ILC7262

Dual CMOS LDO

Features

- All-CMOS design in an 8-lead SOIC package
- ±2% precision outputs
- 2.2µA of Iq
- 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

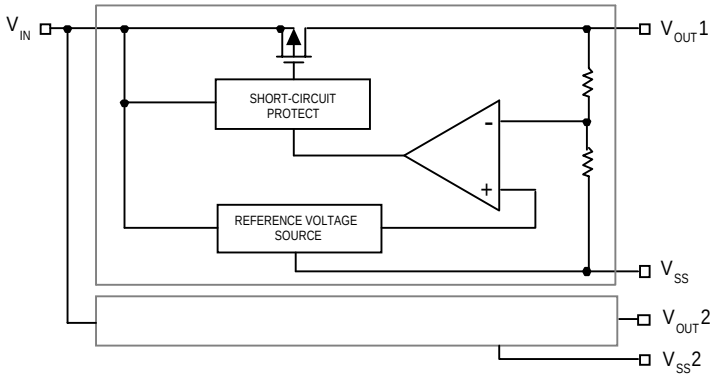
Description

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.

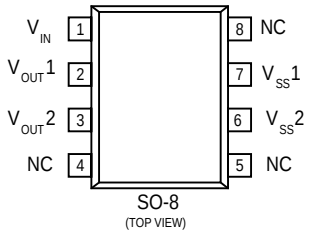
Its all-CMOS design means that only 2.2µA of current is required to run the part.

±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~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°C

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

Electrical Characteristics ILC7262

V_{OUT} SECTION: $V_{OUT}(T)$ = 5.0V, T_A = 25°C

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

Electrical Characteristics ILC7262

$V_{OUT}2$ 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	$I_{OUT(max)}$	$V_{IN} = 6.0V$, $V_{OUT} \geq 2.97V$	165			mA
Load Stability	ΔV_{OUT}	V_{IN} - 6.0V, $1mA \leq I_{OUT} \leq 80mA$		45	90	mV
Input/Output Voltage Differential	V_{dif}	$I_{OUT} = 80mA$ $I_{OUT} = 160mA$		180 400	360 700	mV
Input Stability	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	$I_{OUT} = 40mA$ $6.0V \leq V_{IN} \leq 10.0V$		0.2	0.3	%/V
Output Voltage Temperature Characteristics	$\frac{\Delta V_{OUT}}{\Delta T_{opr} \bullet V_{OUT}}$	$I_{OUT} = 40mA$ $-30°C \leq T_{opr} \leq 80°C$		±100		ppm/°C

Electrical Characteristics ILC7262

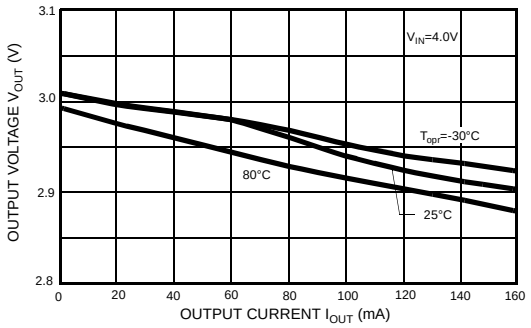
$V_{OUT}2$ SECTION: $V_{OUT}(T) = 3.0V$, $T_A = 25°C$

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	$I_{OUT(max)}$	$V_{IN} = 6.0V$, $V_{OUT} \geq 2.7V$	150			mA
Load Stability	ΔV_{OUT}	V_{IN} - 6.0V, $1mA \leq I_{OUT} \leq 80mA$		45	90	mV
Input/Output Voltage Differential	V_{dif}	$I_{OUT} = 80mA$ $I_{OUT} = 160mA$		180 400	360 700	mV
Input Stability	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	$I_{OUT} = 40mA$ $6.0V \leq V_{IN} \leq 10.0V$		0.2	0.3	%/V
Output Voltage Temperature Characteristics	$\frac{\Delta V_{OUT}}{\Delta T_{opr} \bullet V_{OUT}}$	$I_{OUT} = 40mA$ $-30°C \leq T_{opr} \leq 80°C$		±100		ppm/°C

