## Agilent Models N6731A - N6735A and N6742A - N6745A

| | N6731A | N6732A/N6742A | N6733A/N6743A | N6734A/N6744A | N6735A/N6745A |
|---|---|---|---|---|---|
| **DC Output Ratings:** | | | | | |
| Voltage | 5 V | 8 V | 20 V | 35 V | 50 V |
| Current | 10 A | 6.25 A / 10 A | 2.5 A / 5 A | 1.5 A / 3 A | 0.8 A / 1.6 A |
| Power | 50 W | 50 W / 80 W | 50 W / 100 W | 52.5 W / 105 W | 40 W / 80 W |
| **Output Ripple and Noise (PARD):** (from 20 Hz – 20 MHz) | | | | | |
| CV peak-to- peak | 10 mV | 12 mV | 14 mV | 15 mV | 20 mV |
| CV rms | 2 mV | 2 mV | 3 mV | 5 mV | 9 mV |
| **Load Effect (Regulation):** NOTE 1 | | | | | |
| Voltage | 2 mV | 2 mV | 2 mV | 4 mV | 6 mV |
| Current | 2 mA | 2 mA | 2 mA | 2 mA | 2 mA |
| **Source Effect (Regulation):** | | | | | |
| Voltage | 1 mV | 2 mV | 2 mV | 4 mV | 6 mV |
| Current | 1 mA | 1 mA | 1 mA | 1 mA | 1 mA |
| **Programming Accuracy:** NOTE 2 (at 23 °C ± 5 °C after a 30 minute warm-up) | | | | | |
| Voltage | 0.1% + 19 mV | 0.1% + 19 mV | 0.1% + 20 mV | 0.1% + 35 mV | 0.1% + 60 mV |
| Current | 0.15% + 20 mA | 0.15% + 20 mA | 0.15% + 20 mA | 0.15% + 20 mA | 0.15% + 20 mA |
| **Measurement Accuracy:** (at 23 °C ±5 °C) | | | | | |
| Voltage | 0.1% + 20 mV | 0.1% + 20 mV | 0.1% + 20 mV | 0.1% + 35 mV | 0.1% + 60 mV |
| Current | 0.15% + 20 mA | 0.15% + 10 mA | 0.15% + 5 mA | 0.15% + 4 mA | 0.15% + 4 mA |
| **Load Transient Recovery Time:** (time to recover to within the settling band following a load change from 50% to 100% and from 100% to 50% of full load.) | | | | | |
| Voltage settling band | ± 80mV | ± 80mV | ± 200mV | ± 200mV | ± 200mV |
| Time | < 200 µs | < 200 µs | < 200 µs | < 200 µs | < 200 µs |

[1] With an output change from no load to full load, up to a maximum load-lead drop of 1 V per lead.

[2] Applies from minimum to maximum programming range. (see Supplemental Characteristics)

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|---|---|---|---|---|---|
| **Programming Ranges:** | | | | | |
| Voltage | 20 mV – 5.1 V | 20 mV – 8 .16 V | 20 mV – 20.4 V | 20 mV – 35.7 V | 20 mV – 51 V |
| Current | 10 mA – 10.2 A | 10 mA – 6.375 A/ 10 mA – 10.2 A | 10 mA – 2.55 A/ 10 mA – 5.1 A | 10 mA – 1.53 A/ 10 mA – 3.06 A | 10 mA – 0.816 A/ 10 mA – 1.63 A |
| **Programming Resolution:** | | | | | |
| Voltage | 3.5 mV | 4 mV | 5 mV | 9 mV | 13 mV |
| Current | 5 mA | 3.25 mA | 3.25 mA | 3.25 mA | 3.25 mA |
| **Measurement Resolution:** | | | | | |
| Voltage | 3 mV | 4 mV | 10 mV | 18 mV | 30 mV |
| Current | 10 mA | 7 mA | 3 mA | 2 mA | 1 mA |
| **Output Ripple and Noise (PARD):** | | | | | |
| CC rms | 8 mA | 4 mA | 2 mA | 2 mA | 2 mA |
| **Common Mode Noise:** | | | | | |
| (from 20 Hz – 20 MHz; from either output to chassis) | | | | | |
| Rms | 1 mA | 1 mA | 1 mA | 1 mA | 1 mA |
| peak-to-peak | < 10 mA | < 10 mA | < 10 mA | < 10 mA | < 10 mA |
| **Over-voltage Protection:** | | | | | |
| Accuracy | 0.25% + 250 mV | 0.25% + 250 mV | 0.25% + 250 mV | 0.25% + 250 mV | 0.25% + 300 mV |
| Response time | 50 μs from occurrence of over-voltage condition to start of output shutdown | | | | |
| **Maximum Up-programming and Down-programming Time with full resistive load:** | | | | | |
| (time from 10% to 90% of total voltage excursion) | | | | | |
| Voltage setting from 0 V to full scale and full scale to 0V | 10 ms | 10 ms | 10 ms | 10 ms | 10 ms |
| **Maximum Up-programming and Down-programming Settling Time with full resistive load:** | | | | | |
| (time from start of voltage change until voltage settles within 0.1% of the full-scale voltage of its final value) | | | | | |
| Voltage setting from 0 V to full scale and full scale to 0V | 100 ms | 100 ms | 100 ms | 100 ms | 100 ms |
| **Remote Sense Capability:** | | | | | |
| | Outputs can maintain specifications with up to a 1-volt drop per load lead. | | | | |
| **Series and Parallel Operation:** | | | | | |
| | Similarly rated outputs can be operated directly in parallel or can be connected for straight series operation. Auto-series and auto-parallel operation is not available. | | | | |