



No.2073B

Monolithic Liner IC

LA5527M

Low-Voltage DC Motor Speed Controller

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 6V)
- Easy to vary speed
- Large starting torque
- Easy to control rotational speed from very low speed to high speed

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

Maximum Ratings at $T_A=25^\circ C$		Unit
Maximum Supply Voltage	$V_{CC\max}$	8 V
Allowable Power Dissipation	P_{dmax}	350 mW
Motor Current	I_m	700 mA
Operating Temperature	T_{opr}	-20 to +80 $^\circ C$
Storage Temperature	T_{stg}	-40 to +150 $^\circ C$

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

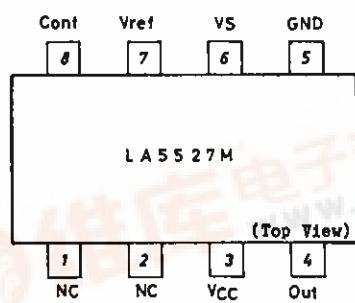
Supply Voltage Range	V _{CCop}	1.8 to 6	V
Recommended Operating Temperature	T _{Op}	-10 to +60	°C

Operating Characteristics at $T_a=25^\circ C$

Operating Characteristics at TA=25°C			min	typ	max	unit
Reference Voltage	V_{ref}	$V_{CC}=3V, I_m=100mA$	1.15	1.25	1.3	V
Quiescent Current Dissipation	I_d	$V_{CC}=3V, I_m=100mA$		3.0	6.0	mA
Shunt Ratio	K	$V_{CC}=3V, I_m=50-150mA$	45	50	55	
Residual Voltage	V_{sat}	$V_{CC}=3V, I_m=200mA$		0.3	0.5	V
Voltage Characteristic of Reference Voltage		$\frac{\Delta V_{ref}}{V_{ref}/\Delta V_{CC}}$	$V_{ref}=V_{cont}$			%/V
		$V_{CC}=1.8\text{ to }6V, I_m=100mA$	0.1	0.3		

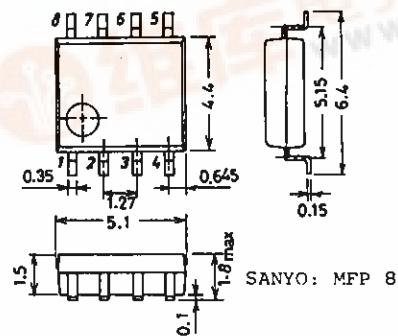
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Pin Assignment



Package Dimensions 3032B

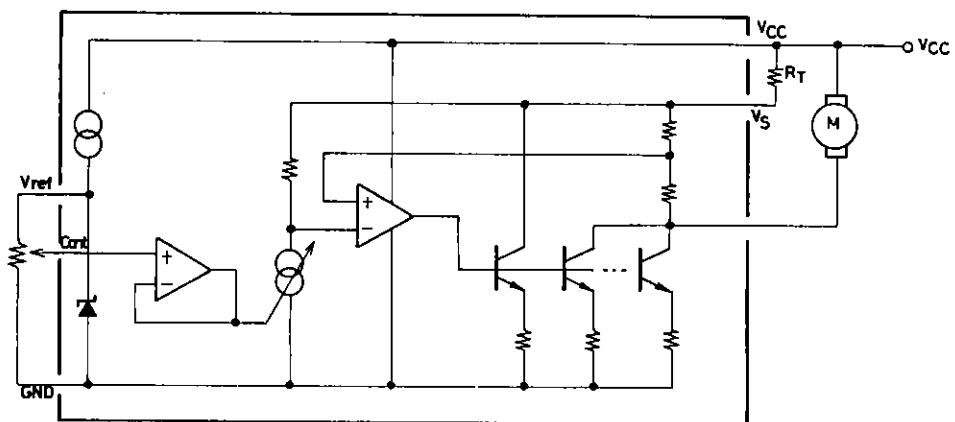
unit: mm



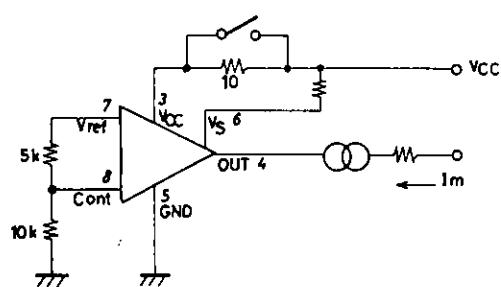
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			min	typ	max	unit
Voltage Characteristic of Shunt Ratio	$\frac{\Delta K}{K} / \Delta V_{CC}$	$V_{CC} = 2.0 \text{ to } 6V$, $I_m = 50 \text{ to } 150mA$		0.05	0.3	%/V
Current Characteristic of Reference Voltage	$\frac{\Delta V_{ref}}{V_{ref}} / \Delta I_m$	$V_{CC} = 3V$, $I_m = 20 \text{ to } 200mA$		0.005	0.01	%/mA
Current Characteristic of Shunt Ratio	$\frac{\Delta K}{K} / \Delta I_m$	$V_{CC} = 3V$, $I_m = 20 \text{ to } 50mA \text{ to } 170 \text{ to } 200mA$	-0.02	-0.005	0.02	%/mA

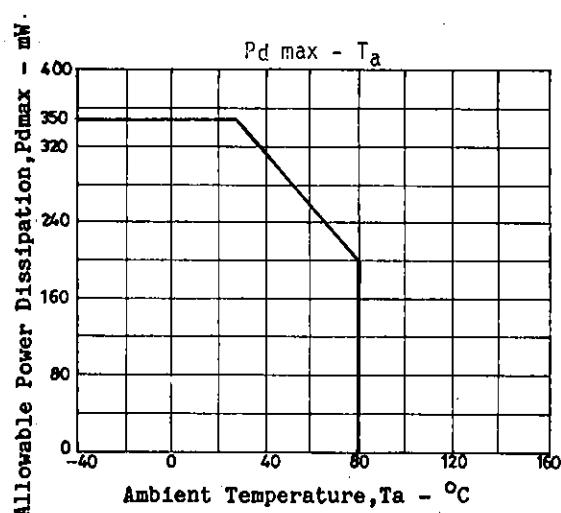
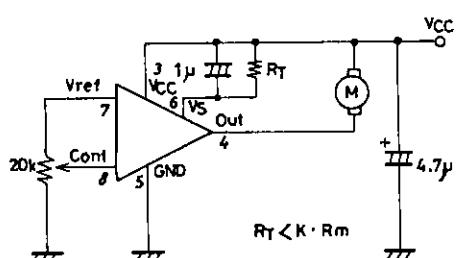
Equivalent Circuit Block Diagram



Test Circuit



Application Circuit



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