



# ALD-D SERIES

## 50.4 WATT BUCK LED DRIVER



### Features

- \* LED Driver Current up to 1400mA
- \* Constant Current Output
- \* Digital Dimming Control
- \* High Efficiency up to 95%
- \* Continuous Short Circuit Protection
- \* High Reliability
- \* IP65 Protection

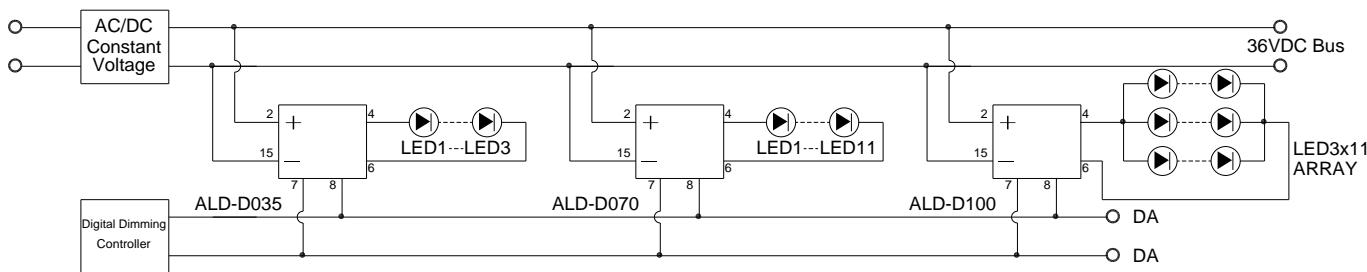


MODEL NUMBER	Input Voltage Range	Output Operating Voltage	Output Rated Current	Output Rated Power	Ripple and Noise (max.) Note2	Efficiency (TYPICAL) Note3
ALD-D035	6–50 VDC	3–45 VDC	350 mA	15.75 W	300 mVpp	95%
ALD-D050	6–50 VDC	3–45 VDC	500 mA	22.5 W	500 mVpp	95%
ALD-D070	6–50 VDC	3–45 VDC	700 mA	31.50 W	500 mVpp	95%
ALD-D100	6–50 VDC	3–45 VDC	1050 mA	47.25 W	500 mVpp	95%
ALD-D140	6–40 VDC	3–36 VDC	1400 mA	50.4 W	500 mVpp	95%

Note:

1. 3V<Vin-Vout<30Vdc, to keep current accuracy. Nominal Input Voltage: 48Vdc, 28Vdc (D140 models).
2. Ripple and Noise are measured at rated current, Nominal Input and 36Vdc or 24Vdc (D140 Models) Output and 20MHz Bandwidth with a 0.1uF Ceramic Capacitor.
3. Measured at Rated Current, Nominal Input and 36Vdc or 24Vdc (D140 Models) Output.
4. Acceptable Customer Modifications.

### Installation Drawing



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## Specifications

All specifications are Typical at nominal line, full load and 25°C unless otherwise noted

### INPUT SPECIFICATIONS:

Input Voltage	..... 1400mA/other	..... 6-40VDC/6-50Vdc
Input Surge Voltage (1second)	..... 1400mA/other	..... 50Vdc/65Vdc max.
Input Filter	.....	Capacitor
Under Voltage Lockout	Power up	4.2Vdc typ.
	Power down	3.8Vdc typ.

### OUTPUT SPECIFICATIONS:

Constant Current Accuracy (note1)	..... ±5% max.
Current Line Regulation (note2)	..... ±5% max.
Current Load Regulation (note3)	..... ±5% max.
Short Circuit Protection	..... Constant Current with Auto Recovery
Start up time	..... 60ms max.

### GENERAL SPECIFICATIONS:

Efficiency	..... See Table
Temperature Coefficient	..... ±0.05%/°C (0-50°C)
Isolation Voltage	..... Non-isolation
Switching Frequency	..... 500KHz typ.
Operating Ambient Temperature	..... -40~75°C see Derating Curve
Case Temperature	..... 100°C max.
Cooling	..... Natural Convection
Storage Temperature	..... -55-125°C
Operating Humidity	..... 10%~95%RH non-condensing
Operating Altitude	..... Sea Level to 3000m
Shock/Vibration	..... MIL-STD-810F

MTBF	..... MIL-HDBK-217F/25°C	..... 700Khrs typ.
Dimensions	..... Other: 1.60x0.93x0.40 Inches(40.6x23.5x10.1mm)	

