

SANYO	No.1187E	LA5000 Series
		2 to 5V 60mA Low Saturation Voltage Regulators

The LA5002, 5003, 5004, 5005 are voltage regulators having a small input-output voltage drop (0.2V typ.) They are especially suited for use in battery-powered low voltage equipment and commercial or industrial equipment having a large voltage regulation.

Features

- Small input-output voltage drop (0.2V/I_{OUT}=20mA typ.)
- Minimum number of external parts required
- Highly resistant against load short
- Radio noise (radiation) control pin

Maximum Ratings at Ta=25°C

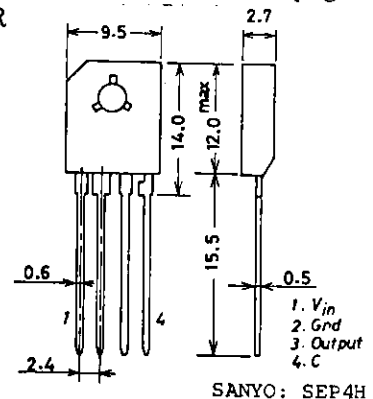
			unit
Input Supply Voltage	V _{IN} max	12	V
Output Current	I _{OUT} max	60	mA
Allowable Power Dissipation	P _d max	560	mW
Operating Temperature	T _{opr}	-20 to +80	°C
Storage Temperature	T _{stg}	-30 to +125	°C

Electrical Characteristics at Ta=25°C, C_{OUT}=10µF, I_{OUT}=20mA, V_{IN}=3V [LA5002], V_{IN}=4V [5003], V_{IN}=5V [LA5004], V_{IN}=6V [LA5005]

			min	typ	max	unit
Output Voltage	V _O	LA5002	1.85	2.0	2.15	V
		LA5003	2.8	3.0	3.2	V
		LA5004	3.75	4.0	4.25	V
		LA5005	4.75	5.0	5.25	V
Line Regulation	V _O line	LA5002: 2.5V < V _{IN} < 8V			50	mV
		LA5003: 3.5V < V _{IN} < 9V			50	mV
		LA5004: 4.5V < V _{IN} < 10V			50	mV
		LA5005: 5.5V < V _{IN} < 11V			50	mV
Load Regulation	V _O load	1mA < I _{OUT} < 40mA			20	mV
		1mA < I _{OUT} < 50mA			25	mV
Quiescent Current	I _{CCO}	LA5002	1.2	2.0		mA
		LA5003	1.4	2.0		mA
		LA5004	1.5	2.3		mA
		LA5005	1.7	2.5		mA

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Package Dimensions 3027A-S4HTR
(unit: mm)

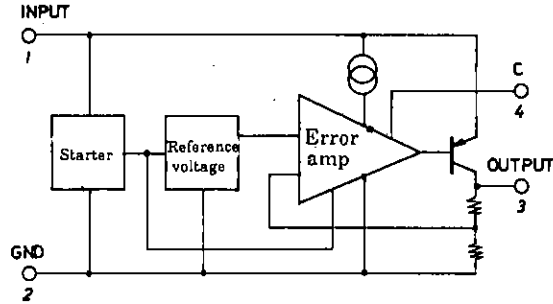


LA5000 Series

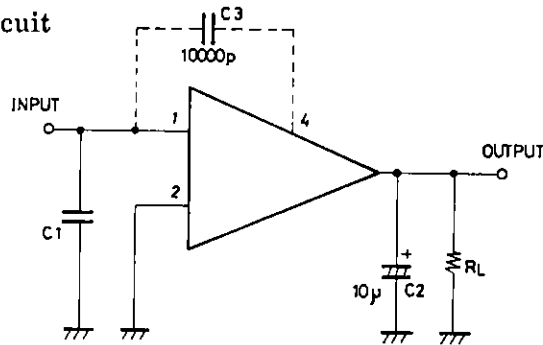
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			min	typ	max	unit
Ripple Voltage	R_T	LA5002, LA5004, LA5005: $f = 120\text{Hz}$	40			dB
		LA5003: $f = 120\text{Hz}$	43			dB
Input/Output Voltage Drop	V_{drop}			0.2	0.3	V
Coefficient of Output Voltage	$K\Delta V_o/\Delta T$		-1		+1	mV/°C
	V_N	$10\text{Hz} < f < 100\text{kHz}$		30		μV

