **0524** and **1224**.
- * Type **U** (with min. 16CFM forced air) & **F & E**: Max. 250W total combined power of V1 and V2 for RL0603Dx-1224 and 200W for other models.
- * Type **U** (with convection cooling): Max. 135W total combined power of V1 and V2 for RL0603DU-1224 and 100W for other models.
- * Ripple and noise is measured from 10KHZ to 20MHZ bandwidth at output with parallel 0.1uF ceramic and 22uF electrolytic capacitors.
- * 10% minimum load is required for all outputs to maintain the ripple and regulation.
- * Output is fully isolated.

OUTLINE DRAWING:

RL0603DU Series (U-Chassis Type): 5(L) x 3.2(W) x 1.5(H) inches; Weight: 450g.



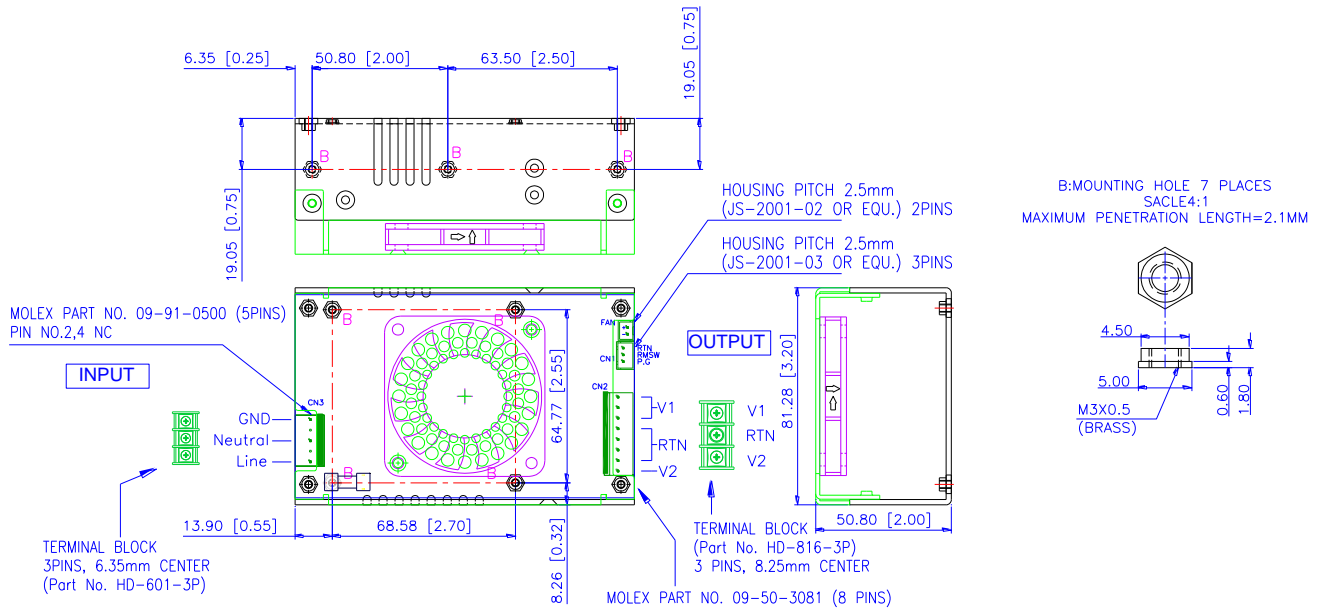


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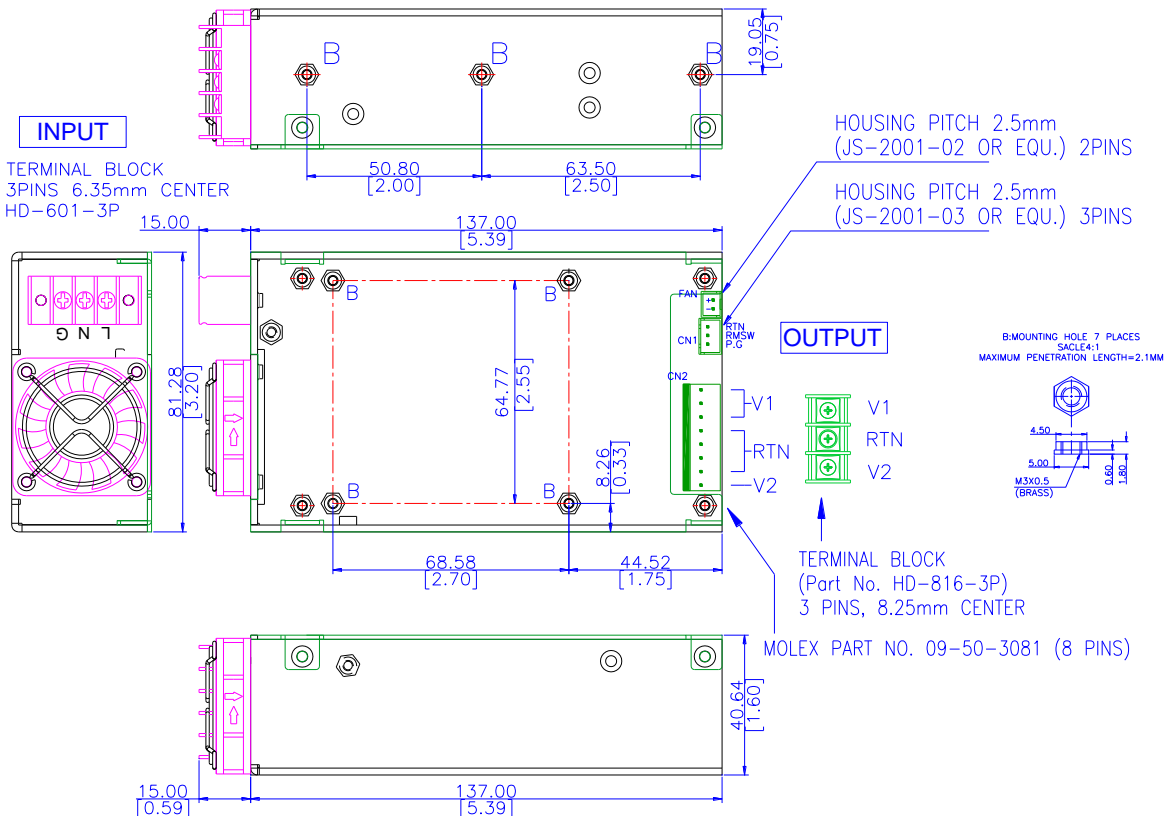
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RL0603DF Series (Enclosed with Top Fan Type): 5(L) x 3.2(W) x 2(H) inches; Weight: 550g.



RL0603DE Series (Enclosed with end built-in Fan): 5.39(L) x 3.2(W) x 1.6(H) inches; Weight: 550g.



NOTES:

Input Connector(CN3):

U and F Type: Mating Molex Part No. 09-93-0500 or equivalent (5 pin, 3 used) PCB Labeling: L = Line; N = Neutral; G = Chassis Ground; Molex Engineering Series 2478, 2578, 8818 or Howder M3. 3 pin Terminal block 6.35MM Center (HD-601-3P).
E type: : Terminal Block: Howder HD-602-3P.

Output Connector (CN2): Mating Molex Part No. 09-93-0800. Mating Pins: Molex Engineering Series 2478, 2578, 8818.
or Howder M3. 3 pin Terminal block 8.25MM Center (HD-816-3P).

Connector Pin Assignment: (See table in right).

Power Good, Remote On/Off mating connectors (CN1):

Mating JST Part No. XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03).

Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26.

Signal Pin Assignment:

Pins 1 : Power good .

Pins 2 : Remote Switch.

Pins 3 : RTN.

Fan Drive: Mating JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

Mounting Inserts: 7 Places M3. Maximum Penetration 2.1mm sees outline drawing for location.

Molex	Howder
Pins 1: V2	Pins 1: V2
Pins 2-5: RTN	Pins 2: RTN
Pins 6-8: V1	Pins 3: V1