ITECH

YOUR POWER TESTING SOLUTION

**Product**

IT-M3200 High Accuracy Programmable DC Power Supply

# TINY BUT MIGHTY

Ultra-compact / Flexible / High precision

# IT-M3200 High Accuracy Programmable DC Power Supply

## APPLICATIONS

- Smart Wearable Device Testing
- Sensor Module Testing
- Semiconductor IC Testing
- 5G Testing

Your contact:


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Professional Power Supplies

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*Your Power Testing Solution*

High resolution, up to 10nA

Low ripple and low noise

Four ranges of current measurement

CC/CV priority


IT-M3200 high-precision programmable DC power supply adopts a mixed modes design, which not only takes into account high power and low ripple output, but also has dynamic load response, switching between multiple current measurement ranges. It meets various current measurement requirement from ampere level to micro-ampere level.

IT-M3200 has a flexible modular architecture, independent multi-channel design with synchronous operation function. Users can configure each channel arbitrarily according to the test requirements of the DUT. The maximum channels is up to 16*16 which can meet various customized test requirements. It is widely used in the test fields of 3C products, semiconductor devices, 5G, IoT and medical electronic equipment, etc.

## FEATURE

- 1U Half-rack, maximum power is up to 360W
- Wide range measurement
- Low ripple and noise
- High resolution, high accuracy and high stability
- Current readback is up to 10nA
- Four current measurement ranges Low/Middle/High/Auto
- CC/CV priority setting
- Foldback
- Adjustable rise/fall time, soft start / stop
- Multi-channel independent control, one communication card can control 16 channels, up to 256 channels
- Different timing output of each channel to achieve synchronization or proportional tracking
- List
- Support multiple communication protocol,CANOPEN,LXI,SCPI
- Five optional cards, supporting RS232,CAN,LAN,GPIB, USB_TMC,USB_VCP,RS485, analog and IO
- Multiple protection, OVP/OCP/OTP/OPP/UVP/UCP

| Model | Voltage | Current | Power |
|---|---|---|---|
| IT-M3223 | 60V | 10A | 100W |
| IT-M3233 | 60V | 10A | 200W |
| IT-M3243 | 60V | 10A | 360W |
| IT-M3253 | 20V | 20A | 100W |
| IT-M3263 | 20V | 20A | 200W |
| IT-M3273 | 20V | 20A | 360W |

**01** IT-M3200 high-precision programmable DC power supply

# Your Power Testing Solution

IT-M3200 high-precision programmable DC power supply

## Application Fields

### Smart sensor module testing

Acceleration sensor, gyroscope test, flow sensor, pressure sensor test, etc.

### 5G test

GSM module, WiFi module, optical module test, etc.

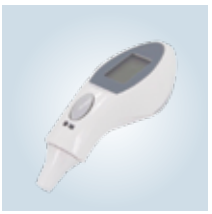
### Power semiconductor discrete device testing

IGBT chip test, power management chip, LED / OLED display power consumption test, etc.

### Wearable device testing

Medical wearable devices, smart bracelet testing, etc.



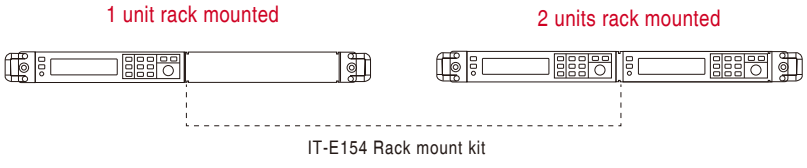




## 1U half rack Mini size

IT-M3200 provides 360W power output with 1U half rack size. Besides of the high-power density, it has high resolution, high accuracy and multi-range measurement functions. With auto-ranging design, the device covers a wide range of application requirements.


## Modular design, flexible combination

The unique plug-in design makes it as simple as building blocks to stack IT-M3200 devices, without purchasing any additional accessories. Meanwhile, users can choose optional IT-E154 rack mount kit to install one or more units into a standard 19-inch cabinet easily.

