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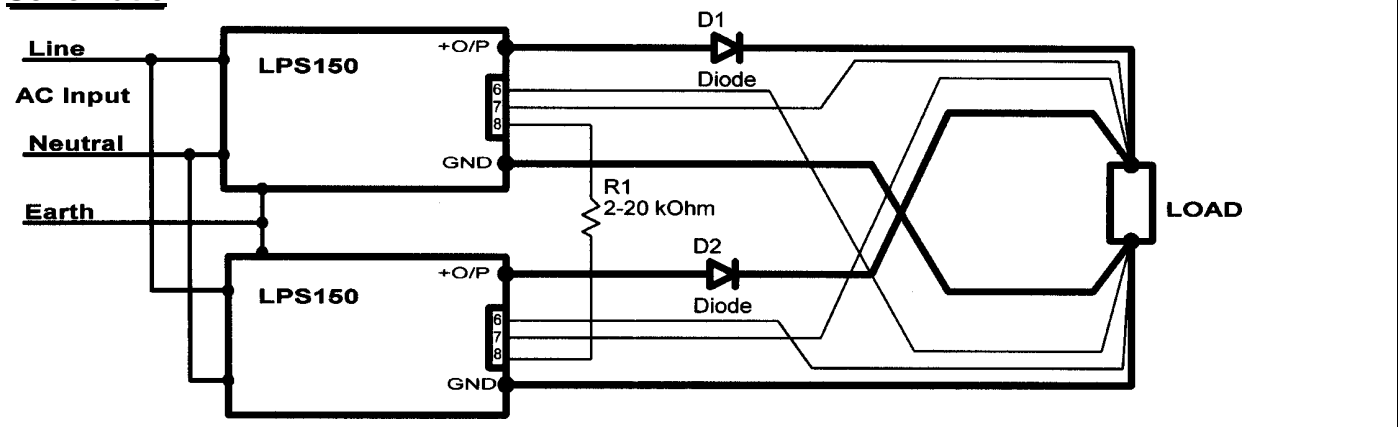
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Application Note Number 13

Product: LP 150
Application Overview: Single Wire Current Share, N+1 & Hot Swap feature

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Schematic



Description

In some applications it is desirable to operate a number of power supplies in a parallel configuration. In these configurations it is important to ensure that the output from each PSU is within its rated operating current. Some power supplies, which are specifically designed for parallel operation, include a current share feature. This normally takes the form of a single wire control connection between paralleled units which forces all units to share the load current equally between them. This ensures that the output from each unit remains within its rating for all loads up to the rated power of the system.

Above schematic is applicable for the LPS150 Series and LPQ150 Series main outputs for parallel and N+1 redundant systems. The diodes shown are optional and are fitted for reverse voltage protection purposes only. They are typically fitted in applications which require power supply redundancy and/or a hot swap feature. The voltage drop across the diodes is compensated by using remote sense. It is not essential to add resistor, R1, since the single wire parallel (SWP) function is designed to operate with hard wired connection. However, experience has shown that EMC improvements can be achieved by including a resistor with a value typically between 2 kΩ and 20kΩ. The exact value of R1 will need to be established empirically within the final application since the EMC performance is substantially dependant on the system configuration.

Current share accuracy is typically 2% of full load for units operating at 50% and above rated output.

- Pin 6 = negative sense line
- Pin 7 = positive sense line
- Pin 8 = single wire parallel (current share)