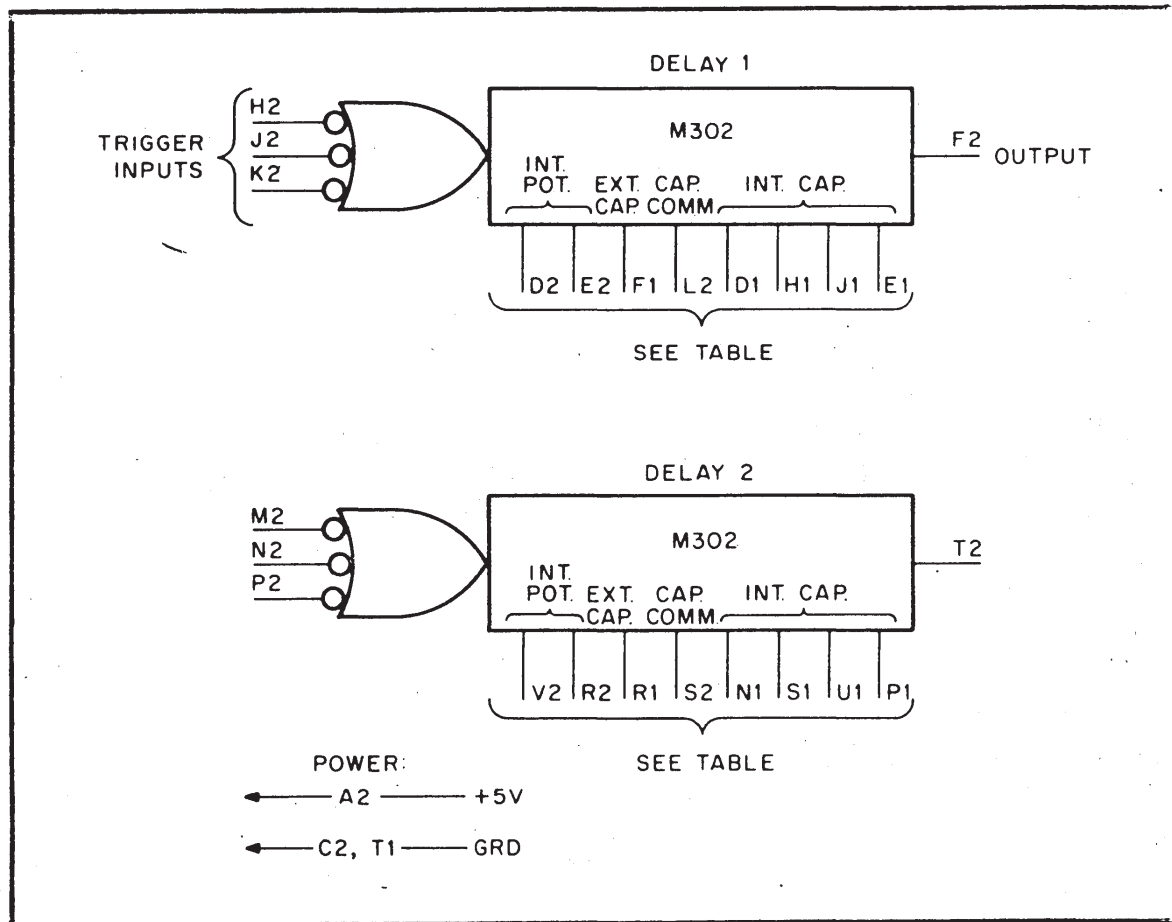


DUAL DELAY MULTIVIBRATOR

TYPE M302

M
SERIES



The M302 contains two delays (one-shot multivibrators) which are triggered by the trailing edge of a positive pulse or by a level change from high to low. When the input is triggered, the output changes from low to high for a predetermined, adjustable period of time and then returns to low. The DELAY RANGE is determined by an internal capacitor, or a parallel combination of internal and external capacitors. An internal potentiometer can be connected for fine delay adjustment within each range. Fall time of the input trigger should be less than 400 nsec. Typical transition time between the trigger and output rise threshold is 50 nsec. The delay time is adjustable from 50 nsec to 7.5 milliseconds using the internal capacitors and can be extended by adding an external capacitor. The minimum internal capacitance of 100 picofarads produces a recovery time of 30 nsec. Recovery time with additional capacitance can be calculated using the formula:

$$T_R \text{ Nanoseconds} = \frac{30 C \text{ Total (In Picofarads)}}{100}$$

Inputs: Each input presents $2\frac{1}{2}$ unit loads.

Outputs: Each output is capable of driving 25 unit loads.

Power: +5 volts, 130 ma (avg)

| Delay Range | Capacitor Value | Interconnections Required | |
|--|--|---------------------------|---------|
| | | Delay 1 | Delay 2 |
| 50 nsec — 750 nsec | 100 pf (internal) | None | None |
| 500 nsec — 7.5 nsec | 1000 pf (internal) | D1 — L2 | N1 — S2 |
| 5 usec — 75 usec | 0.01 uf (internal) | H1 — L2 | S1 — S2 |
| 50 usec — 750 usec | 0.10 uf (internal) | J1 — L2 | U1 — S2 |
| 500 usec — 7.5 msec | 1.0 uf (internal) | E1 — L2 | P1 — S2 |
| Above 7.5 msec | Add external capacitors between specified pins | F1 — L2 | R1 — S2 |
| Adjustable Delays: connect pins to add internal adjustment potentiometer. Without a potentiometer, the delay will not recover. An external potentiometer of less than 10K Ω can be used by connecting it between E2 or R2 and ground pin C2. Use of an external adjustment resistor will cause some increase in jitter. It is recommended that leads to an external potentiometer be twisted pairs and as short as possible. | | D2 — E2 | V2 — R2 |

M302 — \$46.00