

LM622 Pulse Width Modulator

General Description

The LM622 is a Pulse-Width-Modulator circuit designed for control of DC brush type and brushless motors. For control of brushless motors, the LM622 must be used with a commutator chip such as the LM621. It can be used for unidirectional and bidirectional drive circuits. Other applications for this flexible chip include amplifiers and switching regulators.

The chip consists of a general purpose Op Amp, three comparators followed by three latches, a triangle waveform oscillator, a $\pm 1\%$ precision bandgap reference and a pulse-by-pulse current limit. The protection circuitry consists of under-voltage lockout, thermal shutdown or soft-start options.

The Op Amp will generate an error voltage which will be added to the ramp voltage. The floating triangular waveform that results is compared to user programmable threshold voltages in the comparators. The signals from the comparators are gated by protection circuitry before reaching open-collector outputs. PWM signals are thus available to drive

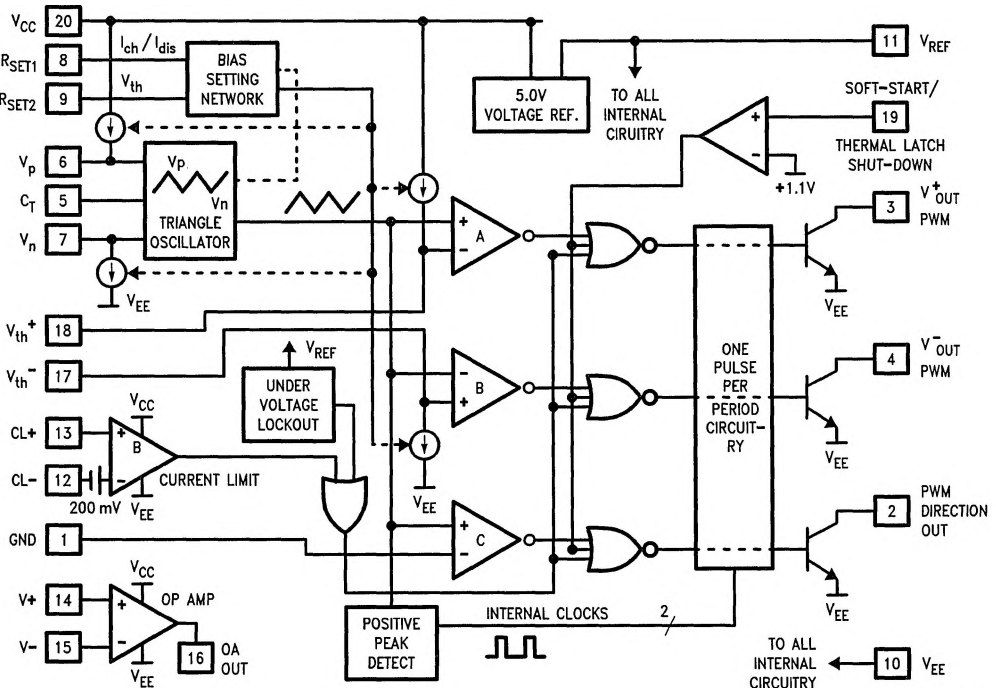
top side and bottom side switches, and to provide a direction signal.

The three comparator outputs are active low, with 20 mA current sinking capability.

Features

- Single or Dual Supply Operation
- ± 4.5 to ± 20 V or 9.0 to 40V Input Supply Range
- Three Comparators with Open Collector Outputs
- 5.0 Volt Bandgap Reference Trimmed to $\pm 1\%$
- Shutdown or Soft-Start
- Thermal Limit Latch
- Undervoltage Lockout
- 50 Hz to 350 kHz Oscillator Range
- Pulse-By-Pulse Current Limit Amplifier with Wide Common-Mode Range

LM622 Functional Block and Connection Diagram



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