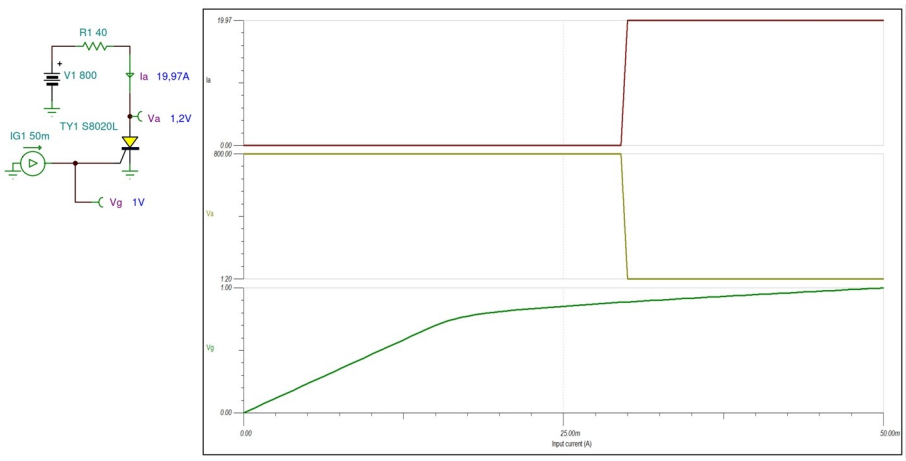
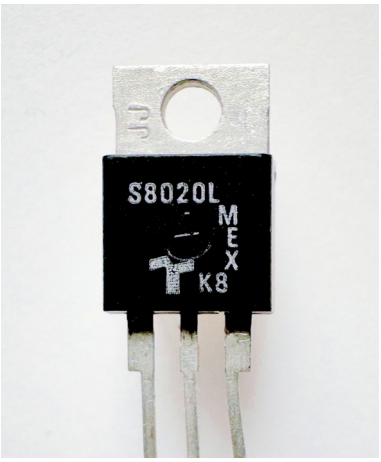
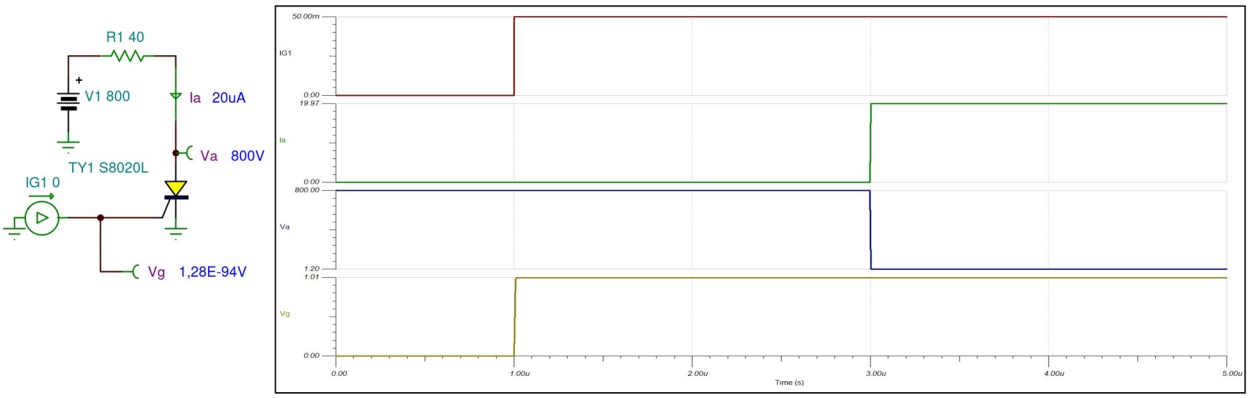
S8020LTP Teccor® brand Thyristor Macro Model