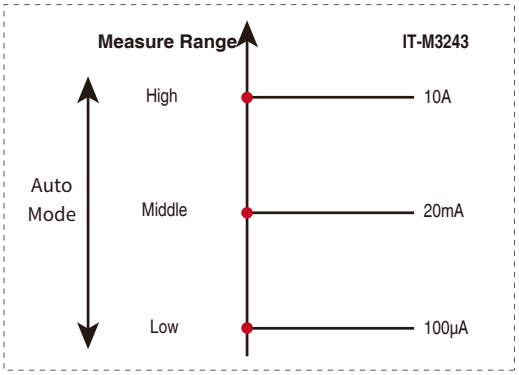



# Your Power Testing Solution

IT-M3200 high-precision programmable DC power supply

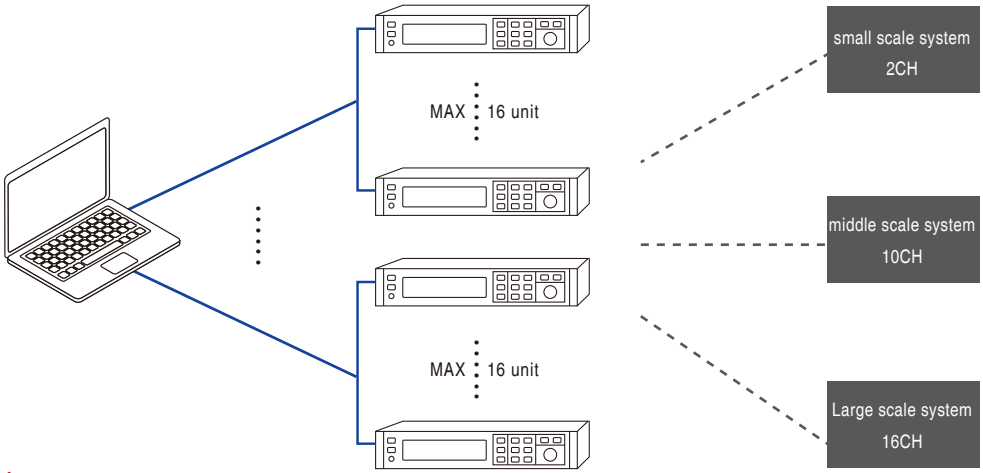
## Multi-level current range

IT-M3200 provides multi-level (Low/Middle/High/Auto) current range switching, with resolution up to 10nA, to meet the current measurement needs from Amp level to micro-amp level. The user can realize the flexible switching between low and high current measurement at the Auto level, no need to control manually. This function is suitable for testing in the fields of 5G, wearable devices and other low power consumption products.



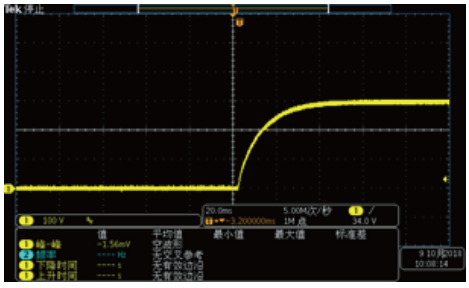

## Multiple channel independent control

IT-M3200 Series is provided with independent multi-channel design to simplify the complex wiring between device and PC. When the communication interface of 1 unit IT-M3200 of a multi-channel system is connected with PC, we may realize remote control of 16*16 channels at maximum.

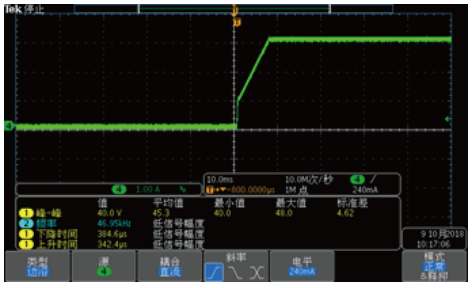



## CC&CV Priority

IT-M3200 series have CC/CV priority function, which helps the user to solve the problems, and make the tests easier especially for the applications of high speed power supply or no overshooting current. Users can get fast voltage rising time by CV priority mode. This is helpful in the high-speed voltage test.Users can also choose CC priority mode to output no overshooting current. It's good for test DUT under CC working condition. This is used in various application fields such as laser test, IC test, charge and discharge test, transient simulation of power supply in automotive electronics and so on.



