Shunt Low Dropout (SLDO)

SLDO is a high precision voltage regulator which will be integrated with the AncASIC to supply power to the EIC-LAS.

SLDO Table

1. SLDO ID (unique)
2. Wafer ID (unique)
3. Testing institute (assuming all tests are done at one location)
4. Arrival date
5. Equipment

Test conditions Table

1. SLDO ID (unique)
2. Test ID (unique)
3. Test name (Eg: Power ramp up/PSRR/Power Ramp rate/DAC Scan/Overcurrent/Irradiation)
4. Mode (Eg: Mode 0 and Mode 1)
5. Voltage ramp rates (Default value 3.1kV/s (from chip specification))
6. Load capacitance (4 enums)
7. Load current (3 enums)
8. Temperature (4 enums)

Power Ramp up table

Initial power supply test.

1. Test ID (Unique)
2. V_in target (Default value 1.55V (from chip specification))
3. I_in limit (Default value 1.5A(from chip specification))
4. V_out

PSRR Table

PSRR- Power supply rejection ratio(dB).

1. Test ID (Unique)
2. V_in target (Default value 1.55V (from chip specification))
3. I_in limit (Default value 1.5A(from chip specification))
4. Signal amplitude
5. Signal frequency
6. V_out amplitude.
7. PSRR

Power ramp rate Table

Effects of power supply ramp rate on the output voltage.

1. Test ID (Unique)
2. V_in target (Default value 1.55V (from chip specification))
3. I_in limit (Default value 1.5A(from chip specification))
4. T_ramp
5. V_out

DAC Scan Table

Effects of Digital to Analogue Converter codes on the output voltage.

1. Test ID (Unique)
2. V_in target (Default value 1.55V (from chip specification))
3. I_in limit (Default value 1.5A(from chip specification))
4. DAC code (31 values)
5. V_out (31 values)

Over current Table

Responsiveness of the circuit to an over current scenario.

1. Test ID (Unique)
2. V_in target (Default value 1.55V (from chip specification))
3. I_in limit (Default value 1.5A(from chip specification))
4. I_excess
5. V_out
6. I_out
7. I_in

Irradiation Table

Effects of irradiation on the output voltage and current as well as the input current.

1. Test ID (Unique)
2. V_in target (Default value 1.55V (from chip specification))
3. I_in limit (Default value 1.5A(from chip specification))
4. Irradiation dose
5. V_out
6. I_out
7. I_in