KA2402 DC MOTOR SPEED CONTROLLER

INTRODUCTION

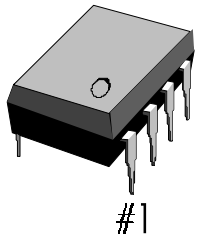
USE

- Speed control or general-purpose low-voltage compact DC motor for microcassette tape recorders, radio cassettes and their equivalents.

FEATURES

- Operating supply voltage range
  KA2402: Vcc=1.8V ~ 8V
- Capable ot making the applicable set compact because of a minimum of adjust speed.
- Easy to adjust speed.
- Built-in stable low reference power meeting the requirements for 2 speeds.
- V_{REF} = 0.2V

8-DIP-300



ORDERING INFORMATION

Device	Package	Operating Temperature
KA2402	8-DIP-300	-20℃ ~ + 80℃

BLOCK DIAGRAM

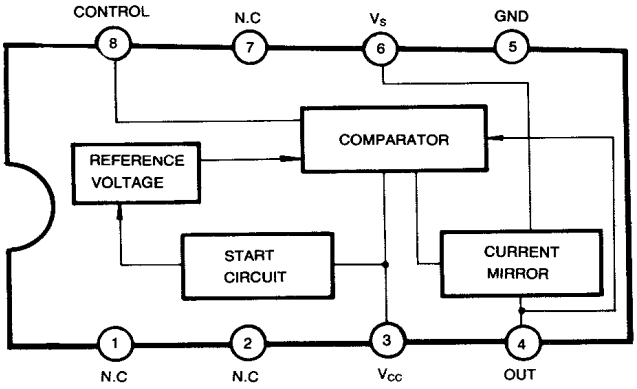


Fig. 1

ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

Characteristic	Symbol	Value	Unit
Maximum Supply Voltage	V_{CC}	10	V
Maximum Motor Current	$I_{M\ (MAX)}$	700	mA
Power Dissipation	P_D	600	mW
Operating Temperature	T_{OPR}	-20 ~ +80	℃
Storage Temperature	T_{STG}	-40 ~ +125	℃

RECOMMENDED OPERATING CONDITIONS (Ta = 25℃)

Characteristic	Symbol	Value		Unit
Supply Voltage	V_{CC}		1.8 ~ 8	V
Recommended Operating Temperature	T_{OPR}	-20 ~ 60		℃

ELECTRICAL CHARACTERISTICS (Ta = 25℃)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Reference Voltage	V_{REF}	V_{CC} = 3V, I_M = 100mA	0.18	0.2	0.22	V
Circuit Current	I_{CC}	V_{CC} = 3V, I_M = 100mA		2.4	6.0	mA
Current Coefficient	K	V_{CC} = 3V, I_M = 50mA I_M = 100mA	45	50	55	
Saturation Voltage	V_{SAT}	V_{CC} = 3V, I_M = l00mA		0.13	0.3	V
Voltage Characteristic of Reference Voltage	$\frac{\triangle V_{REF}}{V_{REF}} / \triangle V_{REF}$	I_M = 100mA, V_{CC} = 1.8 ~ 8V (KA2402) 1.8 ~ 4.5V (KA2402D)		0.1		%/V
Voltage Characteristic of Current Coefficient	$\frac{\triangle K}{K} / \triangle V_{CC}$	I_M = 50, 150mA Vcc=1.8 ~ 8V (KA2402) 1.8 ~ 4.5V (KA2402D)		0.3		%/mA
Voltage Characteristic of Reference Voltage	$\frac{\triangle V_{REF}}{V_{REF}} / \triangle I_m$	I_M = 3V I_M =20 ~ 200mA		0.005		%/mA
Current Characteristic of Current Coefficient	$\frac{\triangle K}{K} / \triangle I_m$	V_{CC} = 3V,I_M = 20, 50mA -170, 200mA		-0.07		%/mA
Temperature Characteristic of Reference Voltage	$\frac{\triangle V_{REF}}{V_{REF}} / \triangle T_a$	V_{CC} = 3V, I_M = 100mA T_a = - 20 ~ + 80℃		-0.008		%/℃
Temperature Characteristic of Current Coefficient	$\frac{\triangle K}{K} / \triangle T_a$	V_{CC} = 3V, I_M = 50m, 150mA T_a = - 20 ~ + 80℃		0.02		%/℃

