

turn off and the “Fail” indicator will light. (Note that octal power tube heater resistances range from $\sim 3.9\ \Omega - 7\ \Omega$ at 6.3 VRMS).

9. If the heater resistance is between $\sim 1\ \Omega$ and $27\ \Omega - 54\ \Omega$, the grid voltage will try to adjust the tube’s cathode current to 19 mA DC (1 VDC on Pin 8 – the cathode). (Note that all current flow to the cathode from the plate, screen, grid, and heater contribute to this 19mA!) If 19mA can’t be achieved quickly enough, the heater, grid, plate and screen voltages are turned off and the “Fail” Indicator lights. The time this takes is dependent on the type of tube selected as follows:
 - a. For “Power” tubes except KT88 and 6550: 70 – 76 seconds after test initiation (as shown in the first data chart).
 - b. KT88: 116 seconds after test initiation
 - c. 6550: 96 seconds after test initiation
10. The following charts show “EL34” test data on an EL34 that rated “Good 8” without probes attached and “Good 10” with the 10 M Ω test probes connected between the cathode and the plate and grid. After stabilization, the plate and screen currents were 16.1 mA and 2.65 mA respectively and the cathode voltage (with respect to the low side of the 19V power supply) was 992 mV.

