



## BA6220

## LINEAR INTEGRATED CIRCUIT

### GENERAL USE ELECTRONIC GOVERNOR

#### DESCRIPTION

The UTC **BA6220** is a monolithic integrated circuit, developed for speed control of general use DC motors.

#### FEATURES

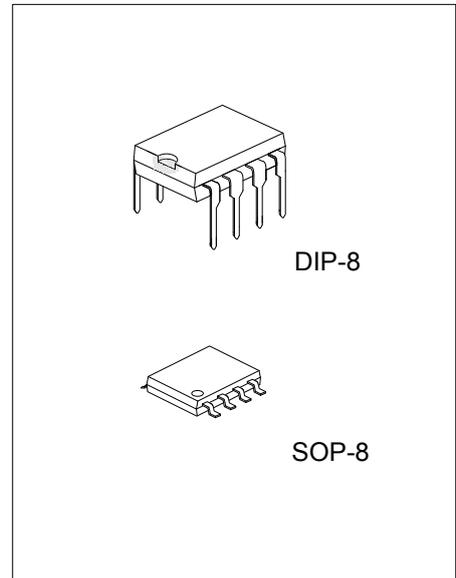
- \* Wide range of working power supply voltage range ( $V_{CC} = 3.5V - 16V$ ).
- \* Very large starting torque at the low voltage.
- \* Large permissible loss due to effective utilization of substrate radiation.
- \* Usable for various DC motors by means of changing constants of the external components.

#### APPLICATION

- \* Radio cassette tape recorders

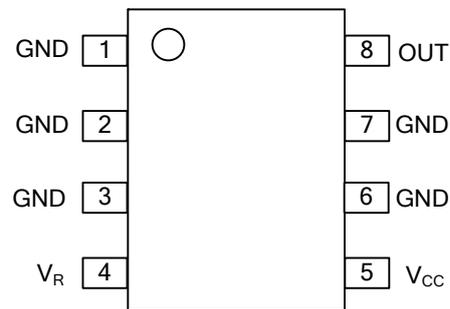
#### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
BA6220L-D08-T	BA6220G-D08-T	DIP-8	Tube
BA6220L-S08-R	BA6220G-S08-R	SOP-8	Tape Reel
BA6220L-S08-T	BA6220G-S08-T	SOP-8	Tube

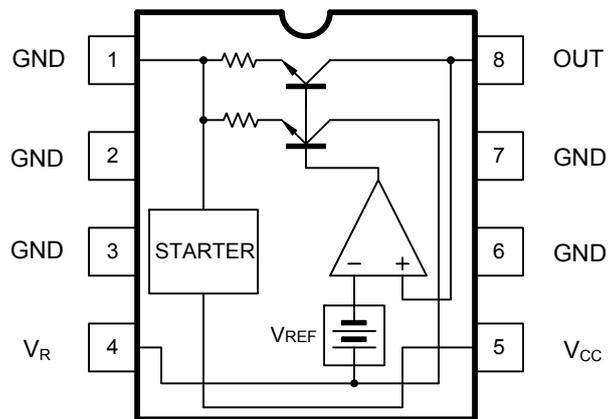


<p>BA6220L-D08-T</p> <p>(1) Packing Type (2) Package Type (3) Lead Free</p>	<p>(1) T: Tube, R: Tape Reel (2) D08: DIP-8, S08: SOP-8 (3) G: Halogen Free, L: Lead Free</p>
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## ■ PIN CONFIGURATION



## ■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sub>CC</sub>	18	V
Power Dissipation(Note 1)	DIP-8	1.4	W
	SOP-8	0.8	W
Operating Temperature	T <sub>OPR</sub>	-25 ~ +75	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +125	°C

Note 1. PCB (Copper-surfaced) 9cm<sup>2</sup>, T 1.0mm.

2. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

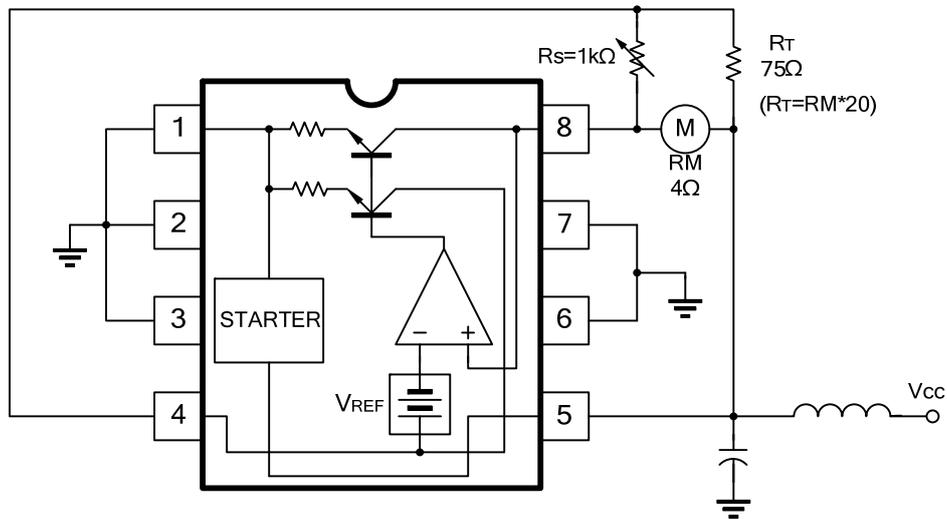
■ RECOMMENDED OPERATING CONDITIONS (T<sub>A</sub>=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Supply Voltage	V <sub>CC</sub>	Loader: 8g-cm	3.5		16	V

