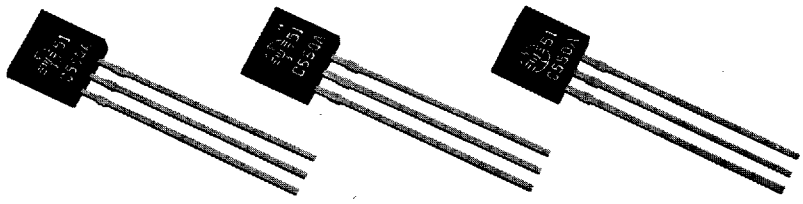
低電圧制御用 3端子形安定化電源 / 3-Terminal Stabilized Power Supply

Monolithic IC LVC550 Series



LVC550シリーズは、従来の3端子型安定化電源に比し、最小入出力電圧差を0.2V Typ.と小さくし、かつ無負荷入力電流を30μA Typ.と低消費電流化した安定化電源で、電池使用のポータブル機器に使用すると電池の利用率の向上と低消費電流で、電池寿命が大きく伸びます。

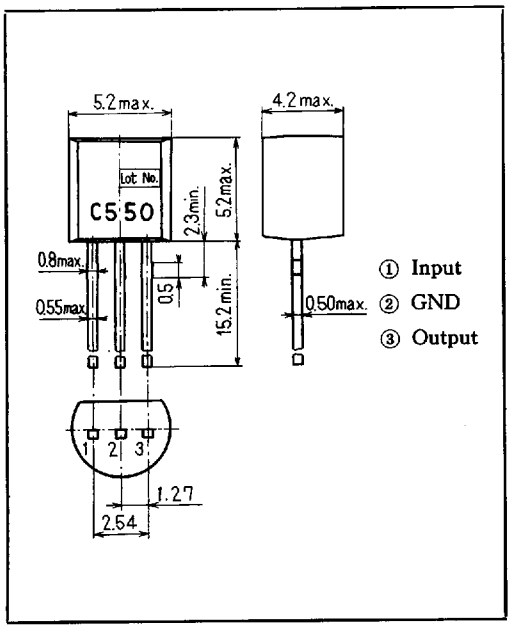
特長

(1) 最小入出力電圧 0.2V Typ.
(2) 出力電圧温度係数 ±0.01%／℃ Typ.
(3) 無負荷時入力電流 50μA Max.
(4) パッケージ TO—92

用途

(1) ハンドヘルドコンピューター
(2) ハンディトランシーバー
(3) コードレステレフォン
(4) その他、電池使用ポータブル機器
(特に、CMOS使用機器)

外形図/DIMENSIONS



In comparison with the conventional 3-terminal stabilized power supplies, the LVC550 Series comprises low current-consumption power supplies with the minimum input-output voltage difference limited to low 0.2V typical and the no-load input current consumption limited to 30μA typical. When used for battery-operated portable equipment, the battery life will be greatly prolonged because of higher battery utilization rate and lower current consumption.

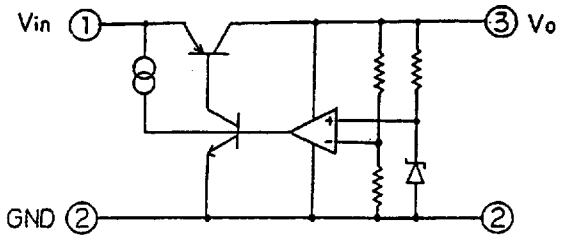
FEATURES

(1) Minimum input-output voltage : 0.2V Typ.
(2) Output voltage temperature coefficient : ±0.01%／℃ Typ.
(3) No-load input current : 50μA max.
(4) Package : TO—92

APPLICATIONS

(1) For hand-held computers.
(2) For handy transceivers (citizen's band radios).
(3) For cordless telephones.
(4) For others such as battery-operated portable equipment (especially for CMOS using equipment).

