Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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DLE25/35 Series

LED Drivers

XP Power

25/35 Watts

- AC Input LED Driver
- Constant Voltage/Constant Current Operation
- Constant Current Dimming Versions
- High Efficiency
- Water Proof to IP67
- Class 2
- 3 Year Warranty

The DLE series of AC input LED drivers incorporate universal input with active power factor correction in a two power stage design, eliminating flicker while providing a high efficiency solution. Designed as a class II isolation product, without the need for a safety earth, DLE series LED drivers are also approved as a class 2 limited power source, making them suitable for a wide range of applications. Dimmable constant current versions are available with the facility for PWM, voltage and resistance programming.

Dimensions:

DLE25/35:
4.33 x 2.89 x 1.30″ (110.0 x 73.5 x 33.0 mm)

Models & Ratings - Constant Voltage / Constant Current Models

Output Power	Output Voltage	Output Current	Output Voltage Range in Constant Current Mode	OVP Range	Efficiency[1]	Model Number
25 W	12 V	2100 mA	9 - 12 V	13.8-16.20 V	79.0%	DLE25PS12
25 W	24 V	1050 mA	12 - 24 V	27.6-32.40 V	80.0%	DLE25PS24
25 W	36 V	700 mA	24 - 36 V	41.4-48.60 V	80.0%	DLE25PS36
24 W	48 V	500 mA	33 - 48 V	55.2-64.80 V	80.0%	DLE25PS48
20 W	57 V	350 mA	40 - 57 V	65.5-76.95 V	78.0%	DLE25PS57
30 W	12 V	2500 mA	9 - 12 V	13.8-16.20 V	80.0%	DLE35PS12
34 W	24 V	1400 mA	12 - 24 V	27.6-32.40 V	81.0%	DLE35PS24
36 W	36 V	1000 mA	24 - 36 V	41.4-48.60 V	82.0%	DLE35PS36
34 W	48 V	700 mA	33 - 48 V	55.2-64.80 V	83.0%	DLE35PS48
28 W	57 V	500 mA	40 - 57 V	65.5-76.95 V	82.0%	DLE35PS57

Models & Ratings - Dimmable Models

Output Power	Output Voltage	Output Current	Output Voltage Range in Constant Current Mode	OVP Range	Efficiency[1]	Model Number
25 W	12 V	2100 mA	9 - 12 V	13.8-16.20 V	79.0%	DLE25PS2100-AD
25 W	24 V	1050 mA	12 - 24 V	27.6-32.40 V	80.0%	DLE25PS1050-AD
25 W	36 V	700 mA	24 - 36 V	41.4-48.60 V	80.0%	DLE25PS700-AD
24 W	48 V	500 mA	33 - 48 V	55.2-64.80 V	80.0%	DLE25PS500-AD
20 W	57 V	350 mA	40 - 57 V	65.5-76.95 V	78.0%	DLE25PS350-AD
30 W	12 V	2500 mA	9 - 12 V	13.8-16.20 V	80.0%	DLE35PS2500-AD
34 W	24 V	1400 mA	12 - 24 V	27.6-32.40 V	81.0%	DLE35PS1400-AD
36 W	36 V	1000 mA	24 - 36 V	41.4-48.60 V	82.0%	DLE35PS1000-AD
34 W	48 V	700 mA	33 - 48 V	55.2-64.80 V	83.0%	DLE35PS700-AD
28 W	57 V	500 mA	40 - 57 V	65.5-76.95 V	82.0%	DLE35PS500-AD

