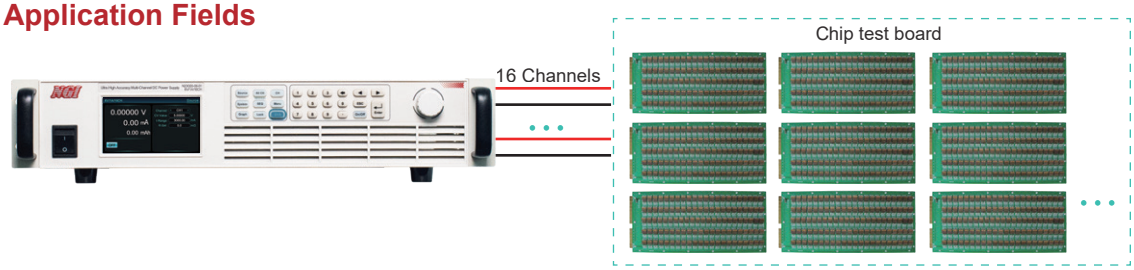
N23020 Series Ultra High Accuracy Multi-channel Programmable DC Power Supply

Product Introduction

N23020 series is a ultra-high precision, multi-channel programmable DC power supply developed for the semiconductor industry, it can provide ultra-precision, stable and pure power supply for chips, with environmental test chamber for a number of environmental reliability tests. Product voltage accuracy up to 01.mv, support nA-level current measurement, single unit within up to 16 channels, support local/remote (LAN/RS485/CAN) control, to meet the needs of chip batch, automatic testing.

Application Fields



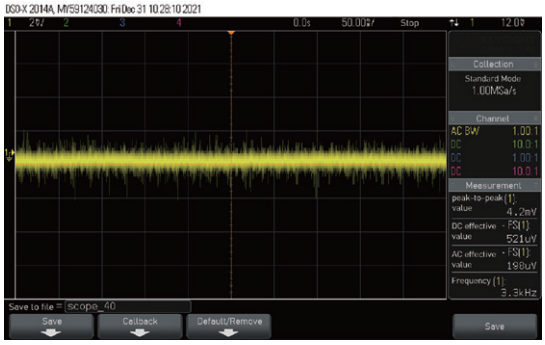
Ultra High Precision Multi Channel DC Power Supply

Environmental Test Chamber

To complete HTOL, LTOL, ELFR/EFR, HAST, THB, etc., and support chip leakage current measurement test within Environmental Test Chamber

Main Features

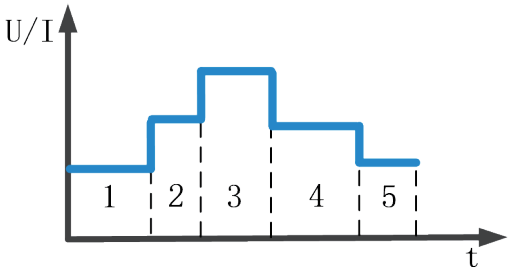
- **Accuracy and stability Ensure test reliability:** Reliability test usually requires multiple chips to run for a long time under power supply. Take HTOL as an example, the number of samples are at least 231 pieces and the test time is up to 1000 hours. N23020 voltage precision is 0.1mV, long-term stability 40ppm/1000h, voltage ripple noise ≤2mVrms, can effectively ensure the reliability of the user test process all round protection, ensure the safety of instruments and products under test.



- **Ultra-high integration, saving user investment:** In the process of chip R&D, flow sheet and mass production, Usually it is necessary to carry out reliability test on multiple groups of samples. In addition, the leakage current of chip or jointed board is also an important test index. The traditional scheme usually adopts multiple linear power sources with data sampling, which is troublesome to connect and occupies test space. The N23020 integrates up to 16 power channels in a 19-inch 2U chassis to support nA-level current measurement, providing a highly integrated solution for large-scale chip testing.

