

ILC7262

Dual CMOS LDO

Features

- All-CMOS design in an 8-lead SOIC package
- $\pm 2\%$ precision outputs
- $2.2\mu\text{A}$ of I_q
- Short-circuit protected outputs
- Voltage options allow:
 - Dual 50mA 5.0 & 3.3V Regulator
 - Dual 50mA 5.0 & 3.0V Regulator
 - Dual 125mA 5V to 3.0V & 3.3V Converter

Applications

- Battery-powered Equipment
- Portable communications
- PDAs and palmtops

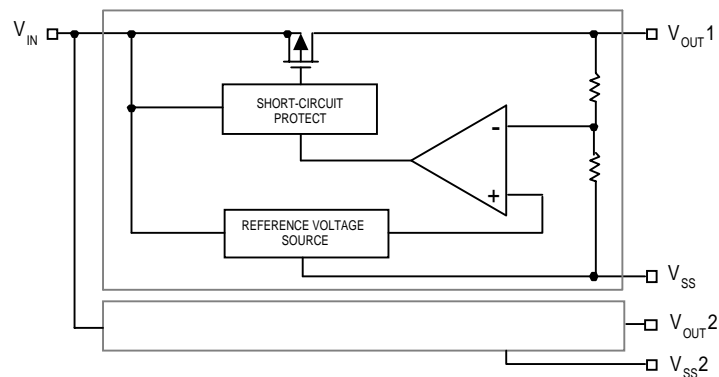
Description

Dual 125mA CMOS LDO in an SO-8 package. This part offers 120mV dropout voltage on each output at 100mA typical (5V part), and nearly zero dropout below 5mA. Each output is independently short-circuit protected.

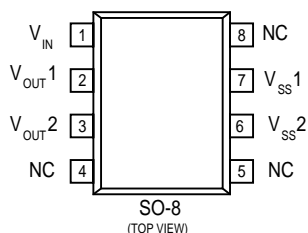
Its all-CMOS design means that only $2.2\mu\text{A}$ of current is required to run the part.

$\pm 2\%$ accurate outputs come in a number of configurations, to allow for flexible yet compact portable system designs.

Block Diagram



Pin Assignments



Absolute Maximum Ratings

| Parameter | Min. | Max. | Unit |
|------------------------------------|-----------|------------------------------|------|
| Input Voltage | V_{IN} | 12 | V |
| Output Current | I_{OUT} | 500 | mA |
| Output Voltage | V_{OUT} | $V_{SS}-0.3 \sim V_{IN}+0.3$ | V |
| Continuous Total Power Dissipation | P_D | 300 | mW |
| Operating Ambient Temperature | T_{opr} | -30~+80 | °C |
| Storage Temperature | T_{stg} | -40~+125 | °C |

Electrical Characteristics

ILC7262 COMMON CHARACTERISTICS $T_A = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|----------------|-----------|------------------------|------|------|------|-------|
| Supply Voltage | V_{OUT} | $V_{IN} = 6.0\text{V}$ | 4.90 | 5.0 | 5.10 | V |
| Input Voltage | V_{IN} | | | | 10.0 | mA |

Electrical Characteristics ILC7262

V_{OUT} SECTION: $V_{OUT}(T) = 5.0\text{V}$, $T_A = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|--|---|---|------|------------|------------|--------|
| Output Voltage | V_{OUT} | $I_{OUT} = 40\text{mA}$, $V_{IN} = 6.0\text{V}$ | 4.90 | 5.0 | 5.10 | V |
| Maximum Output Current | $I_{OUT(max)}$ | $V_{IN} = 6.0\text{V}$, $V_{OUT} \geq 4.5\text{V}$ | 250 | | | mA |
| Load Stability | ΔV_{OUT} | $V_{IN} = 6.0\text{V}$, $1\text{mA} \leq I_{OUT} \leq 100\text{mA}$ | | 40 | 80 | mV |
| Input/Output Voltage Differential | V_{dif} | $I_{OUT} = 100\text{mA}$ $I_{OUT} = 200\text{mA}$ | | 120 380 | 300 600 | mV |
| Input Stability | $\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$ | $I_{OUT} = 40\text{mA}$ $6.0\text{V} \leq V_{IN} \leq 10.0\text{V}$ | | 0.2 | 0.3 | %/V |
| Output Voltage Temperature Characteristics | $\frac{\Delta V_{OUT}}{\Delta T_{opr} \cdot V_{OUT}}$ | $I_{OUT} = 40\text{mA}$ $-30^\circ\text{C} \leq T_{opr} \leq 80^\circ\text{C}$ | | ± 100 | | ppm/°C |