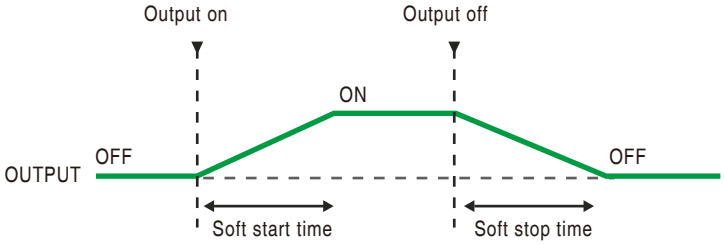
CV priority, voltage without overshoot



CC priority, current without overshoot

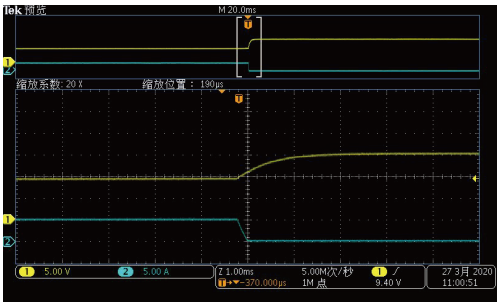
## Soft start/ stop function

IT-M3200 Series can be set the rise up and fall time of output voltage or current to prevent the sudden up and down of voltage at the moment of onloading or unloading, triggering the DUT false protection action.

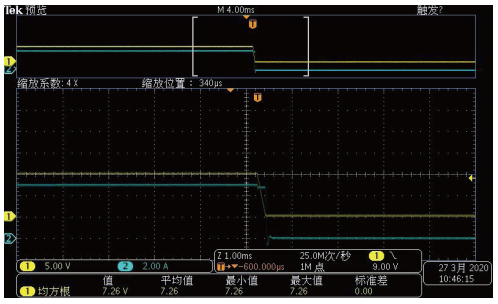



## Foldback protection

IT-M3200 Series with Foldback protection function, is used for turn off the output when the power supply is switched by CV/CC, so as to protect certain DUT that are sensitive to voltage overshoot and current overshoot. User can specify working mode and set the delay time protection, if the current working mode is switched, it will trigger the protection and turn off the output when the delay time is used up.



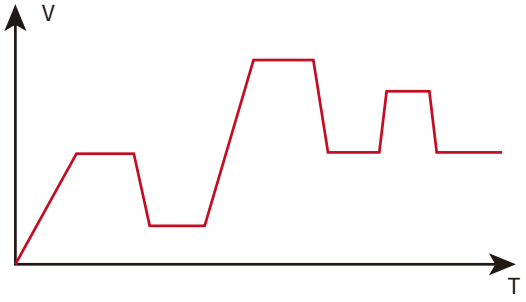
CC to CV, no overshoot



CV to CC, no overshoot

## List Function

Users can modify and edit the output waveform of the voltage and current with time according to customer's test requirements without use the software, also can control the voltage rise and decline slope. the power supply will automatically transform the output according to pre-edited waveform after receiving the trigger signal.



