The HM6042 Curve Tracer is used to accurately display the characteristics of two and three terminal semiconductor devices. The instrument combines ease of operation and versatile features at an affordable price. It uses a built in CRT and an LCD to display the characteristics of the device under test.

The HM6042 displays a set of 5 curves at a time. All numeric values and parametric data can be read out on a 2x16 digit LCD. Device type and all relevant parameters are selected and modified by a simple front panel keypad entry. Collector voltage and current parameters are easily changed. A 3 step power limiter avoids damage of the Device Under Test (DUT) by excessive power.

One set of parameters can be stored in memory for comparison of one device to another or a reference device. This feature gives substantial enhancements in productivity when matching semiconductors. Two cursors can be moved along the displayed curves. X and Y position of the cursor will be displayed on the screen. Basic accuracy is 2% of the measurement value. Measured parameters are: base voltage, base current, collector current, collector voltage and Beta.

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The dynamic parameters h11, h21, and h22 are calculated by the internal processor.

A device adapter socket is supplied with the instrument, with side by side terminals for two devices for comparison of two semiconductors. The HM6042 is remarkably easy to operate. This makes the instrument also ideally suited for production use and educational service.

**Curve Tracer HM6042**

- On Screen Display of 5 Curves
- Accurate Cursor Measurements
- Quick and Easy Comparison of Reference Values
- Auto Calculation of Dynamic Semiconductor Parameters
- Ease of Operation

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**Specifications**

(Reference Temperature 23°C ± 1°C)

**Measurement Ranges**

3 Voltage Ranges:
- Collector/Drain Voltages ≤ 2V, 10V, 40V ±5%
3 Current ranges:
- Coil/Drain Currents ≤ 2mA, 20mA, 200mA ±5%
3 Power Ranges:
- Output Power ≤ 0.04W, 0.4W, 4W ±10%

**Base-/Gate-Voltages and Currents:**
- \( I_b \) 1µA to 10mA
- \( V_b \) up to 2V ±5%
- \( V_g \) up to 10V ±5%

**Accuracy**

**Accuracy of Static Values:**
- \( V_{c/d} \) ± (2% o.v. + 3 Dig.)
- \( I_{c/d} \) ± (2% o.v. + 3 Dig.)
- \( I_b \) ± (2% o.v. + 3 Dig.)
- \( V_b \) ± (3% o.v. + 3 Dig.)
- \( V_g \) ± (5% o.v. + 3 Dig.)
- \( \beta \) up to 1000: ± (6 + 0.001 x \( \beta \)) % o.v. + 3 Dig.
- \( \beta \) up to 10000: ± (6 + 0.001 x \( \beta \)) % o.v. + 3 Dig.

**Accuracy of Dynamic Values:**
- \( h_{11} \) ≤ 1000Ω ± (12% o.v. + 3 Dig.)
- \( h_{21} \) ≤ 1000Ω ± (12% o.v. + 3 Dig.)
- \( y_{21} \) ≤ 1000mS ± (12% o.v. + 3 Dig.)
- \( h/y_{22} \) ≤ 1000mS ± (12% o.v. + 3 Dig.)

**Miscellaneous**

Reference measurement values can be stored for component selection.

**Cursor Measurements:**
- Single mode: The Cursor marks the position from which the measurement value is calculated.
- Tracking mode: Two Cursors mark the positions, from which the h/y Parameter measurement values are calculated.

**Evaluation of curves from**
- Diodes, Zener Diodes
- NPN/PNP Transistors
- FET/MOS-FET (N/P Channel)
- Thyristors (limited Test range)

**Display:**
- 2x16 Digit, LCD

**General Information**

- **CRT:** D14-364GY/123 or ER151-GH/-, 6” rectangular screen (8x10cm) internal graticule
- **Acceleration voltage:** approx. 2000V
- **Trace rotation:** adjustable on front panel
- **Line voltage:** 115-230VAC ±10%, 50/60Hz
- **Power consumption:** approx. 36 Watt at 50Hz
- **Min./Max. ambient temperature:** 0°C...+40°C
- **Protective system:** Safety class I (IEC 1010-1)
- **Weight:** approx. 5.6kg, color: techno-brown
- **Cabinet:** W 285 H 125 D 380 mm
- **Lockable tilt handle:**

**Accessories supplied**

Operators Manual, Plug in Test Adaptor, Linecard