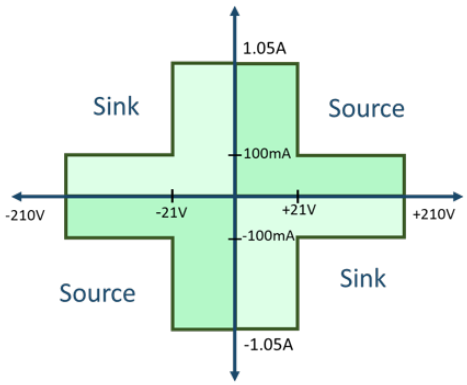
Simplify Your Component Characteristic Analysis with a Source Meter

DMMs and power supplies are common instruments on our lab benches. When we need to analyze the characteristics of materials or electronic components, we can achieve characteristic curve analysis by connecting a DMM and a power supply. Complicated wiring and settings often cause trouble for users, so we have a better choice that is "source meter".

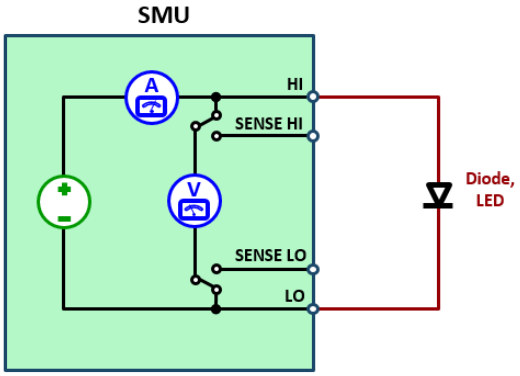
GW Instek GSM-20H10 provides the functions of two instruments in a compact size, which simplifies the wiring between the power supply and the DMM when analyzing the characteristic curve, allowing your laboratory to have more flexible space utilization. Interface cable connection and control is also much simpler when switching voltage or current sources and making measurements with remote control. By using the GSM-20H10, you can get high-speed testing and achieve high throughput.

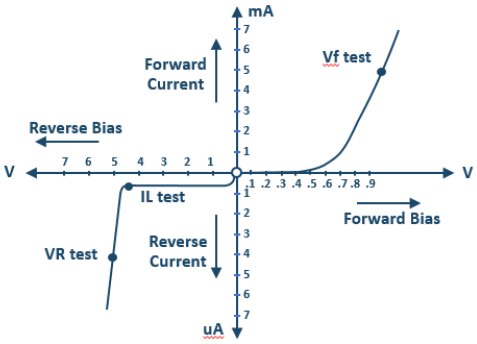
The GSM-20H10 provides ±210V / ±1.05A / 22W four-quadrant operations (As shown on the right picture). The first and third quadrants operate as power supplies, supplying power to loads, the second and fourth quadrants operate as loads, consuming power internally.



Source meters are widely applied, including semiconductors, LEDs, lithium batteries, solar cells and material characteristic analysis applications. Two test application examples are provided below:

1. LED and diode V-I characteristic test:
   The input voltage includes forward bias and reverse bias. For forward bias testing, the SMU's power supply output is forward bias, and the meter uses a four-wire measurement for more accurate voltage measurements. For reverse bias testing, the SMU's power supply output is reverse bias, and the low current capability of the SMU meter enables leakage current and breakdown voltage measurements.



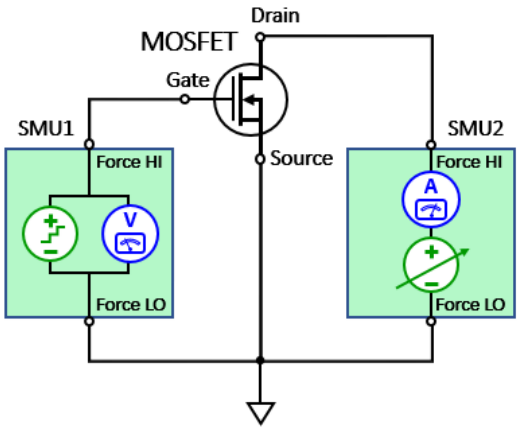


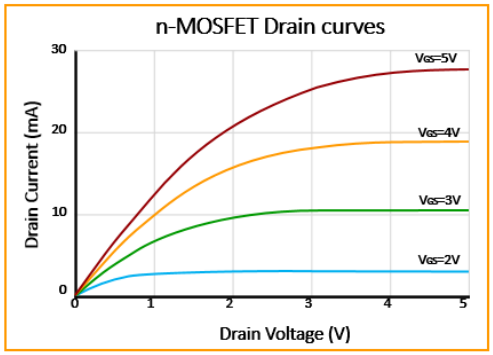
2. MOSFET-Drain curve test:

We need two GSM-20H10s to test the characteristics of a MOSFET. (As shown in the picture below)

Set an initial Vgs voltage from SMU1, scan the drain source voltage (Vds) with SMU2, and measure the drain current (Id) to obtain a curve. Then set the gate voltage to the next value and scan the drain source voltage (Vds) to obtain a different curve. Repeat the procedure of resetting the gate-source voltage (Vgs) value and scanning the drain source voltage (Vds) to obtain the drain current (Id) curve.

The Id curve shows the most critical characteristics of a MOSFET.





Please contact us for further information of GSM-2010.

Sincerely yours,

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