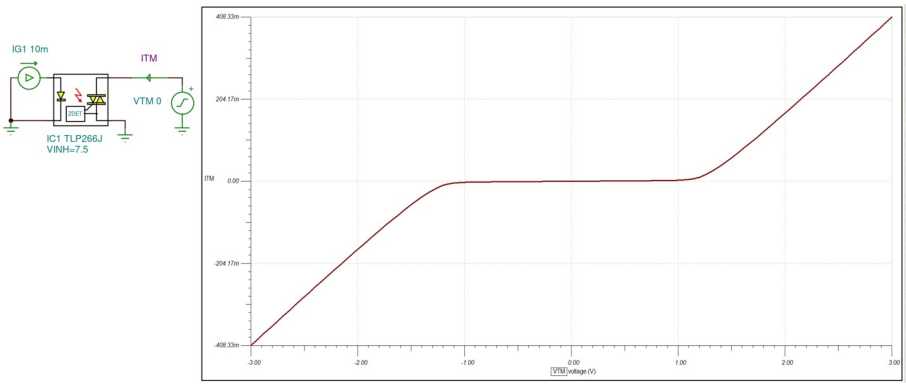
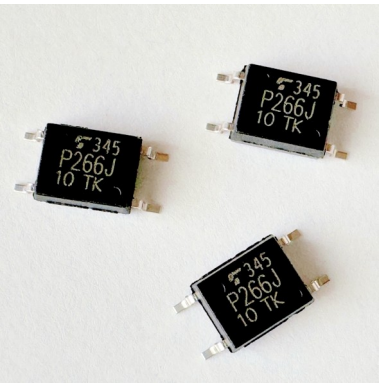
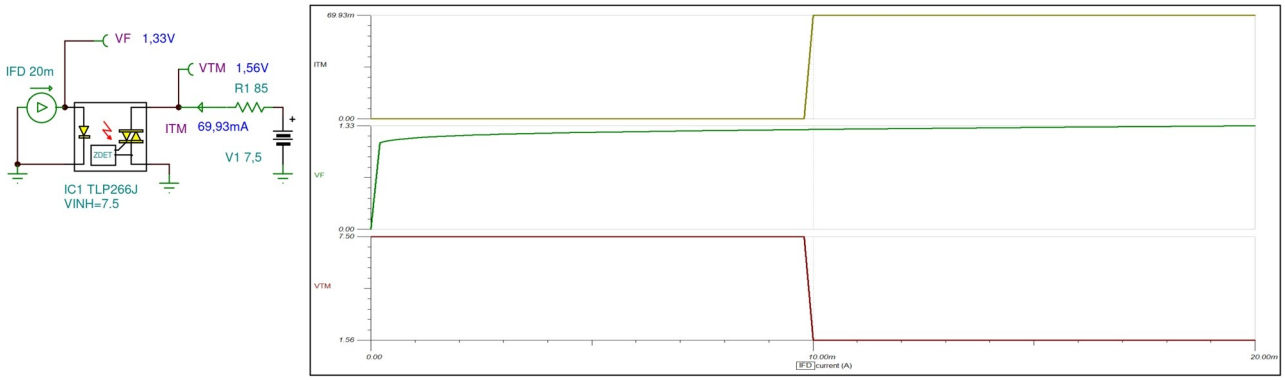
TLP266J Zero-Cross Optoisolators TRIAC Driver Macro Model