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, V<sub>CC</sub>=12V, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Saturate Voltage	V <sub>SAT</sub>	V <sub>CC</sub> =4.2V, R <sub>M</sub> =4.4Ω (Fig.3)		1.5	2.0	V
Reference Voltage	V <sub>REF</sub>	I <sub>M</sub> =10Ma (Fig.1)	1.10	1.27	1.40	V
Current Ratio	K	R <sub>M</sub> =33 - 44Ω (Fig.2)	18	20	22	
Voltage Feature of Reference Voltage	ΔV <sub>REF</sub> /V <sub>REF</sub> /ΔV <sub>CC</sub>	I <sub>M</sub> =100mA, V <sub>CC</sub> =6.3 - 16V (Fig.1)		0.06		%/V
Voltage Feature of Current Ratio	ΔK/K/ΔV <sub>CC</sub>	I <sub>M</sub> =100mA, V <sub>CC</sub> =6.3 - 16V (Fig.2)		0.4		%/V
Bias Current	I <sub>BIAS</sub>	R <sub>M</sub> =180Ω (Fig.4)	0.5	0.8	1.2	mA
Current Feature of Reference Voltage	ΔV <sub>REF</sub> /V <sub>REF</sub> /ΔI <sub>M</sub>	I <sub>M</sub> =30 - 200mA (Fig.1)		-0.02		%/mA
Current Feature of Current Ratio	ΔK/K/ΔI <sub>M</sub>	I <sub>M</sub> =30 - 200mA (Fig.2)		-0.02		%/mA
Temperature Feature of Reference Voltage	ΔV <sub>REF</sub> /V <sub>REF</sub> /ΔT <sub>A</sub>	I <sub>M</sub> =100mA, T <sub>A</sub> =-25 ~ 75°C (Fig.1)		0.01		%/°C
Temperature Feature of Current ratio	ΔK/K/ΔT <sub>A</sub>	I <sub>M</sub> =100mA, T <sub>A</sub> =-25 ~ 75°C (Fig.2)		0.01		%/°C

## APPLICATION CIRCUIT



## TEST CIRCUIT

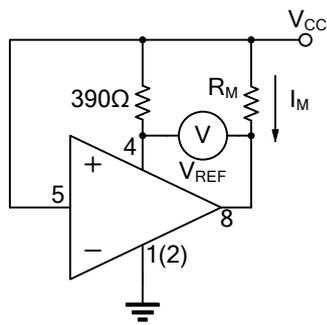


Fig. 1

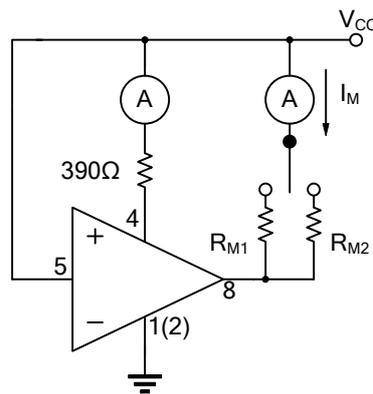


Fig. 2

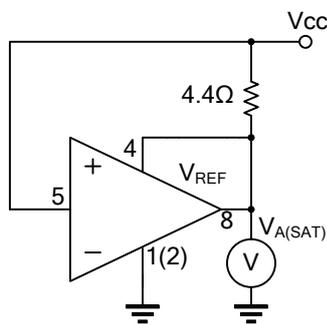


Fig. 3

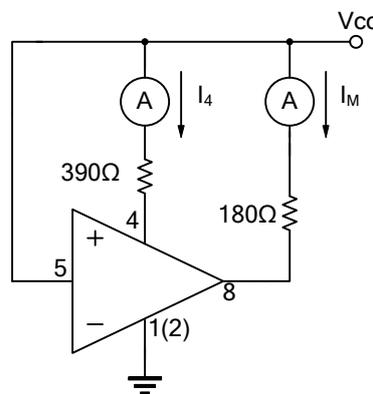


Fig. 4

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