Notes

1. Typical efficiency at full load and 230 VAC input.

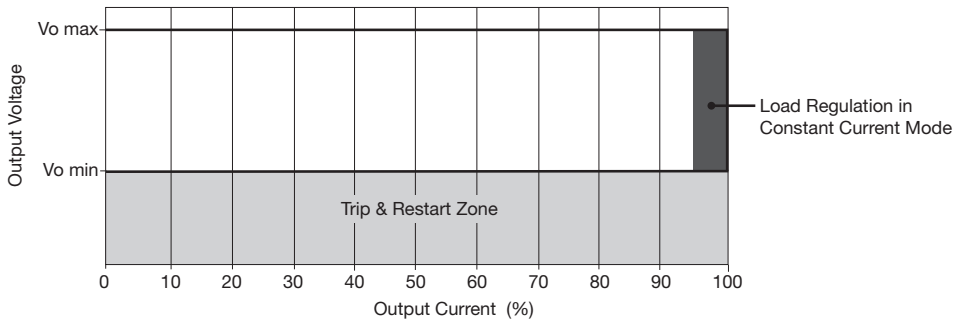
Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	90		305	VAC	See derating curve
Input Frequency	47		63	Hz	
Power Factor		>0.9			Measured at 230 VAC, full load
Input Current		0.6		A	115 VAC
		0.3			230 VAC
Inrush Current			45	A	230 VAC cold start, +25 ºC
Input Protection	Internal T1.0 A/250 V fuse fitted in line				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	12		57	VDC	See models and ratings table
Minimum Load					No minimum load required
Start Up Delay			2.0	s	Measured at 115 VAC
Hold Up Time	20			ms	
Line Regulation			±0.5	%	
Load Regulation		±1		%	Constant voltage mode
		±5			Constant current mode
Turn On Overshoot		7		%	Constant voltage mode
Transient Response			4	%	Deviation, recovery to within 1% in 10 ms for a 50% load change
Ripple & Noise			200/250/300	mV pk-pk	≤24 V/≤48 V/57 V. Measured using 12" twisted pair with 0.1 µF and 47 µF capacitors in parallel at 20 MHz bandwidth, at 25 °C
Overvoltage Protection					See models and ratings table, recycle AC to Reset
Overload Protection	95		105	%	Auto Recovery
Short Circuit Protection					Trip & restart (hiccup mode)
Temperature Coefficient		0.06		%/°C	
Overtemperature Protection			95	°C	

Constant Current Curve



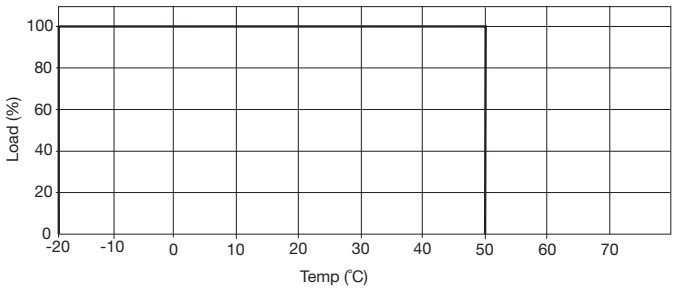
General

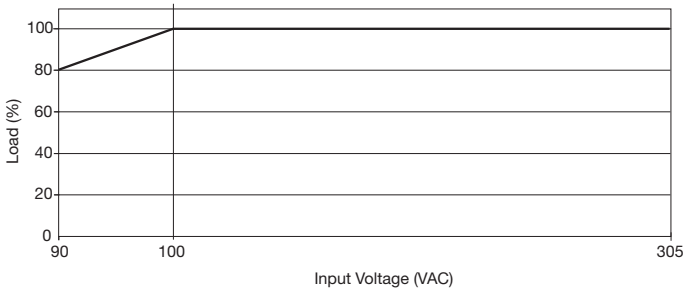
Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		82		%	See models and tables
Isolation: Input to Output	3750			VAC	
Switching Frequency		100		kHz	
Mean Time Between Failure		>200		kHrs	MIL-HDBK-217F at 25 °C GB
Weight		0.77 (350)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-20		+50	°C	See derating curve
Operating Humidity	5		100	%	RH, non-condensing
Storage Temperature	-40		+80	°C	Some specification parameters maybe exceeded until after 20 minutes warm up period.
Operating Altitude			3000	m	
Shock					30 g pk, half sine, 6 axes EN60068-2-27, -2-47 & MIL-STD-810F 514.5 cat 4
Vibration					10-500 Hz, 2 g, 10 mins/cycle, 6 cycles in each of axes