TEST CIRCUIT

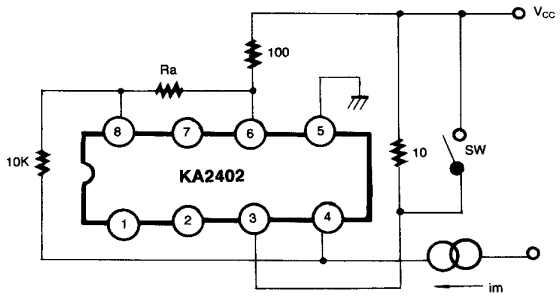


Fig. 2

APPLICATION CIRCUIT

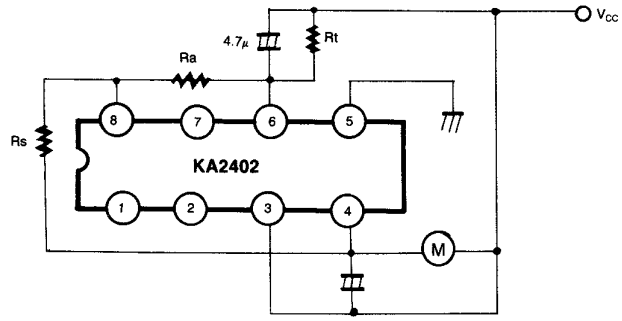
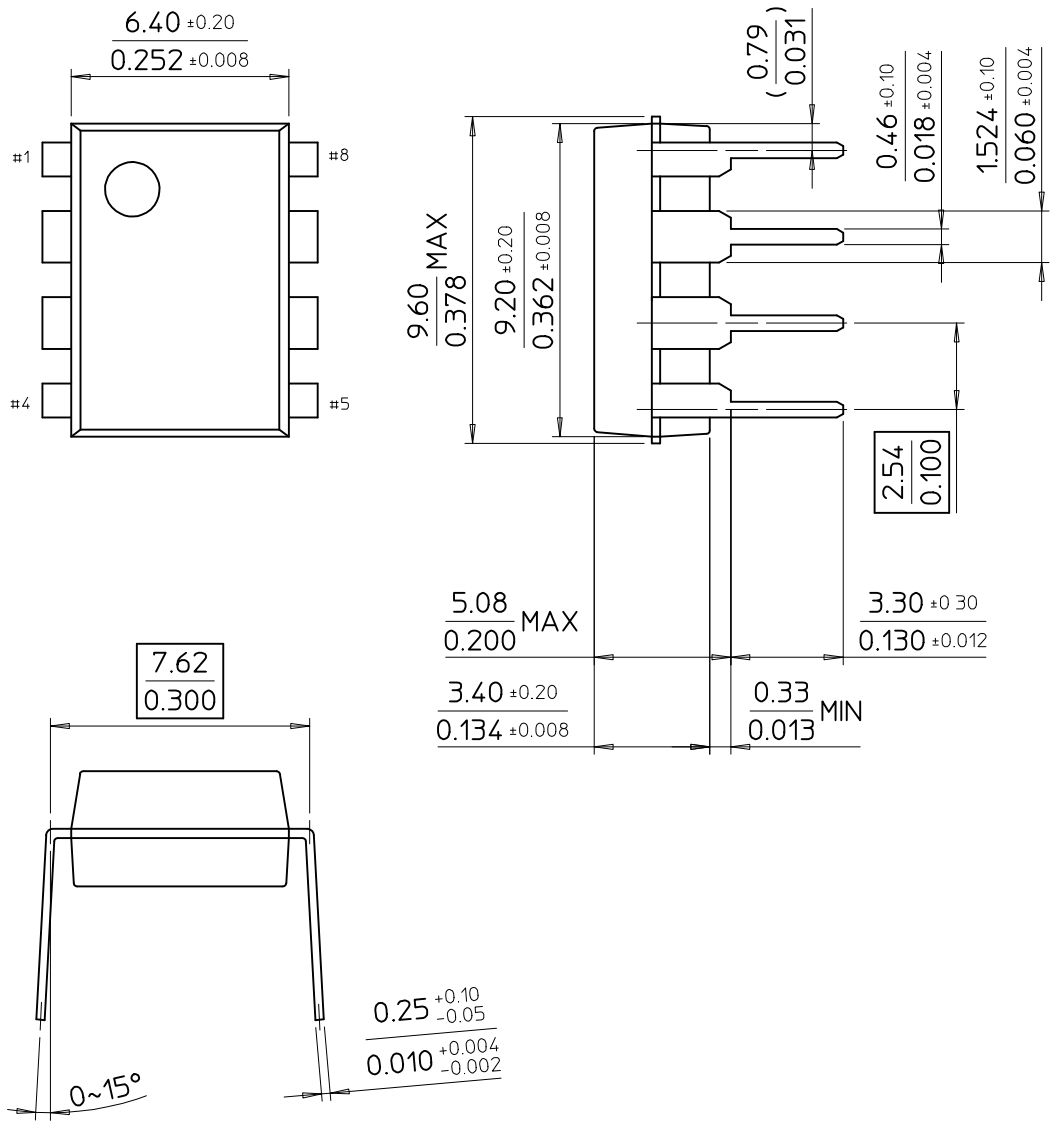


Fig. 3

8–DIP–300

Dimensions in Milimeters/inches



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