

TUNED SWITCH-MODE POWER SUPPLY WITH CURRENT MODE CONTROL**ABSTRACT**

In a tuned switch mode power supply a zero voltage is maintained across a transistor switch (Q3), during both turn off and turn on switching transition intervals in the transistor switch. The tuned switch mode power supply operates in a current-mode control, on a current pulse-by-current pulse control basis. A modulator (31) of the power supply includes a pair of transistors (Q1, Q2) that form a regenerative switch to produce a portion of a control signal (VG) of the transistor switch that causes the transistor switch to turn off. A transformer-coupled input supply voltage (V1) maintains the transistor switch conductive as long as the current in the transistor switch does not exceed the threshold level of a regenerative switch. A resonant pulse (VD) is transformer-coupled from the resonant circuit to the regenerative switch for turning off the regenerative switch and for maintaining the transistor switch non conductive after the regenerative switch is turned off.

FIGURE 1