等価回路/EQUIVALENT CIRCUIT



▒最大定格/MAXIMUM RATING

(Ta=25℃)

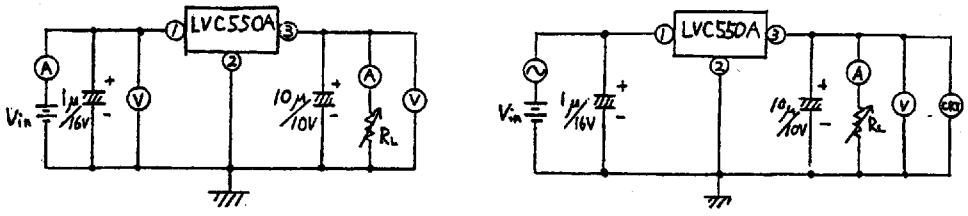
項目/Item		記号/Symbol	定格/Rating	単位/Unit
動作温度	Operating Temperature	Topr	−20～+75	℃
保存温度	Storage Temperature	Tstg	−30～+125	℃
入力電圧	Input Voltage	Vin	−0.3～15	V
ドライブ電流	Drive Current	I_D	100	mA
消費電力	Power Dissipation	P_D	300	mW

▒電気的特性/ELECTRICAL CHARACTERISTICS of 550A

(Ta=25℃)

項目 Item		記号 Symbol	測定条件 Measuring Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 Unit
出力電圧	Output Voltage	Vo	Vin=6.0 Io=25mA	2.85	3.00	3.15	V
無負荷入力電流	No Load Input Current	Iio	Vin=6.0V Io=0mA		30	50	μA
入力変動率	Input Regulation	△V1	Vi=3.45V～8.0V Io=30mA		±0.15		%／V
負荷変動率	Load Regulation	△V2	Vi=6.0V Io=0～50mA		±0.05		%／mA
出力電圧温度係数	Output Voltage Temperature Coefficient	△V3	Vi=6.0V Io=25mA Ta=−20～+75℃		±0.02		%／℃
リップル除去率	Ripple Rejection	RR	4V ＜Vin ＜8V Io=25mA f=120Hz	45	55		dB

▒測定回路/MEASURING CIRCUIT



A：直流電流計
V：直流電圧計
CRT：オシロスコープ

使用コンデンサ：タンタル電解コンデンサ

▒電気的特性/ELECTRICAL CHARACTERISTICS of LVC550B

(Ta=25℃)

項目 Item		記号 Symbol	測定条件 Measuring Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 Unit
出力電圧	Output Voltage	Vo	Vin=7.0V Io=25mA	3.8	4.0	4.2	V
無負荷入力電流	No Load Input Current	Iio	Vin=7.0V Io=0mA		30	50	μA
入力変動率	Input Regulation	△V1	Vin=4.5V～9.0V Io=30mA		±0.05		%／V
負荷変動率	Load Regulation	△V2	Vin=7.0V Io=0～50mA		±0.05		%／mA
出力電圧温度係数	Output Voltage Temperature Coefficient	△V3	Vin=7.0V Io=25mA Ta=−20～+75℃		±0.02		%／℃
リップル除去率	Ripple Rejection	RR	5V＜Vin＜9V Io=25mA f=120Hz	45	55		dB

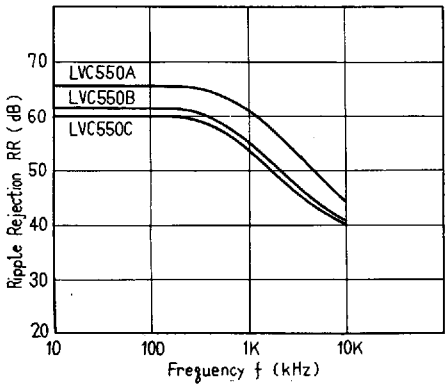
▒電気的特性/ELECTRICAL CHARACTERISTICS of LVC550C

(Ta=25℃)

