

## TYPE 874-VQ VOLTMETER DETECTOR

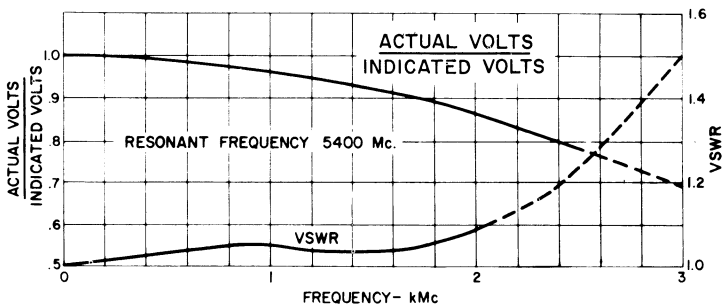


Figure 3.

of actual volts to indicated volts is given in Figure 3. The resonant frequency will increase about 10 percent at the maximum signal level, because of the rectified back voltage.

**2.3 VOLTAGE CORRECTION.** It should be remembered that the diode characteristic changes from square law at low voltage to linear at higher voltages. To help correct for this characteristic, a typical diode characteristic curve is given in Figure 5.

**CAUTION:** Voltages higher than 2 volts can permanently damage the diode.

**2.4 DC RETURN.** An external path for the diode current should be incorporated in the rf circuitry for applications where the detected output is applied to an input resistance less than about 250,000  $\Omega$ . The Type 874-W50 or -W50L 50-ohm Terminations are generally suitable for this purpose.

### 3 APPLICATIONS.

**3.1 VOLTAGE MONITOR.** The Type 874-VQ can be inserted anywhere in a 50-ohm system to monitor the voltage without introducing any appreciable discontinuities. The Type 874-VI is recommended as a calibrated detector for use with the Type 874-VQ.

**3.2 MATCHED DETECTOR.** When terminated in 50 ohms (as, for instance, in a Type 874-W50 termination), the Type 874-VQ can be used as a matched detector at frequencies up to 2000 Mc.

**3.3 DETECTOR FOR MODULATED SIGNALS.** This detector can be used to demodulate a-m signals where the demodulated output appears across the rf bypass capacitor. When it is desired to increase the bandwidth in