Derating Curves





EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55015	Class B	
Radiated	EN55015	Class B	
Harmonic Current	EN61000-3-2	Class C	
Voltage Fluctuations	EN61000-3-3		Pst = 6% of limit, P_{lt} = 4.3% of limit

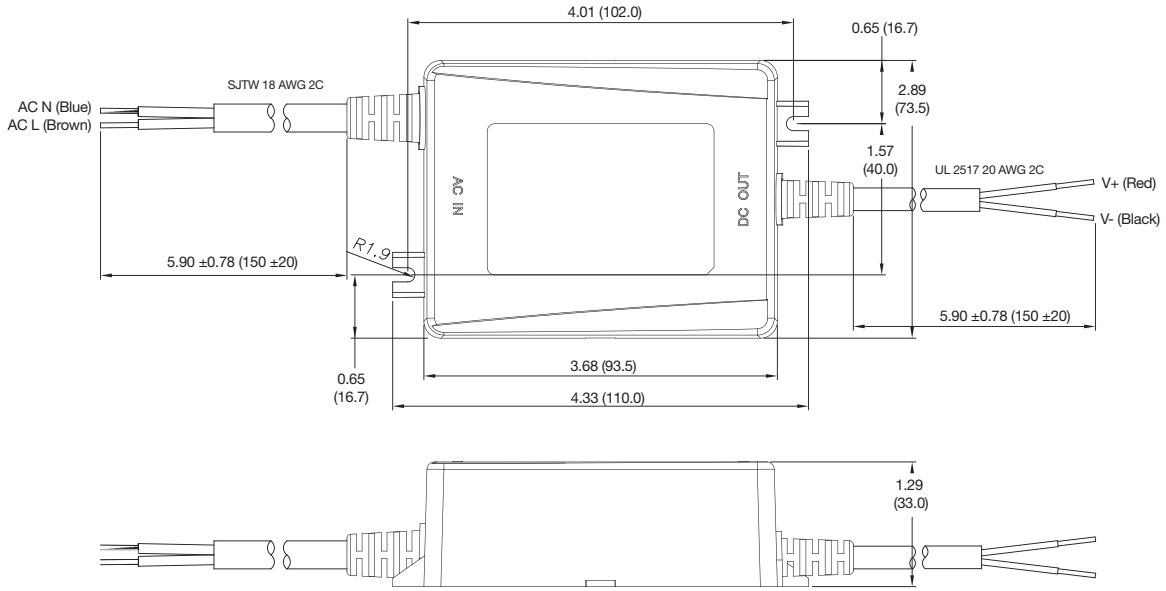
EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
Equipment for General Lighting Purposes	EN61547	as below	as below	
ESD Immunity	EN61000-4-2	3/2	A	±8 kV air ± 4 kV contact
Radiated Immunity	EN61000-4-3	2	A	
EFT/Burst	EN61000-4-4	2	A	
Surges	EN61000-4-5	Installation class 3	A	
Conducted	EN61000-4-6	2	A	
Magnetic Field	EN61000-4-8	2	A	
Dips and Interruptions	EN61000-4-11	Dip: 30%, 200 ms	A/B	At 230 VAC/100 VAC
		Int: 100%, 10 ms	A	
		Int: 100%, 8.4 ms	A	