DC Characteristics

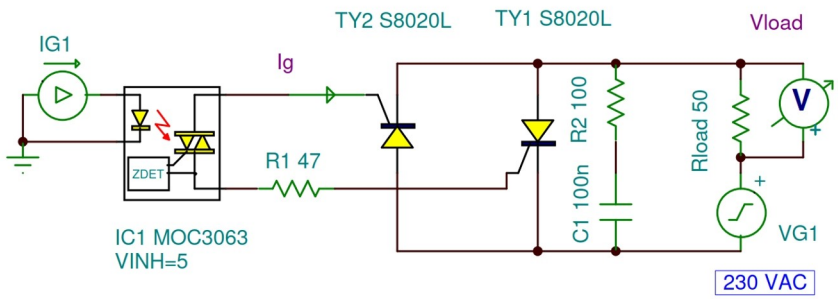




Typical Turn-on Time



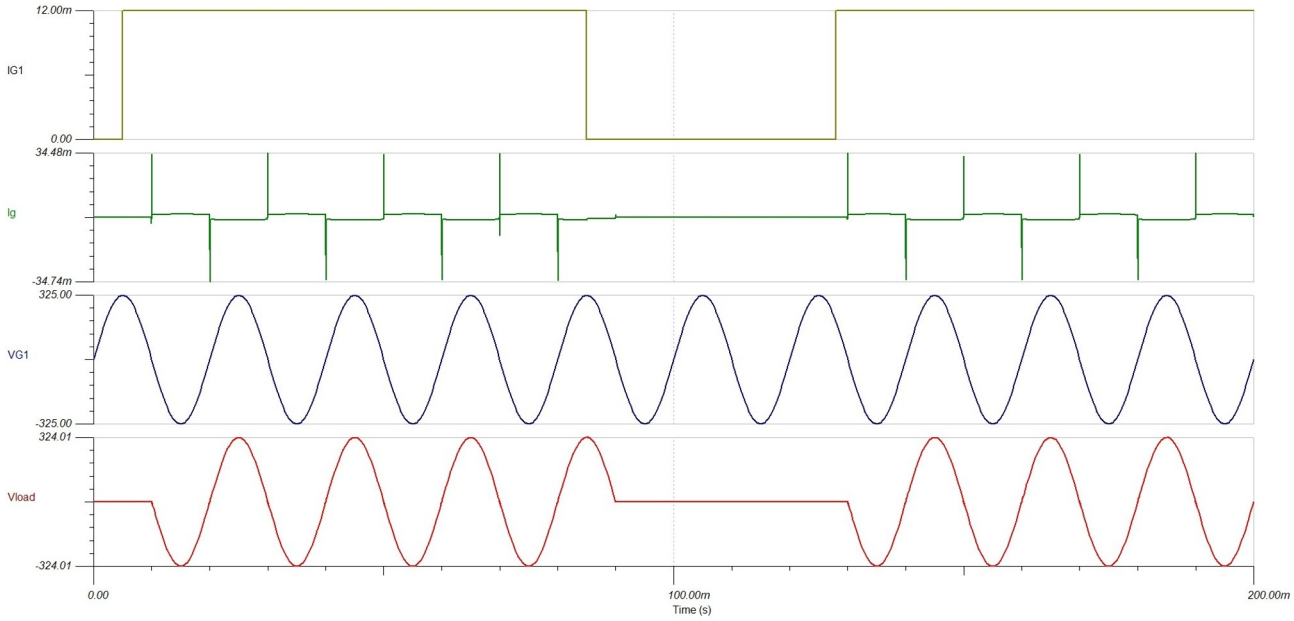
Zero Crossing Turn-on Non-sensitive SCR Driver



Zero voltage crossing turn-on opto-drivers are designed to limit turn-on voltage to less than 20 V. Since the voltage is limited to 20 V or less, the series gate resistor that limits the gate drive current has to be much lower with a zero crossing opto-driver. With typical inhibit voltage of 5 V, a Triac gate could require 50 mA at -15 °C (Rmax=5 V/50 mA = 100 Ω). By using 47 Ω for the gate resistor, a current of at least 106 mA is supplied with only 5 V, but limited to 0.4 A if the voltage goes to 20 V.

Thyristor gate resistors and diodes are only required for sensitive gate SCRs. Normal SCRs contain an integrated low value resistor between K-G (30 Ω...300 Ω).

The timing diagram is shown on the next page.


12.00m
IG1
0.00
34.48m
Ig
-34.74m
325.00
VG1
-325.00
324.01
Vload
-324.01
0.00
100.00m
Time (s)
200.00m