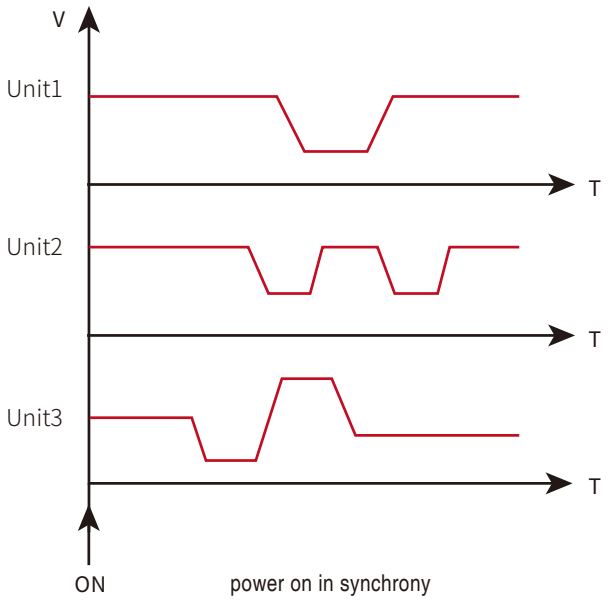
# Your Power Testing Solution

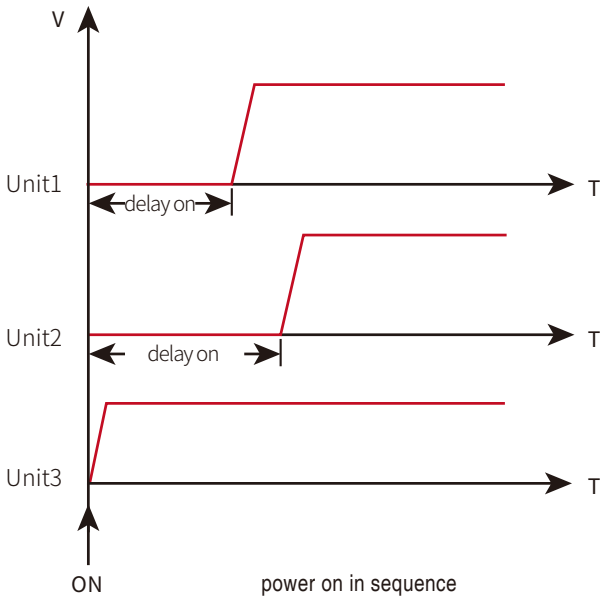
IT-M3200 high-precision programmable DC power supply

## Link function

The Link function is mainly designed for the cascade control of multiple devices. It is especially suitable for the multiple DUT synchronized testing or the application of multi-channel power input. IT-M3200 series support Duplicate / On-Off / Track of three modes, user only need to set the parameters on one of the power supplies, then automatically copy the set parameters or proportionally synchronize to other devices of M3200 series in the cascade circuit.

IT-M3200 series may performance two solutions of synchronous power-on and in sequence power-on When the link-on / off function is used with the on / off delay function in the menu.



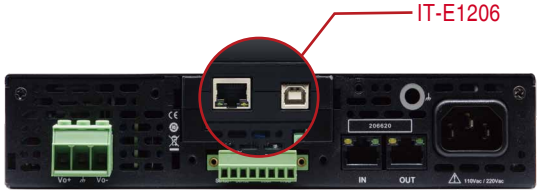




## Optional accessories

IT-M3200 series provides below optional multiple interfaces on rear panel to realize different functions, like communication interface, external analog interface.

| Pictures | Model | Interface |
|---|---|---|
|  | IT-E1205 | GPIB Interface |
|  | IT-E1206 | USB/LAN Interface |
|  | IT-E1207 | RS–232/CAN Interface |
|  | IT-E1208 | Analogue interface /RS485 Interface |
|  | IT-E1209 | USB Interface |
|  | IT-E154A/B/C | Rackmount Kits |