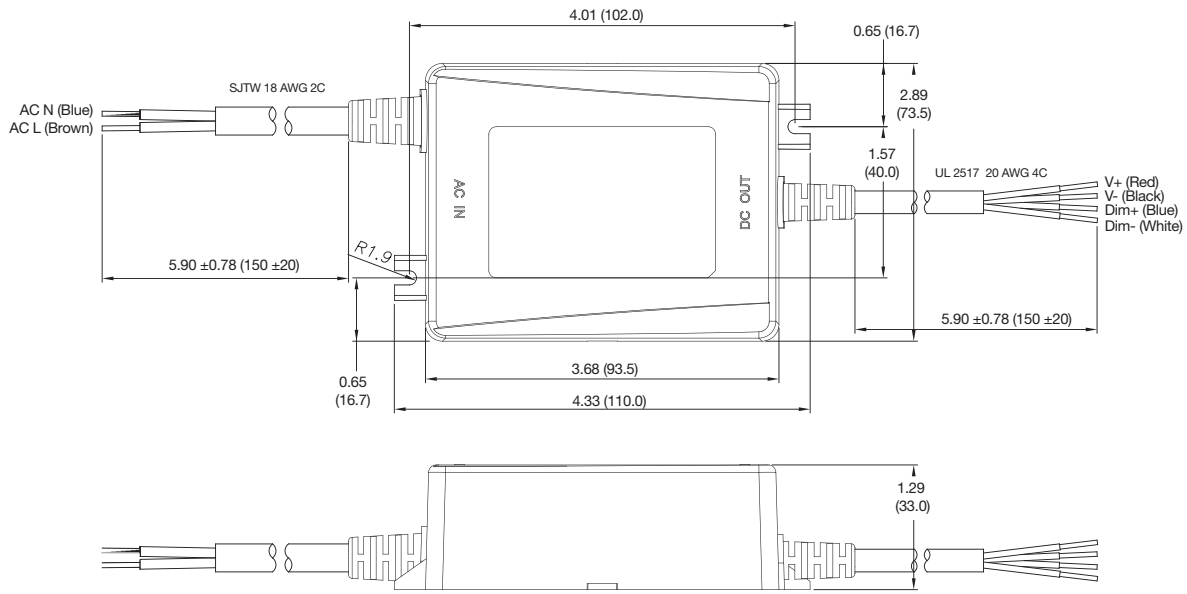
Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
CB	IEC60950-1:2005	Information Technology
UL	UL8750	Approved as Class 2 product
TUV	EN61347	
CE	CE Mark	
IEC	IEC61347-2-13 used in conjunction with IEC61347-1	
IP	IEC60529	

Mechanical Details - Constant Voltage / Constant Current



Mechanical Details - Dimmable Version

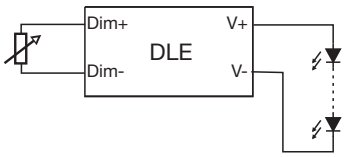


Notes

1. Dimensions shown in inches (mm).
2. Weight: 0.77 lb (350 g).
3. Tolerance: 0.X = ±0.008 (±0.2)
   0.XX = ±0.002 (±0.05)

Output Current Adjustment by Variable Resistor

Connect a variable resistor between Dim+ and Dim-.



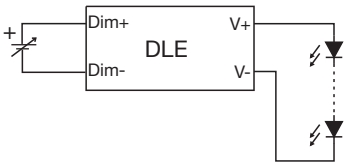
The Dimmed output current can be determined using the equation:

$$\text{Dimmed Current} = \frac{\text{Maximum Current x R}}{100\text{ k}}$$

Where the value of R is between 10 kΩ and 100 kΩ. The corresponding range of output current is 10% to 100%

Output Current Adjustment by DC Voltage

Connect a variable voltage betwen Dim+ and Dim-



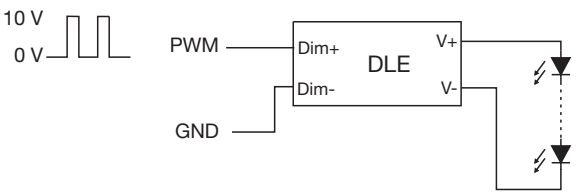
The dimmed output current is given by:

$$\text{Dimmed Current} = \frac{\text{Maximum Current x V}}{10\text{ k}}$$

Where V is the value of control voltage in the range of 1.0 V to 10.0 VDC. The corresponding range of output current is 10% to 100%.

Output Current Adjustment by PWM

A Pulse Width Modulated (PWM) signal with duty cycle D_{PWM} can be applied between Dim+ and Dim-.



The dimmed output current is given by:

Where Dpwm is the % of PWM duty cycle between 10% and 100%. The corresponding range of output current is 10% to 100%. PWM frequency should be in the range 0.5 kHz to 5 kHz

$$\text{Dimmed Current} = \text{Maximum Current x } D_{Pwm\ \%}$$