

RCD-24-PL Series

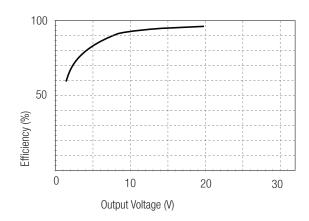
| Specifications (typical at 25°C, nominal input voltage, rated | output current unless otherwise specified) | |
|---------------------------------------------------------------|---------------------------------------------|----------------------------------------|
| Dimensions | | 31.0 x 11.4 x 6.6mm |
| Weight | | 1.9g |
| Packing Quantity | | 12 pcs per Tube / 400 pcs per Reel |
| Reflow Soldering Profile | | 265°C/10 sec max |
| MTBF | (using MIL HDBK 217F) +25°C | >600 khours |
| PWM Dimming and ON/OFF Control (Leave open if not used) | | |
| Remote ON/OFF | DC/DC ON | Open or 0V <vr<0.6v< td=""></vr<0.6v<> |
| Threshold Voltages | DC/DC OFF (Standby) | 0.6 <vr<2.9v< td=""></vr<2.9v<> |
| | DC/DC OFF (Full Shutdown) | 2.9V <vr<6v< td=""></vr<6v<> |
| Remote Pin Drive Current | Vr=5V | 1mA max |
| Quiescent Input Current in Shutdown Mode | Vin=36V | 200μA max |
| Recommended PWM Frequency | For Linear Operation | 200Hz |
| (measured 10%~90% Dimming) | Maximum Frequency | 1000Hz |
| Analogue Dimming Control (leave open if not used) | | |
| Input Voltage Range | 300-1000mA | -0.3V - 15V |
| Control Voltage Range Limits (see Graph) | 300-1000mA / Full On | $0.13V \pm 50mV$ |
| | 300-700mA / Full Off | $4.2V \pm 150 \text{mV}$ |
| | 1000mA / Full Off | $4.35V \pm 100 \text{mV}$ |
| Analogue Pin Drive Current | 300-1000mA / Vc=5V | 0.2mA max. |
| Environmental | | |
| Shock / Vibration | | EN61373 |
| EMC Railways | | EN50121-3-2:2006 |
| Conducted Emissions | 300-1000mA (/A Suffix) | EN55022, Class A |
| | 300-700mA (/B Suffix) | EN55022, Class B |
| Radiated Emissions | | EN55022, Class B |
| ESD | | EN61000-4-2, Criterion A |
| Radiated Immunity | | EN61000-4-3, Criterion A |
| Fast Transient | | EN61000-4-4, Criterion A |
| Conducted Immunity | | EN61000-4-6, Criterion A |
| | | |

Note

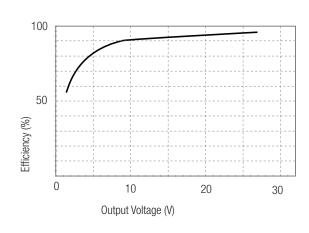
- 1. All LED Drivers may not be used without a load. They must be switched on the primary side only. Noncompliance may damage the LED or reduce its lifetime.
- 2. It is not possible to parallel the drivers to increase the current.

Typical Characteristics

Vin = 24V, lout = 300~1000mA



Vin = 32V, lout = 300~1000mA

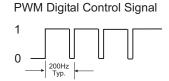




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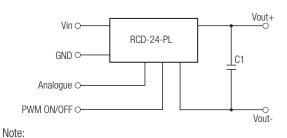
Dimming

Digital Dimming



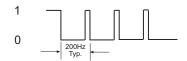
Output Current (LED appears dim)





3. If PWM dimming is used, a capacitor on output in parallel is required.

PWM Digital Control Signal

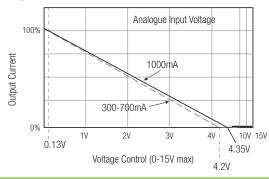


Output Current (LED appears bright)



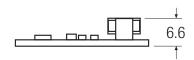
| P/N | C1 | |
|------------------|-------------|--|
| RCD-24-0.30/PL/X | | |
| RCD-24-0.35/PL/X | 33µF | |
| RCD-24-0.50/PL/X | | |
| RCD-24-0.60/PL/X | <i>17</i> E | |
| RCD-24-0.70/PL/X | 47μF | |
| RCD-24-1.00/PL/A | 150μF | |

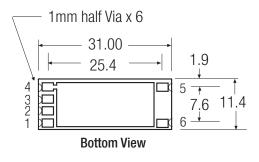
Analogue Dimming



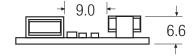
Package Style and Pinning

Class A Version

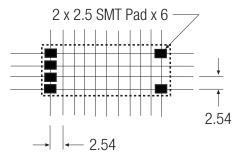




Class A (1.00A-Version) Class B Version



PCB Layout Top View



| Pad Connections | | RUD-24-PL Series |
|-----------------|------------------|-------------------------|
| Pad : | # Out | Comments |
| 1 | +Vin | DC Supply |
| 2 | Analogue Dimming | Leave open if not used |
| 3 | PWM/ON/OFF | Leave open if not used |
| 4 | GND | Do not connect to -Vout |
| 5 | -Vout | LED Cathode Connection |
| 6 | +Vout | LED Anode Connection |

 $\begin{array}{ll} \text{XX.X} & \pm~0.5~\text{mm} \\ \text{XX.XX} & \pm~0.25~\text{mm} \end{array}$

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