Standard rear panel




Rear panel with optional interface

## Specification

| | | | IT-M3223 | IT-M3233 | IT-M3243 |
|---|---|---|---|---|---|
| Rated Value ( 0 ℃-40 ℃) | Voltage | | 0~60V | 0~60V | 0~60V |
| | Current | | 0~10A | 0~10A | 0~10A |
| | Power | | 100W | 200W | 360W |
| Load Regulation (%of Output+Offset) | Voltage | | ≤0.01% + 5mV [3] | ≤0.01% + 5mV [3] | ≤0.01% + 5mV [3] |
| | Current | | ≤0.05% + 2mA | ≤0.05% + 2mA | ≤0.05% + 2mA |
| Line Regulation (%of Output+Offset) | Voltage | | ≤0.02% + 3mV | ≤0.02% + 3mV | ≤0.02% + 3mV |
| | Current | | ≤0.05% + 1mA | ≤0.05% + 1mA | ≤0.05% + 1mA |
| Setup Resolution | Voltage | | 1mV | 1mV | 1mV |
| | Current | | 1mA | 1mA | 1mA |
| Readback Resolution | Voltage | | 1mV | 1mV | 1mV |
| | Current | 10A Range | 1mA | 1mA | 1mA |
| | | 20mA Range | 1uA [4] | 1uA [4] | 1uA [4] |
| | | 100uA Range | 10nA [4] | 10nA [4] | 10nA [4] |
| Setup accuracy within 12 months, 23 ℃±5 ℃ ±(%of Output + Offset) | Voltage | | ≤0.03% + 12mV [5] | ≤0.03% + 12mV [5] | ≤0.03% + 12mV [5] |
| | Current | | ≤0.05% + 5mA | ≤0.05% + 5mA | ≤0.05% + 5mA |
| Readback accuracy within 12 months, 23 ℃±5 ℃ ±(%of Output + Offset) | Voltage | | ≤0.03% + 8mV | ≤0.03% + 8mV | ≤0.03% + 8mV |
| | Current | 10A Range | ≤0.05% + 5mA | ≤0.05% + 5mA | ≤0.05% + 5mA |
| | | 20mA Range | ≤0.05% + 20uA [1] | ≤0.05% + 20uA [1] | ≤0.05% + 20uA [1] |
| | | 100uA Range | ≤0.05% + 100nA [1] | ≤0.05% + 100nA [1] | ≤0.05% + 100nA [1] |
| Ripple (20Hz -20MHz) | Voltage | | Typical ≤ 8mVp-p , ≤ 1mV rms | | |
| | Current | | ≤3mArms | ≤3mArms | ≤3mArms |
| Rise Time (Fast mode under no load) | Voltage | | ≤ 30ms [2] | ≤ 30ms [2] | ≤ 30ms [2] |
| Rise Time (Fast mode under full load) | Voltage | | ≤ 30ms [2] | ≤ 30ms [2] | ≤ 30ms [2] |
| Fall Time(Fast mode under no load) | Voltage | | ≤ 50ms [2] | ≤ 50ms [2] | ≤ 50ms [2] |
| Fall Time(Fast mode under full load) | Voltage | | ≤ 10ms [2] | ≤ 10ms [2] | ≤ 10ms [2] |
| Rise Time (Full load) | Current | | ≤ 30ms [2] | ≤ 30ms [2] | ≤ 30ms [2] |
| Dynamic Response | from 50%-100% LOAD to 75 mV ≤ 50uS | | | | |
| Sense | 1V per each lead | | | | |
| Programming Reaction(typic value) | 5ms | | | | |
| Stability of setup value-30min (%of Output +Offset) | Voltage | | 0.01% + 1mV | 0.01% + 1mV | 0.01% + 1mV |
| | Current | | 0.02% + 2mA | 0.02% + 2mA | 0.02% + 2mA |
| Stability of setup value-8h (%of Output +Offset) | Voltage | | 0.01% + 3mV | 0.01% + 3mV | 0.01% + 3mV |
| | Current | | 0.05% + 3mA | 0.05% + 3mA | 0.05% + 3mA |
| Stability of readback value-30min (%of Output +Offset) | Voltage | | 0.01% + 1mV | 0.01% + 1mV | 0.01% + 1mV |
| | Current | 10A Range | 0.02% + 3mA | 0.02% + 3mA | 0.02% + 3mA |
| | | 20mA Range | 0.01% + 3uA [1] | 0.01% + 3uA [1] | 0.01% + 3uA [1] |
| | | 100uA Range | 0.01% + 20nA [1] | 0.01% + 20nA [1] | 0.01% + 20nA [1] |
| Stability of readback value-8h (%of Output +Offset) | Voltage | | 0.01% + 5mV | 0.01% + 5mV | 0.01% + 5mV |
| | Current | 10A Range | 0.05% + 3mA | 0.05% + 3mA | 0.05% + 3mA |
| | | 20mA Range | 0.01% + 4uA [1] | 0.01% + 4uA [1] | 0.01% + 4uA [1] |
| | | 100uA Range | 0.01% + 30nA [1] | 0.01% + 30nA [1] | 0.01% + 30nA [1] |
| AC Input | Voltag1 | | 110V ± 10% | 110V ± 10% | 110V ± 10% |
| | Voltag2 | | 220V ± 10% | 220V ± 10% | 220V ± 10% |
| | Frequency | | 47HZ ~ 63Hz | 47HZ ~ 63Hz | 47HZ ~ 63Hz |
| Working Temperature | 0 ~ 40°C | | | | |
| Storage Temperature | -20°C ~ 70°C | | | | |
| Working humidity | 15% ~ 85% @40°C | | | | |
| Dimension(mm) | 234±1mm(W)*57±1mm(H)*477±1mm(D) | | | 234±1mm(W)*57±1mm(H)*477±1mm(D) | 234±1mm(W)*57±1mm(H)*477±1mm(D) |
| N.W. | 4.5kg | | | | |

*1 The accuracy of the small range current (20mA and 100uA range) is measured under CV mode of the power supply output

*2 10%-90% dynamic time *3 Measurement under sense

*4 When the current measurement range is in the range of 20mA and 100uA, the capacitive load of the power supply cannot exceed 47uF

*This information is subjected to change without notice.