Equivalent Circuit Block Diagram



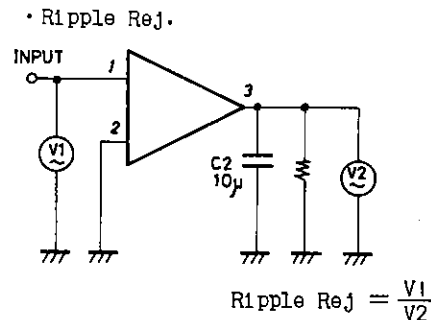
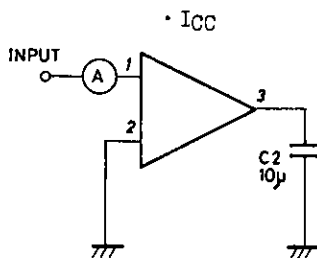
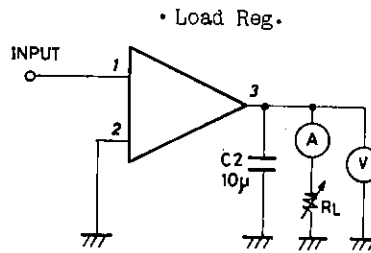
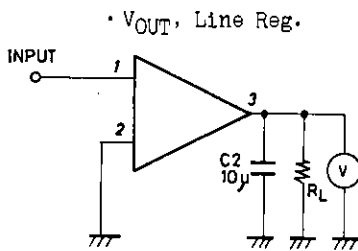
Sample Application Circuit



Unit (capacitance: F)

