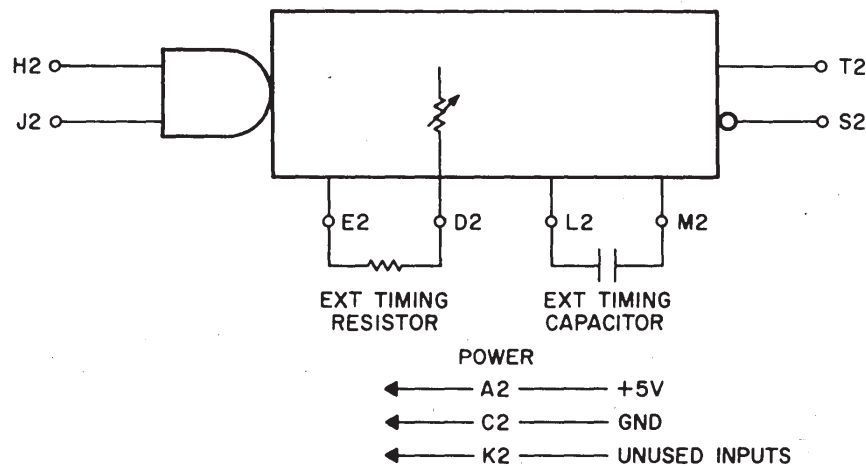


# INTEGRATING ONE SHOT M306

# M SERIES



The M306 contains one integrating monostable multivibrator mounted on a single fiip-chip™ module.

## TIMING CAPACITORS

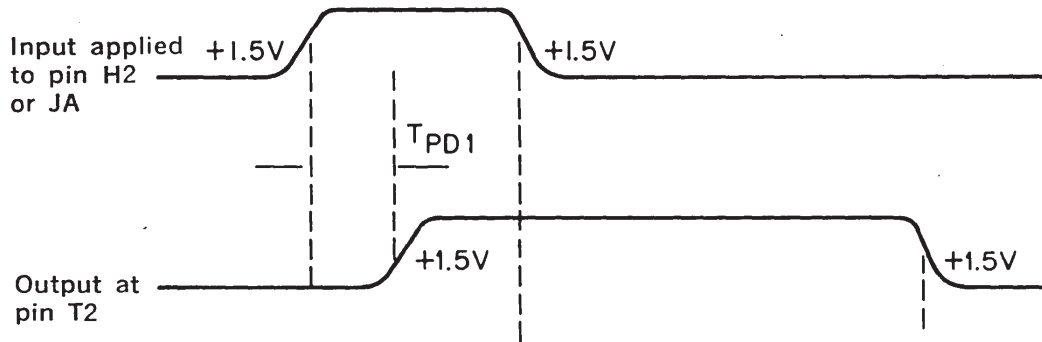
Course adjustment of the integration period is accomplished by customer supplied capacitors which may be attached to module pins L2 and M2. When using polarized capacitors, the positive terminal should be connected to pin M2. Two split lugs are also provided on the module for those customers who would like to permanently install the capacitor on the module itself. The minimum equivalent parallel resistance of capacitor leakage should always exceed 250K ohms.

## TIMING RESISTANCE

Fine adjustment of the timing period may be accomplished by a multiturn potentiometer provided on the module. Provision is also made to allow the customer to connect an external timing resistor or potentiometer between pins D2 and E2. When an external potentiometer is used, care should be taken to prevent the coupling of externally generated electrical noise into the module. The maximum resistance of the timing resistance, including the internally provided potentiometer, should not exceed 25,000 ohms. If an external timing resistor is not used, pins D2 and E2 must be connected together.

## TIMING PERIOD

The operation of the M306 is illustrated in the timing diagram shown below:



The integration period is measured from the trailing edge of the input pulse to the trailing edge of the output pulse. The approximate integration time may be calculated by the following:

$$t \approx .87 (R + 700 \Omega) (C + 175 \times 10^{-12} \text{ F})$$

where R is in ohms and C is in farads. The width of the input pulse is independent of the integration time. An input pulse of 30NS will trigger the M306.

#### STABILITY

The inherent temperature stability of the M306 is normally  $-.06\%$   $^{\circ}\text{C}$ , exclusive of the temperature coefficient of the timing capacitor.

**Inputs:** Each Input represents 1.25 unit loads

**Outputs:** Pin S2 will supply 12.5 unit loads. Pin T2 will supply 11 unit loads.

Pin K2 is a source of Logic "1" used to return unused inputs. It will supply 10 unit loads. The minimum pulse width is 225NS and maximum pulse width is limited only by capacitor leakage (40sec is a typical maximum)

**TPD1** = 40NS Max.

**POWER:** +5 volts at 120 ma. (max.)

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M306 — \$27

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