# Your Power Testing Solution

## IT-M3200 high-precision programmable DC power supply

### Specification

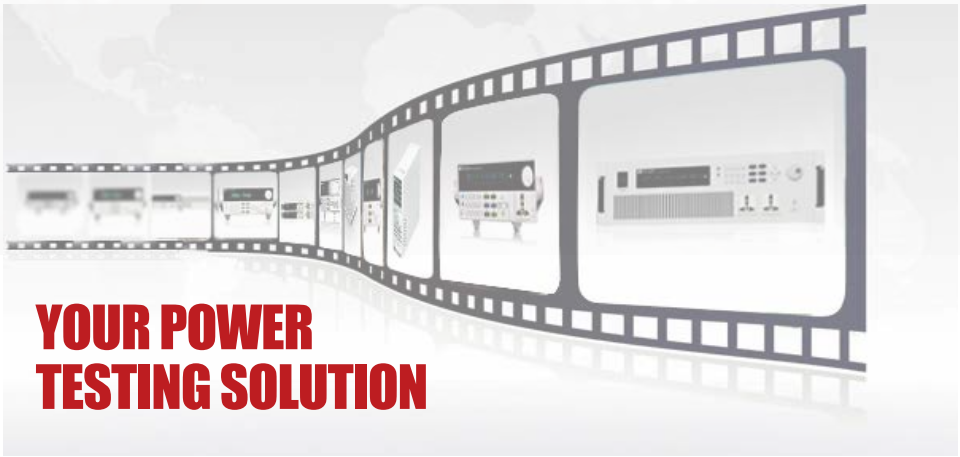
| | | | IT-M3253 | IT-M3263 | IT-M3273 |
|---|---|---|---|---|---|
| Rated Value ( 0 ℃-40 ℃) | Voltage | | 0~20V | 0~20V | 0~20V |
| | Current | | 0~20 A | 0~20 A | 0~20 A |
| | Power | | 100 W | 200 W | 360 W |
| Load Regulation | Voltage | | ≤0.01% + 3mV [3] | ≤0.01% + 3mV [3] | ≤0.01% + 3mV [3] |
| (%of Output+Offset) | Current | | ≤0.05% + 2mA | ≤0.05% + 2mA | ≤0.05% + 2mA |
| Line Regulation | Voltage | | ≤0.02% + 3mV | ≤0.02% + 3mV | ≤0.02% + 3mV |
| (%of Output+Offset) | Current | | ≤0.05% + 1mA | ≤0.05% + 1mA | ≤0.05% + 1mA |
| Setup Resolution | Voltage | | 1mV | 1mV | 1mV |
| | Current | | 1mA | 1mA | 1mA |
| Readback Resolution | Voltage | | 0.1V | 1mV | 1mV |
| | Current | 20A Range | 1mA | 1mA | 1mA |
| | | 20mA Range | 1uA [4] | 1uA [4] | 1uA[4] |
| | | 100uA Range | 10nA [4] | 10nA [4] | 10nA[4] |
| Setup accuracy within 12 months, 23 ℃±5 ℃ ±(%of Output + Offset) | Voltage | | ≤0.03% + 5mV [5] | ≤0.03% + 5mV [5] | ≤0.03% + 5mV[5] |
| | Current | | ≤0.05% + 10mA | ≤0.05% + 10mA | ≤0.05% + 10mA |
| Readback accuracy within 12 months, 23 ℃±5 ℃ ±(%of Output + Offset) | Voltage | | ≤0.03% + 5mV | ≤0.03% + 5mV | ≤0.03% + 5mV |
| | Current | 20A Range | ≤0.03% + 5mV | ≤0.05% + 10mA | ≤0.05% + 10mA |
| | | 20mA Range | ≤0.05% + 20uA [1] | ≤0.05% + 20uA [1] | ≤0.05% + 20uA [1] |
| | | 100uA Range | ≤0.05% + 100nA [1] | ≤0.05% + 100nA [1] | ≤0.05% + 100nA [1] |
| Ripple | Voltage | | Typical ⩽ 8mVp-p , ⩽ 1mV rms | | |
| (20Hz -20MHz) | Current | | ≤5mArms | ≤5mArms | ≤5mArms |
| Rise Time (Fast mode under no load) | Voltage | | ≤ 30ms [2] | ≤ 30ms [2] | ≤ 30ms [2] |
| Rise Time (Fast mode under full load) | Voltage | | ≤ 30ms [2] | ≤ 30ms [2] | ≤ 30ms [2] |
| Fall Time(Fast mode under no load) | Voltage | | ≤ 50ms [2] | ≤ 50ms [2] | ≤ 50ms [2] |
| Fall Time(Fast mode under full load) | Voltage | | ≤ 10ms [2] | ≤ 10ms [2] | ≤ 10ms [2] |
| Rise Time (Full load) | Current | | ≤ 30ms [2] | ≤ 30ms [2] | ≤ 30ms [2] |
