

#### 4.5.10 M239 Three 4-Bit Counter Register

The M239 is a single-height module that provides independent 4-bit registers that can be parallel loaded, counted, and reset. The M239 is used primarily for counting and data storage. In the RK11, two M239s are used to provide bits 08 through 15 of the RKDA, the INT FUN register, and bits 01 through 04 and 08 through 12 of the RKCS.

- Inputs:** COUNT/LOAD/RESET are equivalent to 1.25 TTL unit loads each. DATA INPUTS are 1 TTL unit load equivalent.
- Outputs:** Data Outputs are capable of driving 10 TTL unit loads each.
- Power:** +5V with a  $\pm 5$  percent tolerance at 200 mA (A2).

#### 4.5.11 M304 One-Shot Delay – Pulse Amplifier

The M304 module consists of four, one-shot delays internally connected for  $1 \mu\text{s} \pm 10$  percent delay duration. Pins B1, K2, L2, and V1 may be connected to +5V to reduce the delay duration by a factor of 10 approximately. Complementary outputs are provided from each circuit at the pins. Each output is capable of driving 28 unit loads. Each delay may be triggered by a transition from high to low at either of the two inputs of each respective circuit with the other input high. Both inputs must be high for a period greater than 50 ns before triggering at either input. The delay may not be triggered within 50 ns after completion of the timing duration.