

Especially suited for controlling speed of a low-voltage (3V min.) DC motor for cassette tape recorders, 8mm motion-picture cameras, record players

Features

- Wide operating voltage range (1.8 to 10V)
- Easy to vary speed
- Large starting torque
- Easy to control rotational speed from very low speed to high speed

Maximum Ratings at $T_a=25^{\circ}\text{C}$

		unit
Maximum Supply Voltage	V_{CC}^{max}	12 V
Allowable Power Dissipation	$P_{d\text{max}}$	1 W
Operating Temperature	T_{opr}	-20 to +80 $^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 to +150 $^{\circ}\text{C}$
Motor Current	I_m	1000 mA

Operating Conditions at $T_a=25^{\circ}\text{C}$

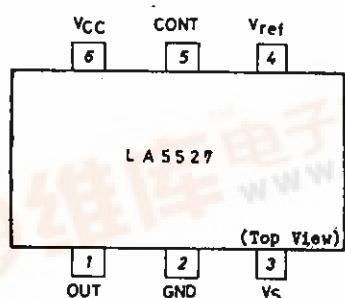
		unit
Supply Voltage Range	$V_{CC \text{ op}}$	1.8 to 10 V
Recommended Operating Temperature	T_{opg}	-10 to +60 $^{\circ}\text{C}$

Operating Characteristics at $T_a=25^{\circ}\text{C}$

		min	typ	max	unit
Reference Voltage	V_{ref}	$V_{CC}=3\text{V}, I_m=100\text{mA}$	1.15	1.25	1.3 V
Quiescent Current Dissipation	I_d	$V_{CC}=3\text{V}, I_m=100\text{mA}$	3.0	6.0	mA
Shunt Ratio	K	$V_{CC}=3\text{V}, I_m=50-150\text{mA}$	45	50	55
Residual Voltage	V_{sat}	$V_{CC}=3\text{V}, I_m=200\text{mA}$	0.3	0.5	V
Voltage Characteristic of Reference Voltage	$\frac{\Delta V_{ref}}{V_{ref}}/\Delta V_{CC}$	$I_m=100\text{mA}, V_{CC}=1.8 \text{ to } 10\text{V}$	0.1	0.3	%/V
Voltage Characteristic of Shunt Ratio	$\frac{\Delta K}{K}/\Delta V_{CC}$	$I_m=50-150\text{mA}, V_{CC}=1.8 \text{ to } 10\text{V}$	0.05	0.3	%/V
Current Characteristic of Reference Voltage	$\frac{\Delta V_{ref}}{V_{ref}}/\Delta I_m$	$I_m=20 \text{ to } 200\text{mA}, V_{CC}=3\text{V}$	0.005	0.01	%/mA

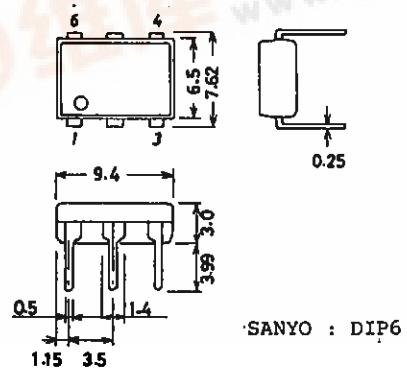
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Pin Assignment



Package Dimensions 3048A

unit: mm

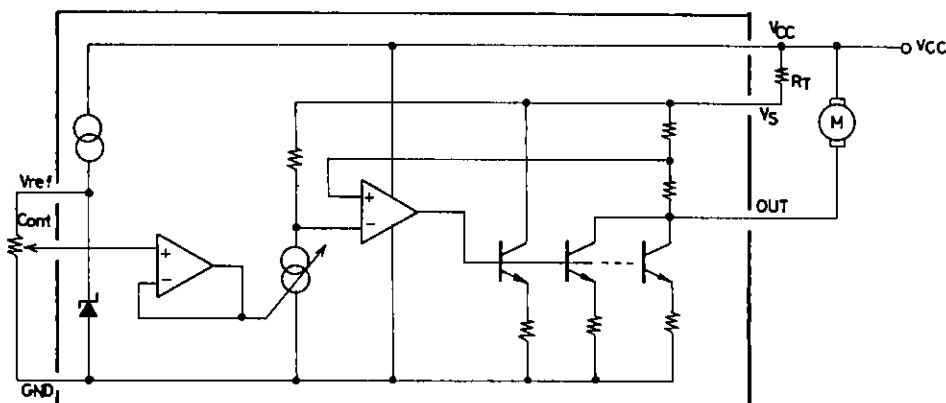


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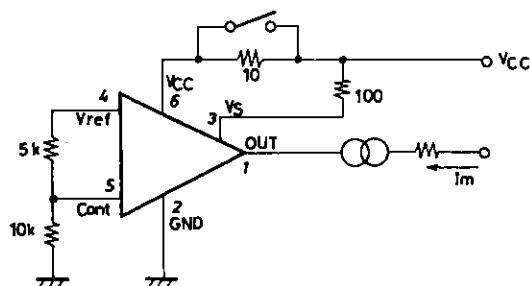
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Current Characteristic of Shunt Ratio	$\frac{\Delta K}{K} / \Delta I_m$	$V_{CC} = 3V$, $I_m = 20-50mA$ to $170-200mA$	min	typ	max	unit
Temperature Characteristic of Reference Voltage	$\frac{\Delta V_{ref}}{V_{ref}} / \Delta T_a$	$V_{CC} = 3V$, $I_m = 100mA$, $T_a = -20$ to $+80^\circ C$	0.02			$^\circ C$
Temperature Characteristic of Shunt Ratio	$\frac{\Delta K}{K} / \Delta T_a$	$V_{CC} = 3V$, $I_m = 50-150mA$, $T_a = -20$ to $+80^\circ C$	-0.002			$^\circ C$

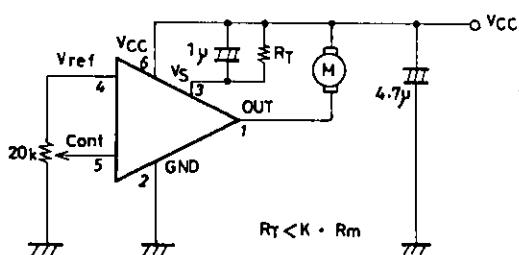
Equivalent Circuit Block Diagram



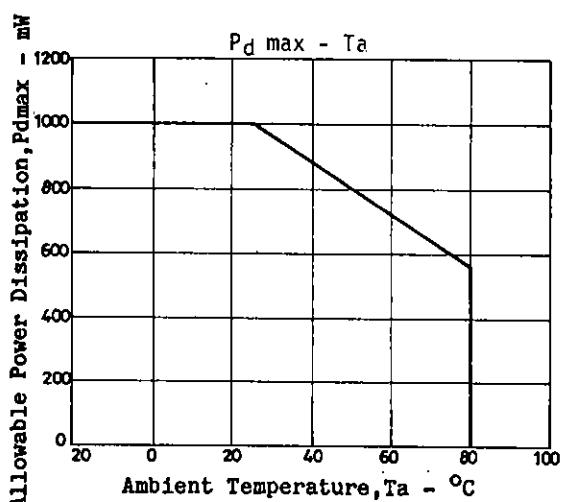
Test Circuit



Application Circuit



Unit (resistance: Ω , capacitance: F)



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