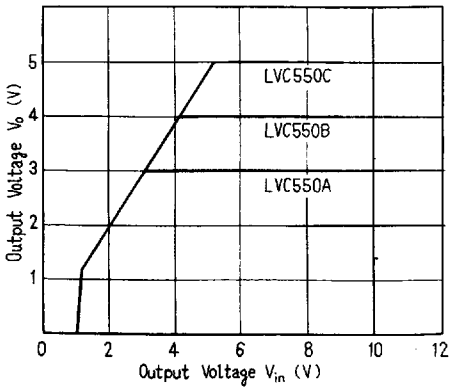
項目 Item		記号 Symbol	測定条件 Measuring Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 Unit
出力電圧	Output Voltage	Vo	Vin=8.0V Io=25mA	4.8	5.0	5.2	V
無負荷入力電流	No Load Input Current	Iio	Vin=8.0V Io=0mA		30	50	μA
入力変動率	Input Regulation	△1	Vin=5.5～10V Io=30mA		±0.05		%／V
負荷変動率	Load Regulation	△2	V1=8.0V Io=0～50mA		±0.05		%／A
出力電圧温度係数	Output Voltage Temperature Coefficient	△3	Vin=8.0V Io=25mA Ta=−20～+75℃		±0.01		%／℃
リップル除去率	Ripple Rejection	RR	6V＜Vin＜10V Io=25mA f=120Hz	45	55		dB

▒特性/CHARACTERISTICS

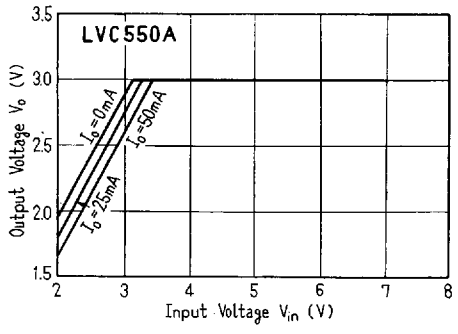
■リップル特性/Ripple Charac.



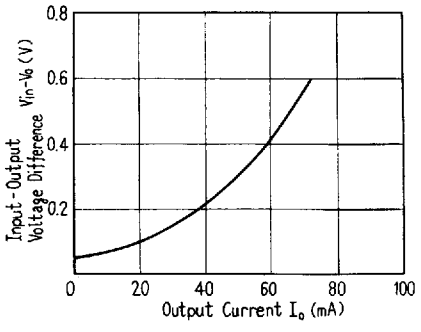
■出力電圧特性/Output Voltage Charac.



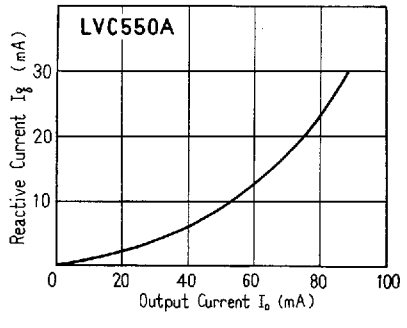
■出力電圧特性/Output Voltage Charac.



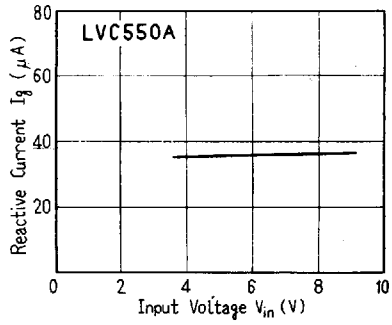
■入出力間電圧差特性/Input Output Charac.



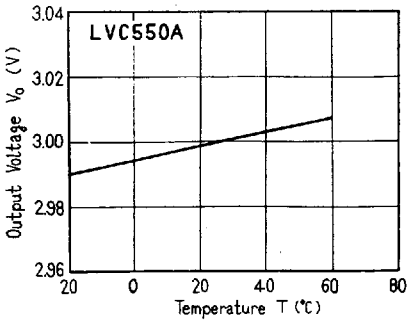
■負荷時無効電流/Reactive Current Charac. at No Load.



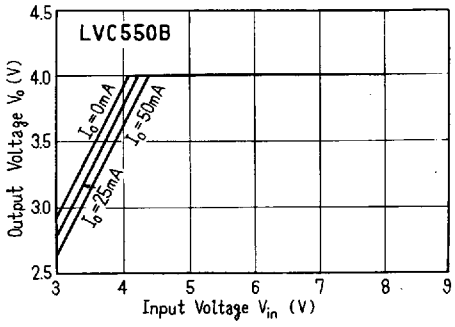
■無負荷時無効電流/Reactive Current at No Load.



