

## Specifications

(Reference Temperature 23°C ± 1°C)

### Measurement Ranges

#### 3 Voltage Ranges:

Collector/Drain Voltages ≤ 2V, 10V, 40V ±5%

#### 3 Current ranges:

Coll./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.)  
 $V_b$  ± (2% o.v.\* + 3 Dig.)  
 $V_g$  ± (3% o.v.\* + 3 Dig.)  
 $\beta^g$  up to 1000: ± (5% o.v.\* + 3 Dig.)  
 $\beta$  up to 100000: ± [(6 + 0.001 ×  $\beta$ )] % o.v.\* + 3 Dig.)

#### Accuracy of Dynamic Values:

$h_{11}$  ≤ 1000Ω ± (12% o.v. + 3 Dig.)  
 ≥ 1000Ω ± [(12 + 0.01 meas. value) % o.v. + 3 Dig.)  
 $h_{21}$  ≤ 1000 ± (12% o.v. + 3 Dig.)  
 ≥ 1000 ± [(12 + 0.01 meas. value) % 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

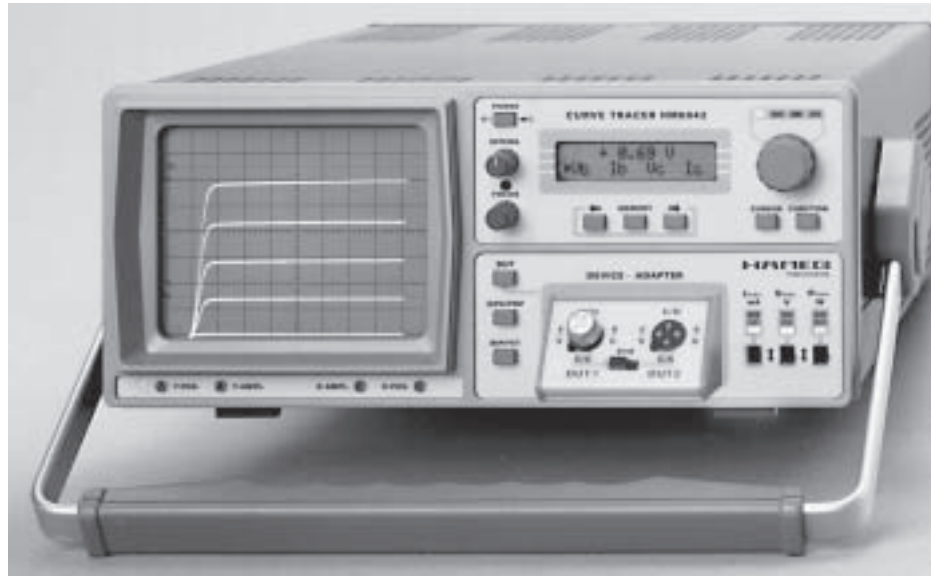
Diodes, Zener Diodes  
 NPN/PNP Transistors  
 FET/MOS-FET (N/P Channel)  
 Thyristors (limited Test range)

**Display:** 2x16 Digit, LCD  
 Presentation of measurement values from a set of 5 curves on CRT.

### 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**

\* o.v. = of value



## 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

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. The dynamic parameters  $h_{11}$ ,  $h_{21}$ , and  $h_{22}$  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.

### Accessories supplied

Operators Manual, Plug in Test Adaptor, Linecard