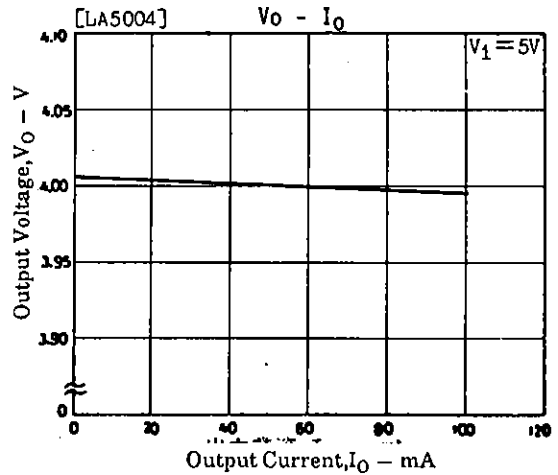
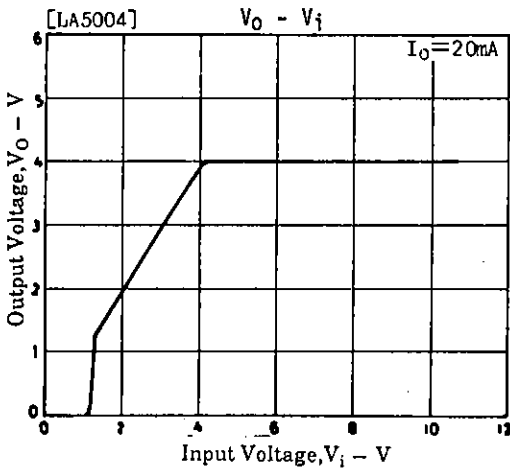
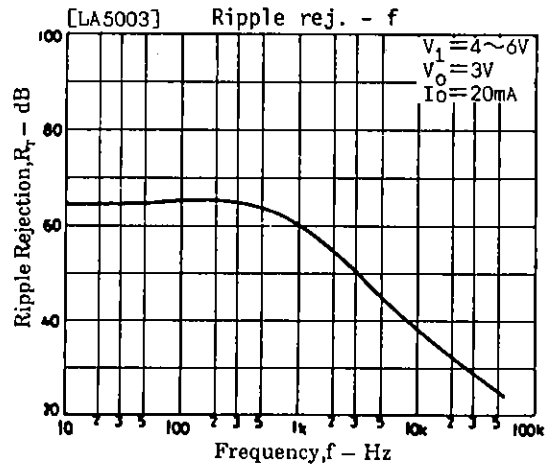
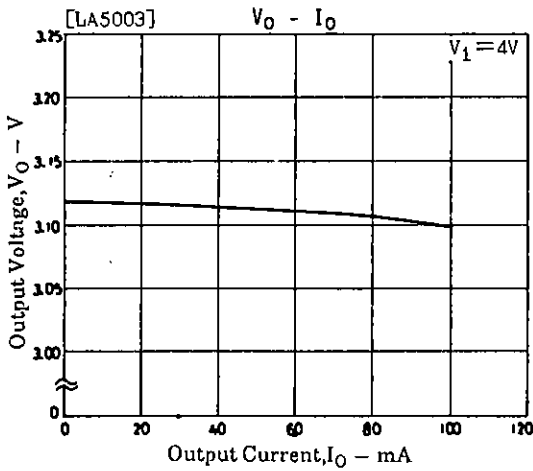
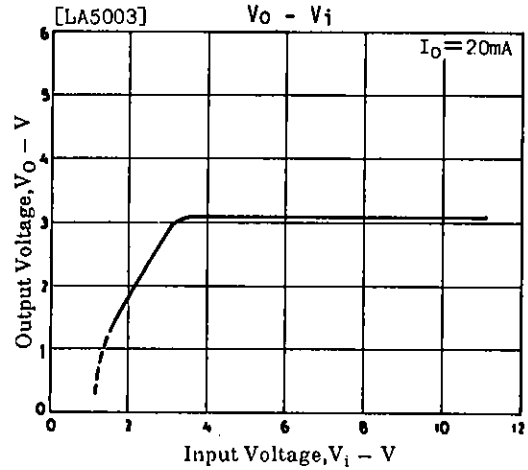
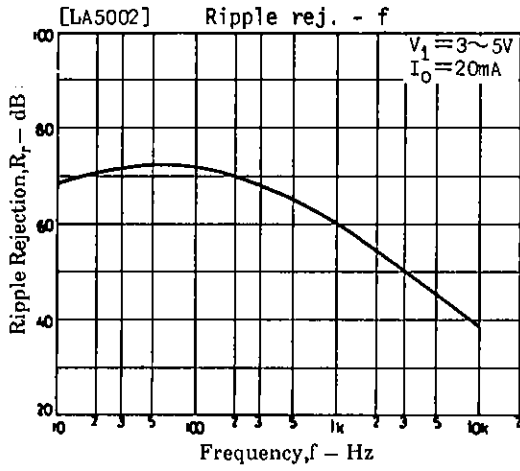
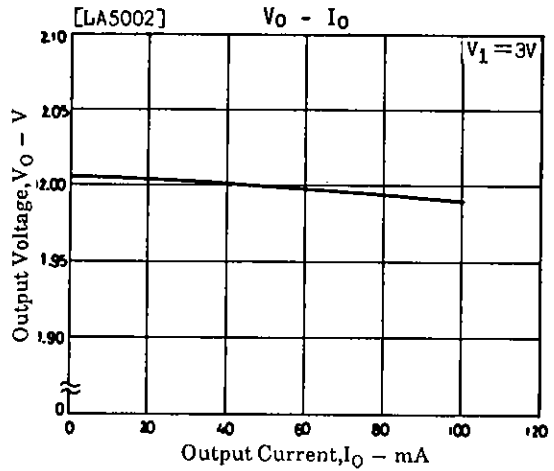
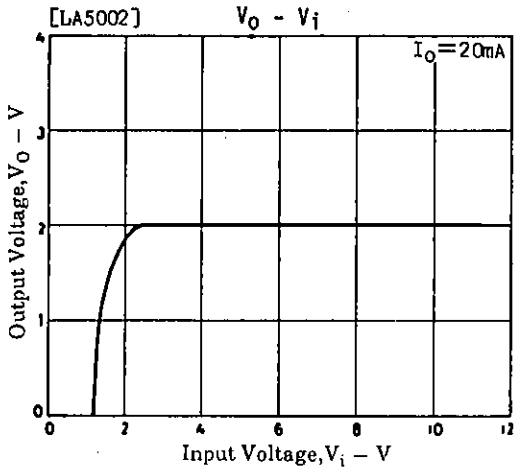
Note: Capacitor C3 is not required unless radio noise is a problem.