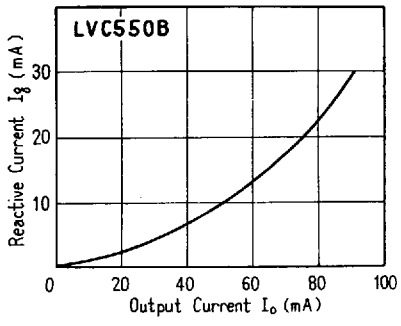
■温度特性/Temperature Charac.



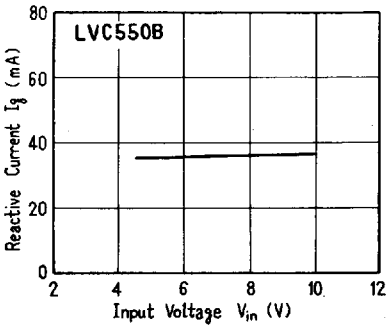
■出力電圧特性/Output Voltage Charac.



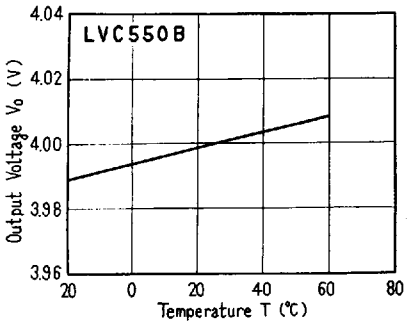
■無負荷時無効電流/Reactive Current at No Loa. .



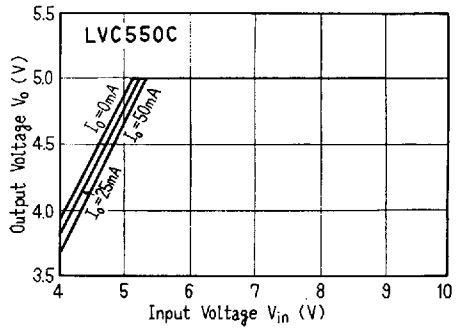
■無負荷時無効電流/Reactive Current at No Load.



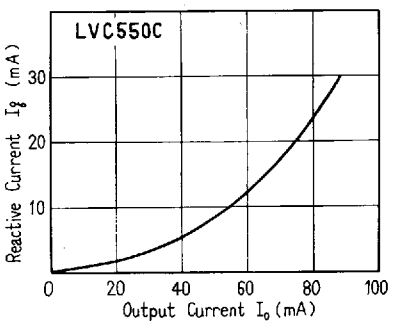
■温度特性/Temperature Charac.



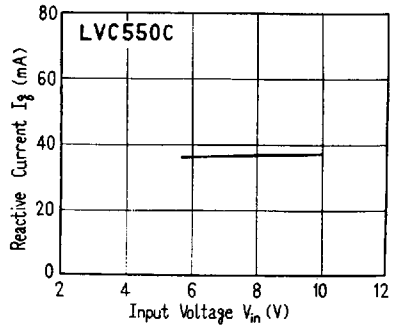
■出力電圧特性/Output Voltage Charac.



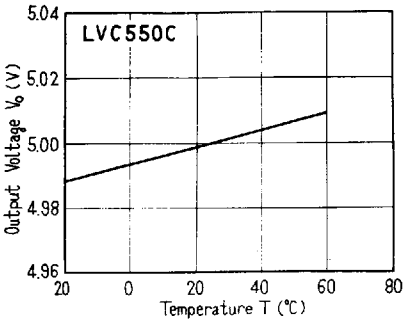
■負荷時無効電流/Reactive Current at Load.



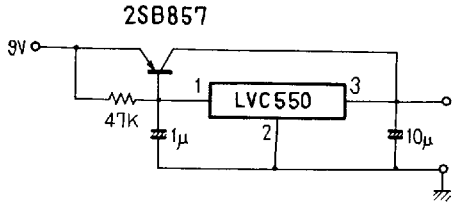
■無負荷時無効電流/Reactive Current at No Load.



■温度特性/Temperature Charac.



■応用回路例/APPLIED CIRCUIT EXAMPLE



■パワーＴＲ外付の負荷特性/Load Charac. with Power TR.