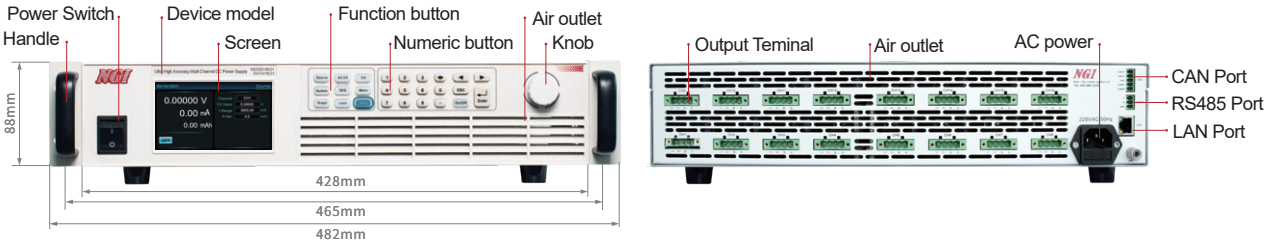
- **Fast dynamic response:** N23020 is provided fast dynamic response capability, under the full voltage output, the load changes from 10% to 90%, voltage recovery to the original voltage reduction within 50mV time is less then 100μs, to ensure that the voltage or current rise waveform within high speed and no over impulse, to provide stable power supply for the chip under test.

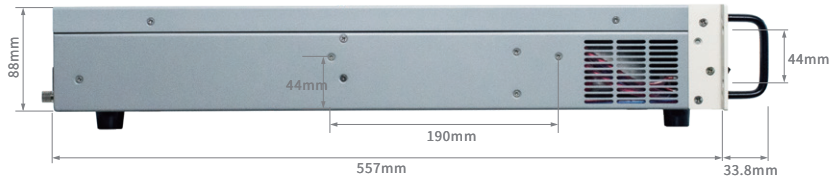
- **Sequence editing:** N23020 supports sequence editing function. Users can set output voltage, output current and single step running time. 100 groups of voltage and current sequences can be customized locally.



- **Various communication interface, meet the requirement of automatic test:** support RS485, LAN, CAN port, convenient for users to build automatic test system.

Product Dimension





Technical Data Sheet

Model	N23020-06-01	
Voltage		
Range	0~6V	
Setting Resolution	0.01mV	
Setting Accuracy (23±5℃)	0.001%+0.1mV	
Readback Resolution	0.01mV	
Readback Accuracy (23±5℃)	0.001%+0.1mV	
Ripple Noise(20Hz~20MHz)	≤2mVrms	
Long-term Stability	40ppm/1000h	
Temperature Coefficient	10ppm/℃	
Current		
Range	0~1A	0~1mA
Setting Resolution	0.01mA	0.01μA
Setting Accuracy (23±5℃)	0.001%+0.5mA	0.001%+0.5μA
Readback Resolution	0.01mA	0.01μA
Readback Accuracy (23±5℃)	0.001%+0.5mA	0.001%+0.5μA
Long-term Stability	40ppm/1000h	
Temperature Coefficient	20ppm/℃	
Dynamic Characteristics		
Voltage Rise Time(10%~90%)	≤25ms(no load, pure resistance full load)	
Voltage Fall Time(90%~10%)	≤3ms(no load)	≤10ms(pure resistance full load)
Transient Recovery Time [1]	<100μs	
Others		
Isolation Voltage (Output to ground)	1000V DC	
Isolation Voltage (Inter-channel)	500V DC	
Operating Environment	Operating temperature:0℃~40℃; storage temperature:-20℃~60℃; altitude＜2000m; relative humidity:5%~90%RH(non-condensing); atmosphere pressure:80~110kPa	
Interface	LAN/RS485/CAN	
AC Input	Single phase 220V AC±10%, frequency 47Hz~63Hz, current ≤2A@220V	
Net Weight	Approx.20kg	
Dimension	88.0mm(H)*482.0mm(W)with handle*557.0mm(D)	

Note 1: Load varies from 10% to 90% by full voltage output, with voltage recovering within 50mV of previous voltage.
Note 2: For other specifications, please contact NGI.
Note 3: All specifications are subject to change without notice.