Test Circuits

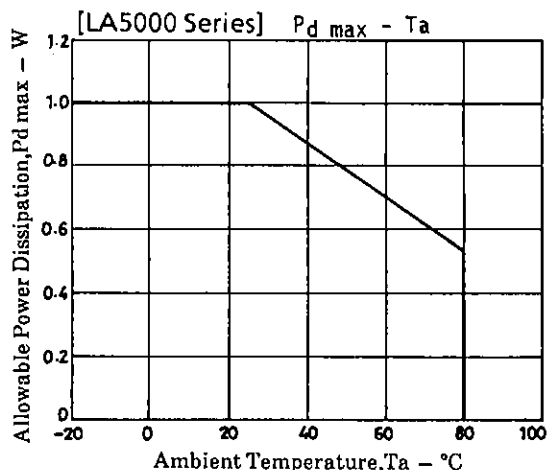
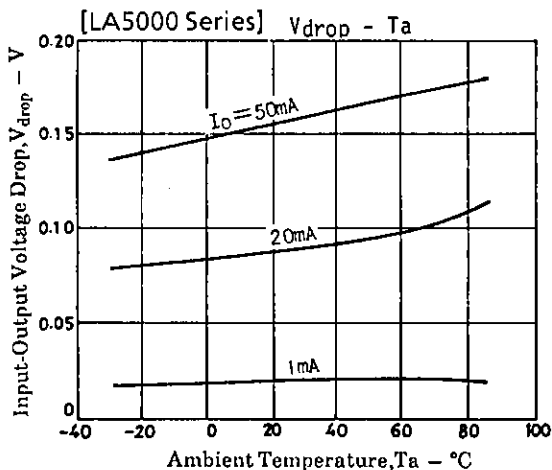
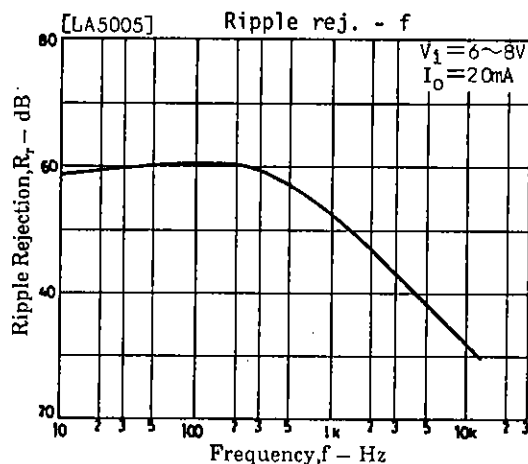
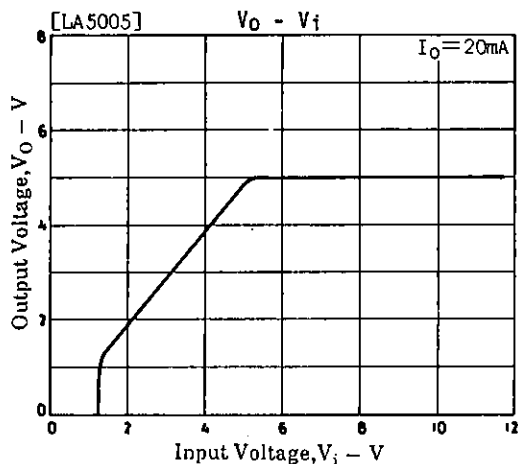
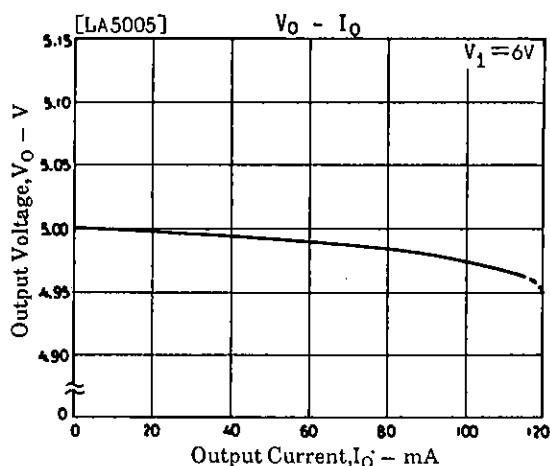
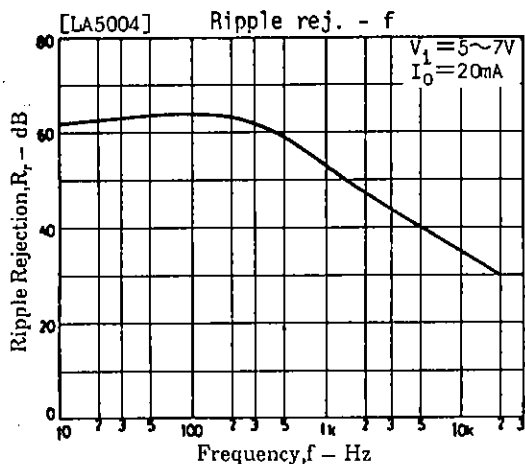


Unit (capacitance: F)

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