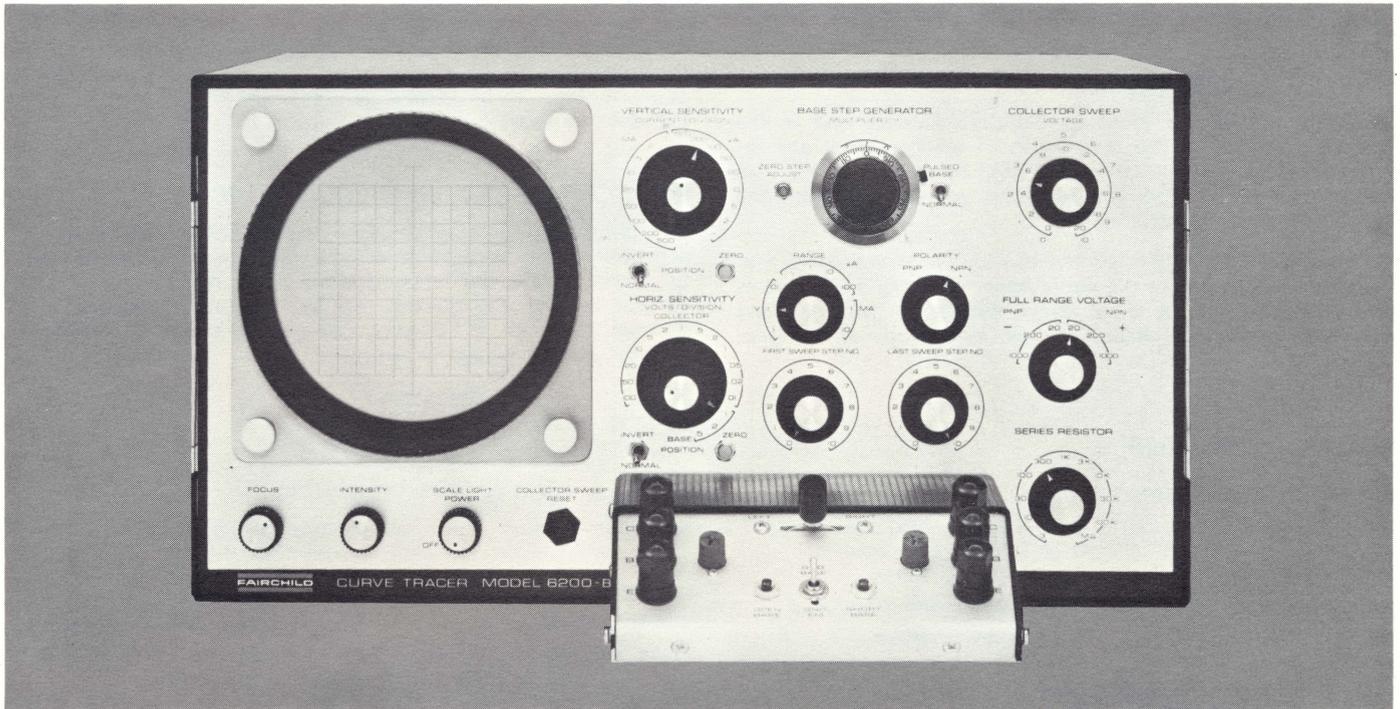


MODEL 6200B Curve Tracer



FEATURES

- **Extremely Versatile**
Tests FET's, MOS-FET's, bipolars, unijunctions, and diodes.
- **Pulse Mode Operation**
Low duty cycle operation permits device evaluation at higher current levels without destruction.
- **Wide Range Sweep Generator**
1000 V for high voltage measurement; 5 amps for high current tests.
- **Extended Base Drive**
Down to 100 nA for high gain devices; up to 35 V for FET's.
- **Independent Selection of First and Last Base Steps**
One, two, three, or more curves may be selected for optimum display.
- **Display Inversion Capability**
Orient display into any quadrant.
- **Detachable Test Fixture**
Test fixture can be operated in remote location.
- **Compact - Light Weight - Rack Mountable**
- **Solid State Silicon Reliability**
Everything except the CRT.

