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NTE7089 Integrated Circuit Motor Control Circuit

Description:

The NTE7089 is an integrated circuit in a TO126 type package designed for the rotation control of a compact DC motor which is used for a tape recorder, record player, etc.

Features:

- Small, Three-Lead Plastic Package for Compact Motor
- Large Starting Torque
- Wide Range of Operating Voltage
- Stable Standard Voltage: $V_{CC} = 4.5$ to $16V$
- Highly Stable Operation over a Wide Range of Supply Voltages and Temperature

Absolute Maximum ratings: ($T_A = +25^\circ C$ unless otherwise specified)

| | |
|--|-------------------------------|
| Supply Voltage (Note 1), V_{CC} | 16V |
| Supply Current, I_{CC} | 1000mA |
| Power Dissipation (Note 2), P_D | 1300mW |
| Operating Ambient Temperature Range, T_{opr} | -20° to $+70^\circ C$ |
| Storage Temperature Range, T_{stg} | -40° to $+150^\circ C$ |

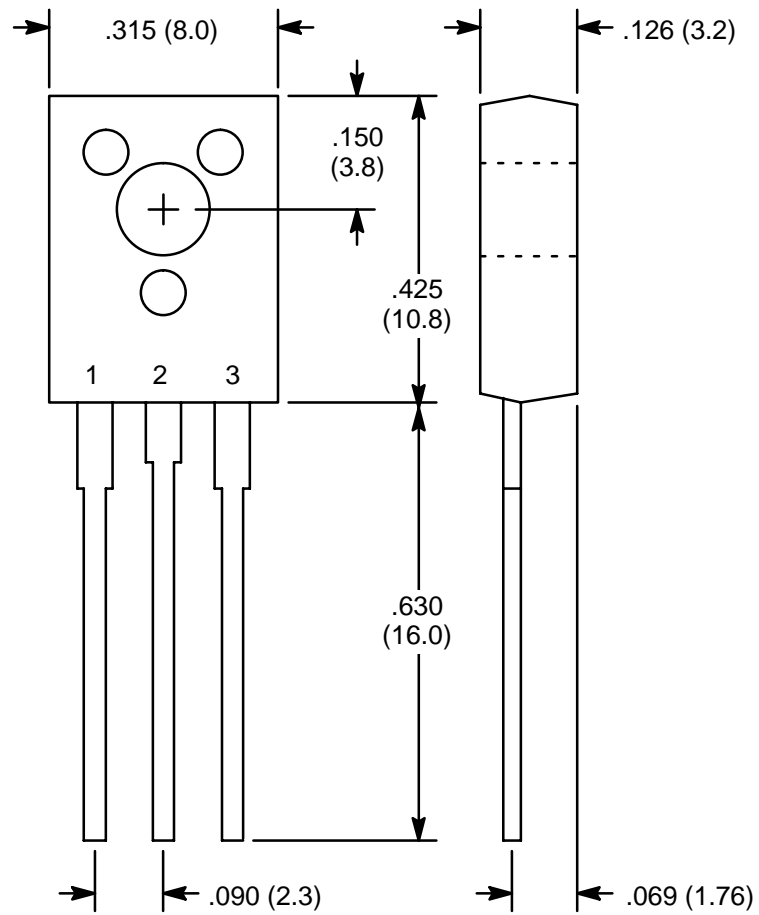
Note 1. Voltage is not directly applied to IC pin. Apply 14.4V to it, if necessary.

Note 2. $T_A = +25^\circ C$, with a 10 x 10mm bakelite printed circuit board (35µm Cu leaf).

Electrical Characteristics: ($T_A = +25^\circ C$, $V_{CC} = 12V$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--|----------------|---|------|----------|------|-----------------|
| Static Circuit Current | I_{CQ} | $I_1 = 0$ | – | – | 2.4 | mA |
| Reference Voltage | V_{3-1} | $R_a = 1k\Omega$ | 1.07 | 1.22 | 1.37 | V |
| Starting Current | I_a | $V_{CC} = 4.5V, R_a = 5\Omega$ | 450 | – | – | mA |
| Voltage Variation Characteristics for Rotating Speed | $ \Delta N_V $ | $V_{CC} = 10$ to $16V$ | – | – | 20 | rpm/V |
| Time Drift Characteristics for Rotating Speed | ΔN_T | $I_{CC} = 64mA$ | – | -0.2 | – | % |
| Temperature Variation Characteristics for Rotating Speed | ΔN_A | $T_A = -10^\circ$ to $+60^\circ C$, Note 3 | – | ± 50 | – | ppm/ $^\circ C$ |

Note 3. In case that only IC temperature is changed.



Pin 1. Motor Pin
2. GND
3. Control Pin