Electrical Characteristics ILC7262

V_{OUT2} SECTION: V_{OUT(T)} = 3.3V, T_A = 25°C

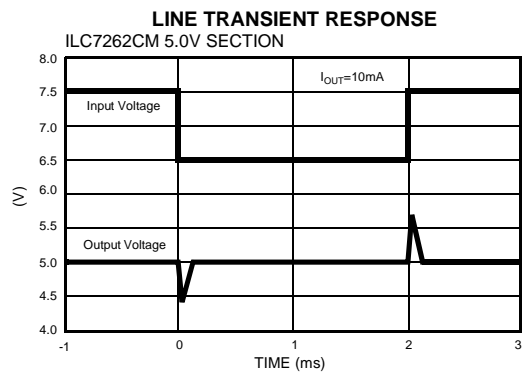
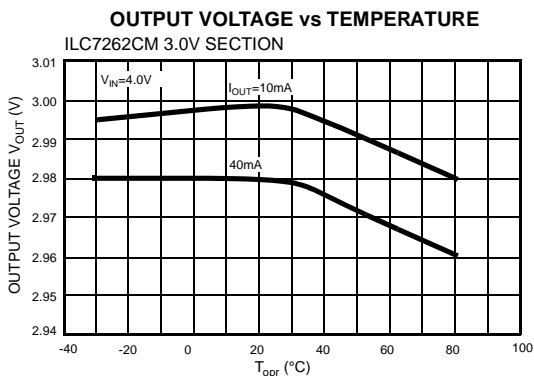
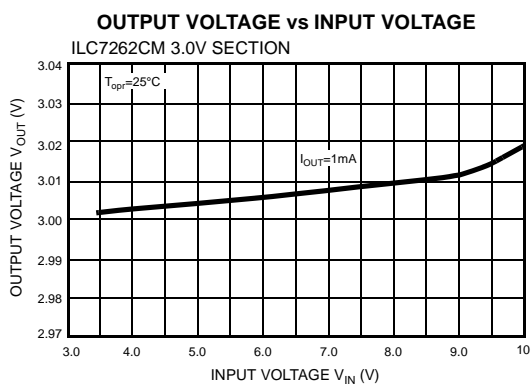
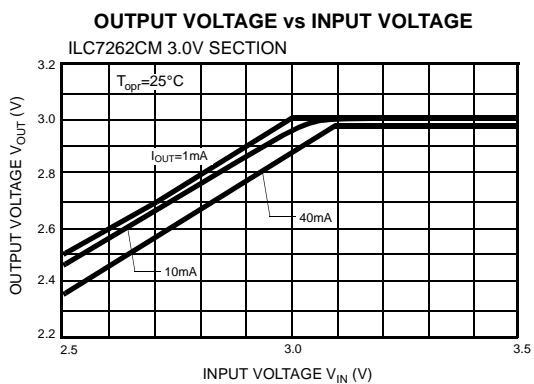
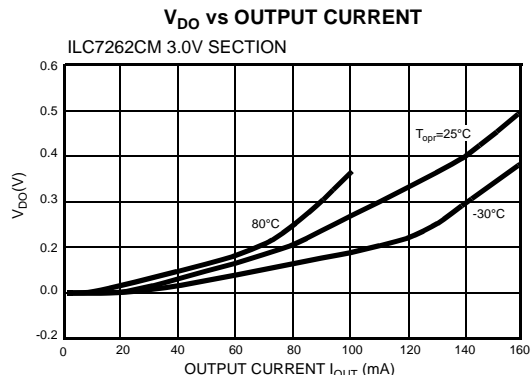
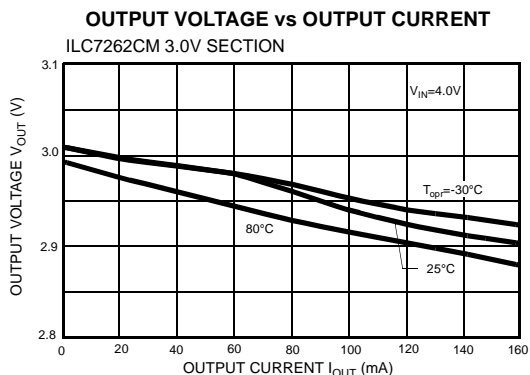
| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|--|---|--|-------|------------|------------|--------|
| Output Voltage | V _{OUT} | I _{OUT} = 40mA, V _{IN} = 6.0V | 3.234 | 3.30 | 3.37 | V |
| Maximum Output Current | I _{OUT(max)} | V _{IN} = 6.0V, V _{OUT} ≥ 2.97V | 165 | | | mA |
| Load Stability | ΔV _{OUT} | V _{IN} = 6.0V, 1mA ≤ I _{OUT} ≤ 80mA | | 45 | 90 | mV |
| Input/Output Voltage Differential | V _{dif} | I _{OUT} = 80mA I _{OUT} = 160mA | | 180 400 | 360 700 | mV |
| Input Stability | $\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$ | I _{OUT} = 40mA 6.0V ≤ V _{IN} ≤ 10.0V | | 0.2 | 0.3 | %/V |
| Output Voltage Temperature Characteristics | $\frac{\Delta V_{OUT}}{\Delta T_{opr} \cdot V_{OUT}}$ | I _{OUT} = 40mA -30°C ≤ T _{opr} ≤ 80°C | | ±100 | | ppm/°C |