| Dynamic Response | from 50%~100% LOAD to 75 mV ≤ 50uS | | | | |
| Sense | 2V max | | | | |
| Programming Reaction(typic value) | 5ms | | | | |
| Stability of setup value-30min | Voltage | | 0.01% + 1mV | 0.01% + 1mV | 0.01% + 1mV |
| (%of Output +Offset) | Current | | 0.02% + 5mA | 0.02% + 5mA | 0.02% + 5mA |
| Stability of setup value-8h | Voltage | | 0.01% + 3mV | 0.01% + 3mV | 0.01% + 3mV |
| (%of Output +Offset) | Current | | 0.05% + 10mA | 0.05% + 10mA | 0.05% + 10mA |
| Stability of readback value-30min | Voltage | | 0.01% + 1mV | 0.01% + 1mV | 0.01% + 1mV |
| (%of Output +Offset) | Current | 20A Range | 0.02% + 5mA | 0.02% + 5mA | 0.02% + 5mA |
| | | 20mA Range | 0.01% + 3uA [1] | 0.01% + 3uA [1] | 0.01% + 3uA [1] |
| | | 100uA Range | 0.01% + 20nA [1] | 0.01% + 20nA [1] | 0.01% + 20nA [1] |
| Stability of readback value-8h | Voltage | | 0.01% + 5mV | 0.01% + 5mV | 0.01% + 5mV |
| (%of Output +Offset) | Current | 20A Range | 0.05% + 10mA | 0.05% + 10mA | 0.05% + 10mA |
| | | 20mA Range | 0.01% + 4uA [1] | 0.01% + 4uA [1] | 0.01% + 4uA [1] |
| | | 100uA Range | 0.01% + 30nA [1] | 0.01% + 30nA [1] | 0.01% + 30nA [1] |
| AC Input | Voltag1 | | 110V ± 10% | 110V ± 10% | 110V ± 10% |
| | Voltag2 | | 220V ± 10% | 220V ± 10% | 220V ± 10% |
| | Frequency | | 47Hz ~ 63Hz | 47Hz ~ 63Hz | 47Hz ~ 63Hz |
| Working Temperature | 0 ~ 40 ℃ | | | | |
| Storage Temperature | -20 ℃ ~ 70 ℃ | | | | |
| Working humidity | 15% ~ 85% @40 ℃ | | | | |
| Dimension(mm) | 234±1mm(W)*57±1mm(H)*477±1mm(D) | | | 234±1mm(W)*57±1mm(H)*477±1mm(D) | 234±1mm(W)*57±1mm(H)*477±1mm(D) |
| N.W. | 4.5Kg | | | | |

*1 The accuracy of the small range current (20mA and 100uA range) is measured under CV mode of the power supply output

*2 10%-90% dynamic time *3 Measurement under sense

*4 When the current measurement range is in the range of 20mA and 100uA, the capacitive load of the power supply cannot exceed 47uF

*This information is subjected to change without notice.



# YOUR POWER TESTING SOLUTION

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