



### SCR Failure

An instrumentation technician is examining the operation of the SCR (Silicon-Controlled Rectifier) circuit board portion of a motor control circuit to determine if the device is still allowing a large current between its terminals. The technician knew from his course work that the SCR will only allow high current between its “A” and “K” terminals, the SCR is on, when a specific voltage is applied across these two terminals. This specific voltage value is the maximum voltage value for the SCR and is known as the “Forward Breakover” voltage.

When the “Forward Breakover” voltage value is applied across the SCR, the SCR is “turned on”, the voltage drops immediately, and a large current through the SCR with a corresponding small change in voltage is possible. The tech also knows that measuring the SCR voltage and current values followed by the plot of this current (the “y” axis) vs. the voltage (along the “x” axis) data will determine if the SCR is behaving as it should behave. The technician provided the plot below.

The SCR circuit the technician tested is not functioning properly and it needs to be replaced. Yes or No.

Outline your response in the space provided below, or submit your answer at [www.fl-ate.org](http://www.fl-ate.org).