DESCRIPTION

The Fairchild Model 6200B is a semiconductor curve tracer with emphasis on the features needed to test the latest devices. Continuous control of the base drive amplitude, low drive levels, and pulsed operation make the instrument a versatile laboratory tool.

The Model 6200B Curve Tracer displays one or more characteristic curves of two and three terminal devices. Each curve is developed by driving one terminal with a constant voltage or current and then sweeping the other with a half sine wave of voltage. If more than one curve is to be drawn, the driving source is stepped through several values and the sweep repeated once for each step. The horizontal deflection of the CRT trace is chosen to correspond either to the driving voltage or to the sweep voltage across the device under test. The vertical circuit deflection corresponds to the current drawn from the sweep source. In the usual grounded emitter configuration for testing transistors, this results in a CRT plot of base or collector voltage versus collector current at the various drive levels. The connections can be interchanged to show curves for a grounded base configuration. For an FET, the curves show gate or drain voltage versus drain current; and, for an SCR, gate or anode voltage versus anode current.

COLLECTOR SWEEP GENERATOR

The collector sweep generator provides the full wave rectified

sine wave sweep voltages. Both positive and negative sweeps are provided with continuously adjustable peak values of 0-1000 volts, 0-200 volts, and 0-20 volts. A selectable resistance is inserted in series with the collector sweep generator. This resistance limits the maximum current to help protect devices in the breakdown region. It also establishes a load line for the device under test.

BASE STEP GENERATOR

The driving source or input to the device under test is the base step generator. The step levels of the generator are determined by range, multiplier, and step number controls. The first and last steps from the generator are selected from the front panel of the instrument.

The multiplier is a calibrated ten turn vernier which adds considerable convenience to the curve trace. Not only does it allow precise selection of the drive levels, but also it permits rapid determination of SCR firing voltage and simplifies β measurements.

SPECIFICATIONS: 6200B

COLLECTOR SWEEP GENERATOR

Sweep Ranges	0 to 1000 V, 100 mA 0 to 200 V, 500 mA 0 to 20 V, 5 Amps
Sweep Frequency	Twice power line frequency
Polarity	Positive or negative
Overload Protection	Circuit Breaker, with front panel reset
Collector Series Resistance	Selectable 3 ohms to 1 meg in eleven steps

BASE STEP GENERATOR

Voltage Range (Continuously Variable)	10 mV to 35 volts
Current Range (Continuously Variable)	100 nA to 500 mA
Continuous Sweep Duty Cycle	100%
Pulse Mode Duty Cycle	Less than 10%
Number of Steps	0 to 10. First and last steps selected independently
Polarity	Positive or negative

PULSED OPERATION

In addition to continuous voltage or continuous current drive, the 6200B provides "pulsed" operation. In this mode the drive is applied at the peak of the sweep and the device is only turned on for short periods of time. Thus the CRT shows the end points of the characteristic curves, and the power applied to the device is greatly reduced. Pulsed operation permits many devices to be checked without heat sinks and allows characteristics to be viewed at higher powers without exceeding safe dissipation levels.

HORIZONTAL AND VERTICAL DEFLECTION

The deflection system combines high stability with excellent sensitivity. The vertical sensitivity extends to 1 μ A/division to accommodate the latest devices. Both the horizontal and vertical axis of the display can be inverted if desired. This permits PNP and "P" channel FET's to be viewed in a normal manner instead of upside down.

VERTICAL DISPLAY

Collector Current	1 μ amp/division to 500 mA/division
-------------------	-----------------------------------------

HORIZONTAL DISPLAY

Collector Voltage	10mV/division to 100 V/division
Base Voltage	100 mV/division, 200 mV/division, 500 mV/division

POWER

Voltage	115/230 \pm 10%, approximately 250 W
Frequency	50-60 Hz

MECHANICAL

Dimensions	Height: 9 $\frac{1}{4}$ inches (23.5 cm) Width: 16 $\frac{3}{4}$ inches (42.5 cm) Depth: 19 $\frac{1}{2}$ inches (49.5 cm)
------------	----------------------------------------------------------------------------------------------------------------------------------

PRICE	\$1495.
-------	---------