Weight	..... PIN/LW/T	..... 18g/23g/30g
Case Material	.....	Plastic Case

### DIGITAL DIMMING CONTROL:

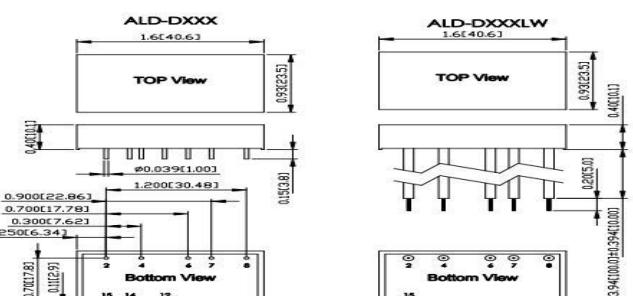
Output Current Dimming Range	..... 5%-100%
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### SAFETY AND EMISSIONS:

EMI	..... EN55022/EN55015 Class B
EMS	..... EN61547,EN61000-4-2, 3, 4, 5, 6

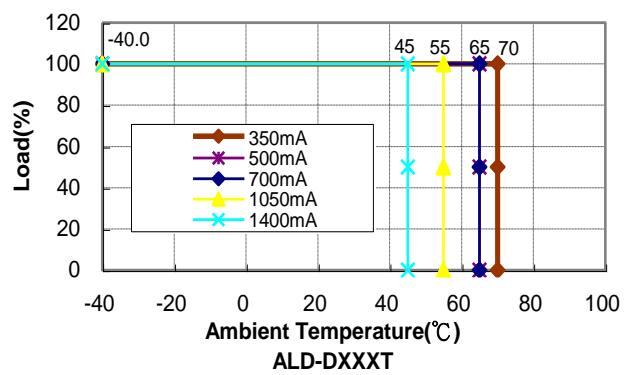
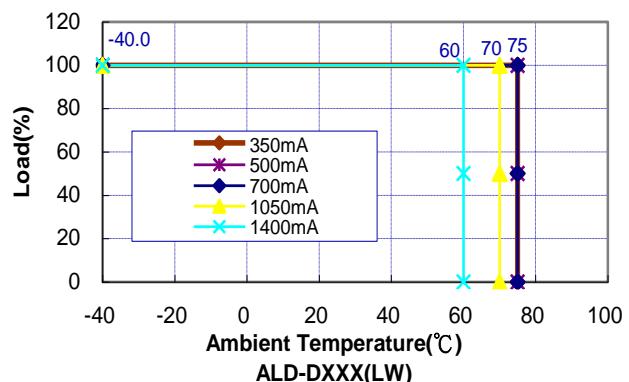
### Mechanical Specification

NOTE: Pin Size is 0.020" Inch (0.5mm) DIA±0.05  
All Dimensions In Inches[mm]  
Tolerance Inches:x.xx=±0.02, x.xxx=±0.010  
Millimeters: x.x=±0.5, x.xx=±0.25



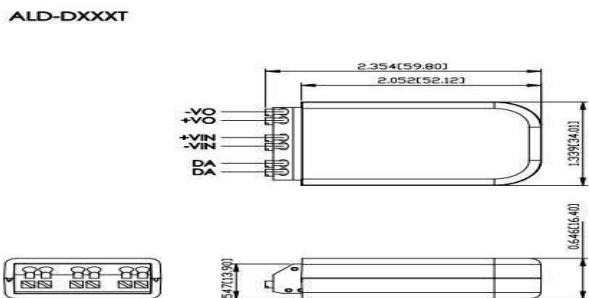
ALD CONNECTION	
Function	ALD-DXXX ALD-DXXXLW
+V Input	2 2 (Red)
-V Output	4 4 (Yellow)
-V Output	6 6 (Blue)
DA	7 7 (Brown)
DA	8 8 (Brown)
Analog Dimming	12 NC
PWM DIM	14 NC
-V Input	15 15 (Black)

## ALD Derating Curve



### NOTE:

1. 3V<Vin-Vout<30Vdc to keep current accuracy.
2. Current line regulation is measured from high line to low line.
3. Current load regulation is measured from high to low operating voltage.
4. Suffix "LW" to the model number with wire type.
5. Suffix "T" to the model number with terminal type and only meets IP20 Terminal: WAGO 250-108 or equivalent; wire range: 16~20 AWG.
6. Acceptable customer modifications.



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