Electrical Characteristics ILC7262

V_{OUT2} SECTION: V_{OUT(T)} = 3.0V, T_A = 25°C

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|--|---|--|------|------------|------------|--------|
| Output Voltage | V _{OUT} | I _{OUT} = 40mA, V _{IN} = 6.0V | 2.94 | 3.0 | 3.06 | V |
| Maximum Output Current | I _{OUT(max)} | V _{IN} = 6.0V, V _{OUT} ≥ 2.7V | 150 | | | mA |
| Load Stability | ΔV _{OUT} | V _{IN} = 6.0V, 1mA ≤ I _{OUT} ≤ 80mA | | 45 | 90 | mV |
| Input/Output Voltage Differential | V _{dif} | I _{OUT} = 80mA I _{OUT} = 160mA | | 180 400 | 360 700 | mV |
| Input Stability | $\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$ | I _{OUT} = 40mA 6.0V ≤ V _{IN} ≤ 10.0V | | 0.2 | 0.3 | %/V |
| Output Voltage Temperature Characteristics | $\frac{\Delta V_{OUT}}{\Delta T_{opr} \cdot V_{OUT}}$ | I _{OUT} = 40mA -30°C ≤ T _{opr} ≤ 80°C | | ±100 | | ppm/°C |

Typical Performance Characteristics General conditions for all curves



Ordering Information

| Product Number | Package |
|-----------------|--|
| ILC7262CS-50/30 | Dual 50mA 5V & 3.0V Regulator |
| ILC7262CS-50/33 | Dual 50mA 5V & 3.3V Regulator |
| ILC7262CS-33/30 | Dual 125mA 5V to 3.0V & 3.3V Converter |

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