On-State Characteristics

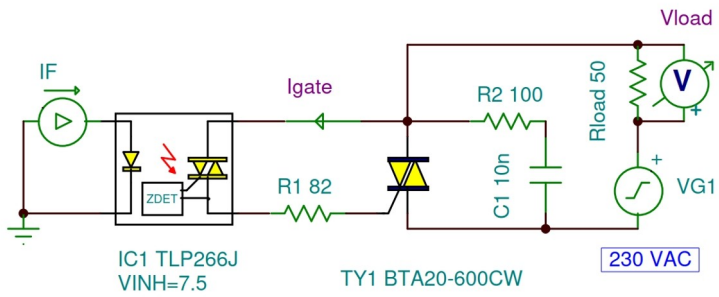




DC Transfer Characteristics



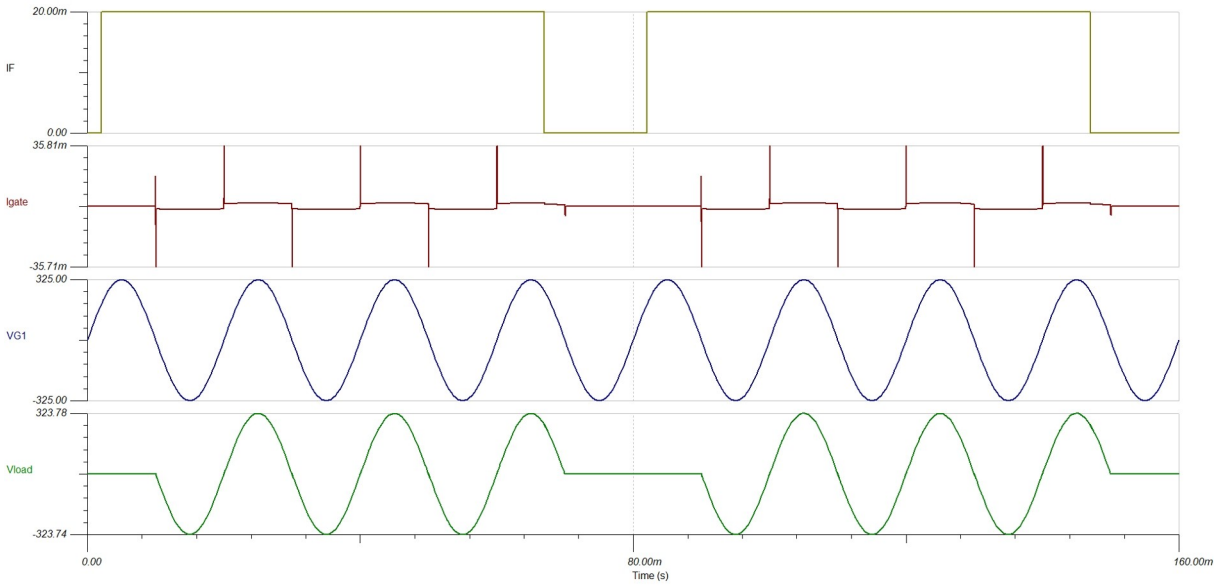
AC Switching Application Circuit



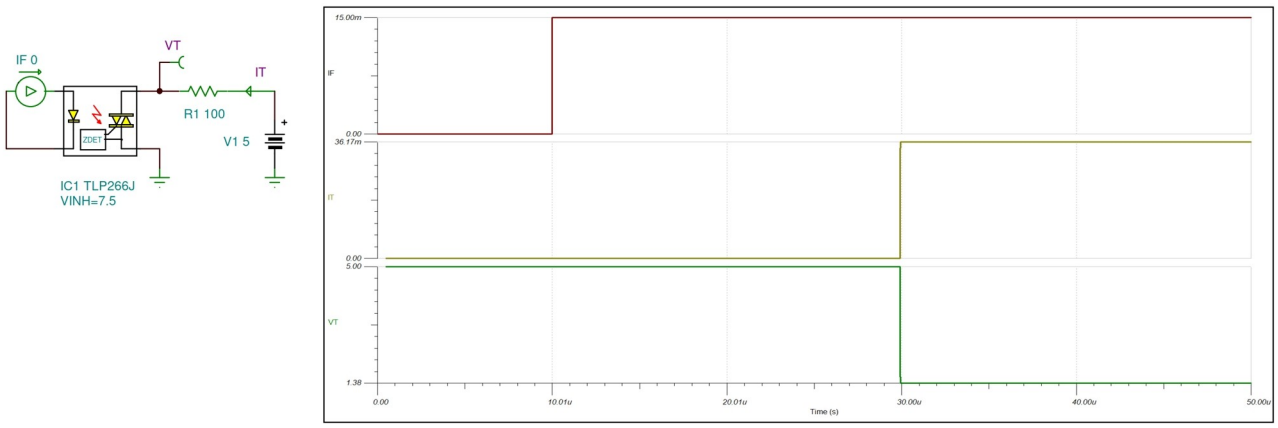
Zero voltage crossing turn-on opto-drivers are designed to limit turn-on voltage to less than 30 V. Since the voltage is limited to 30 V or less, the series gate resistor that limits the gate drive current has to be much lower with a zero crossing opto-driver. With typical inhibit voltage of 7.5 V, a TRIAC gate could require 52 mA at -10 °C (Rmax=7.5 V/52 mA = 144 Ω). By using 82 Ω for the gate resistor, a current of at least 60 mA is supplied with only 5 V, but limited to 0.36 A if the voltage goes to 30 V.

TRIACs contain an integrated low value resistor between the G-MT1 (A1) (30 Ω...300 Ω). Therefore, no external resistors are required.

The timing diagram is shown on the next page.



Turn-on Time



The turn-on time delay depends on the LED trigger current.