

8.4.14 RSP/RSN Remote Sense Function

RSP and RSN pins are used for remote sensing purpose. In the case where feedback resistors are required for output voltage programming, the RSP pin should be connected to the mid-point of the resistor divider and the RSN pin should always be connected to the load return.

In the case where feedback resistors are not required as when the VSEL programs the output voltage set point, the RSP pin should be connected to the positive sensing point of the load and the RSN pin should always be connected to the load return. RSP and RSN pins are extremely high-impedance input terminals of the true differential remote sense amplifier. The feedback resistor divider should use resistor values much less than 100 k Ω . A simple rule of thumb is to use a 10-k Ω lower divider resistor and then size the upper resistor to achieve the desired ratio.

- The RSP and RSN pins operate as inputs to a differential remote sense amplifier that operates with very high impedance. It is essential to route the RSP and RSN pins as a pair of diff-traces in Kelvin-sense fashion. Route them directly to either the load sense points (+ and –) or the output bulk capacitors. The internal circuit uses the VOSNS pin for on-time adjustment. It is critical to tie the VOSNS pin directly tied to VOUT (load sense point) for accurate output voltage result.

