



Application Note

AN - 137
July 15, 1948

Reduction in Peak Inverse Voltage Rating of Type 1B3-GT

The maximum peak-inverse voltage for type 1B3-GT should not be permitted to exceed 30,000 volts, on a design-center basis. Although the original tentative data for this type listed a maximum peak-inverse voltage of 40,000 volts, further experience has indicated that this value should be reduced to 30,000 volts. After prolonged operation with a peak-inverse voltage of 40,000 volts, some tubes have developed air leaks caused by deterioration of the glass bulb. The effect observed has been attributed to a combination of electrolysis and bombardment by high-velocity electrons.

This change in rating does not affect existing equipment because current practice in the design of high-voltage supplies has been to use peak-inverse voltages well below 40,000 volts. The new rating of 30,000 volts permits the development of as much as 15,000 volts dc at no load from a sine-wave-operated system such as an rf power supply or almost 30,000 volts from a pulse-operated supply using a single rectifier tube. Considerations of coil design, however, have led most equipment designers to prefer voltage doubler or tripler circuits for dc voltages in excess of 10,000 volts.