Typical Performance Characteristics General conditions for all curves

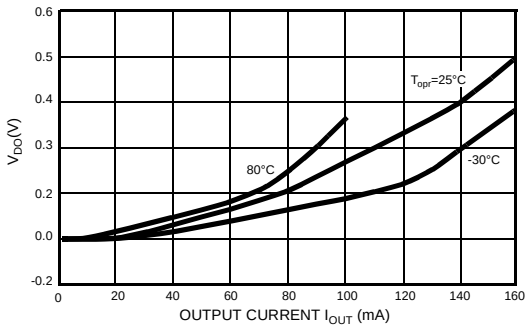
OUTPUT VOLTAGE vs OUTPUT CURRENT

ILC7262CM 3.0V SECTION



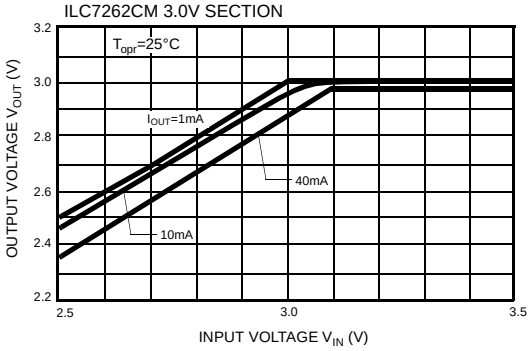
V_{DO} vs OUTPUT CURRENT

ILC7262CM 3.0V SECTION



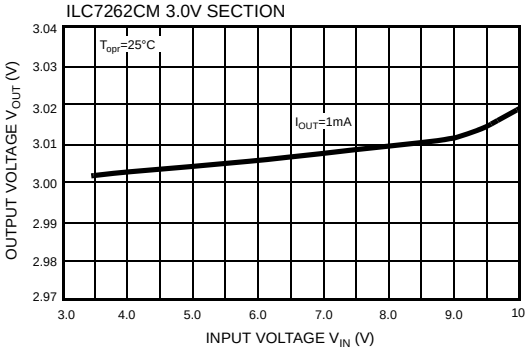
OUTPUT VOLTAGE vs INPUT VOLTAGE

ILC7262CM 3.0V SECTION



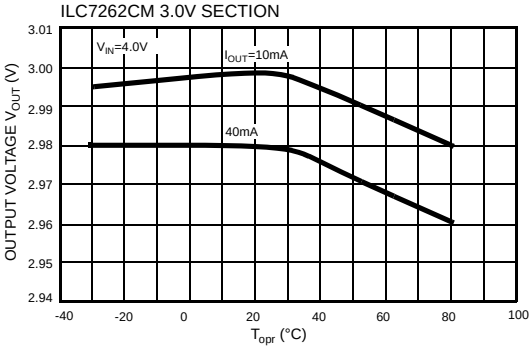
OUTPUT VOLTAGE vs INPUT VOLTAGE

ILC7262CM 3.0V SECTION



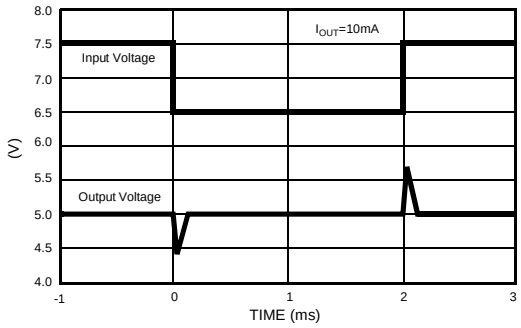
OUTPUT VOLTAGE vs TEMPERATURE

ILC7262CM 3.0V SECTION



LINE TRANSIENT RESPONSE

ILC7262CM 5.0V SECTION



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