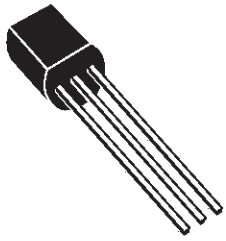
LD2979 SERIES

VERY LOW DROP VOLTAGE REGULATORS WITH INHIBIT

- VERY LOW DROPOUT VOLTAGE (0.2V TYP. AT 50mA LOAD)
- VERY LOW QUIESCENT CURRENT (TYP. 500µA AT50mA LOAD)
- OUTPUT CURRENT UP TO 50 mA
- LOGIC-CONTROLLED ELECTRONIC SHUTDOWN
- OUTPUT VOLTAGES OF 2.85; 3.0; 3.2; 3.3; 3.8; 5.0V
- INTERNAL CURRENT AND THERMAL LIMIT
- SUPPLY VOLTAGE REJECTION: 63dB (TYP)
- ONLY 1µF FOR STABILITY
- SELECTION AT 25 °C
- TEMPERATURE RANGE: -25 TO 125 °C
- PACKAGE AVAILABLE: SOT23-5L AND TO-92



SOT23-5L



TO-92

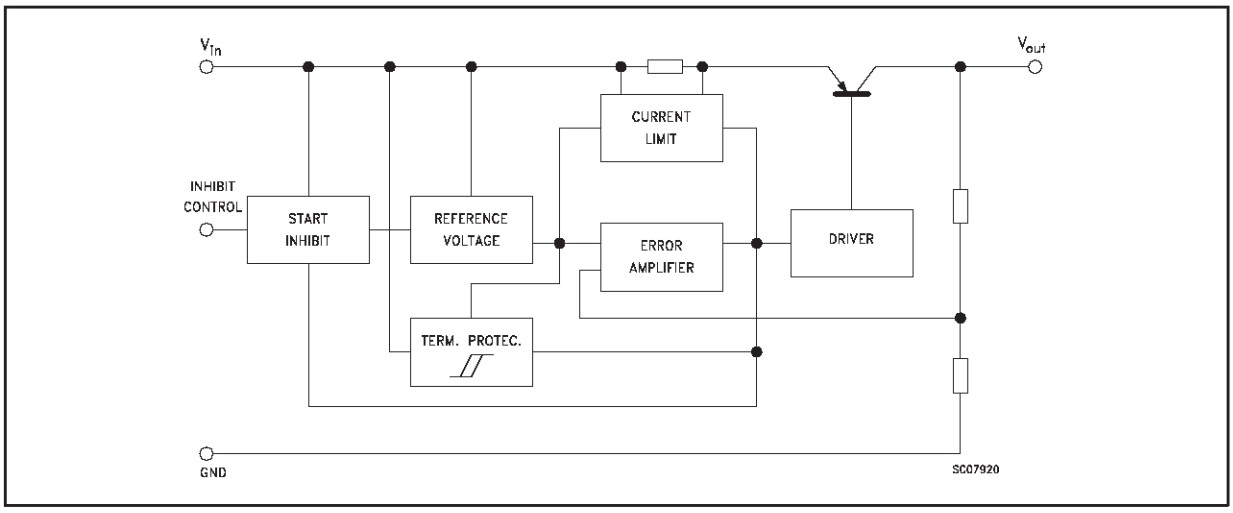
DESCRIPTION

The LD2979 series are very Low Drop regulators available in SOT23-5L and TO-92.

The very low drop-voltage and the very low quiescent current make them particularly suitable for low noise, low power applications and in battery powered systems.

Shutdown Logic Control function is available on five pin version (TTL compatible). This means that when the device is used as local regulator, it is possible to put a part of the board in standby, decreasing the total power consumption.

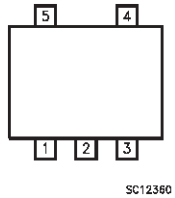
SCHEMATIC DIAGRAM



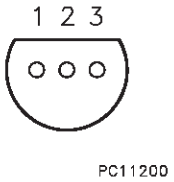
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
V_{IN}	DC Input Voltage	16	V
V_{INH}	DC Inhibit Input Voltage	V_{IN}	V
I_o	Output Current	Internally limited	mA
P_{tot}	Power Dissipation	Internally limited	mW
T_{stg}	Storage Temperature Range	- 40 to 150	°C
T_{op}	Operating Junction Temperature Range	- 25 to 125	°C

CONNECTION DIAGRAM (top view)



SOT23-5L



BOTTOM VIEW

TO-92

SYMBOL	NAME AND FUNCTION	PIN NUMBER	
		SOT23-5L	TO-92
V_{IN}	Input Voltage	1	3
GND	Ground	2	2
INHIBIT	Control Switch ON/OFF (*)	3	-
NC	Not to be connected	4	-
V_{OUT}	Output Voltage	5	1

(*) Only for the version in SOT23-5L package: Inhibit pin is not internally pulled-up then it must not be left floating. Connect to a positive voltage higher than 2V to able the device.

ORDERING NUMBERS

SOT23-5L	TO-92	Output Voltage
LD2979M28	LD2979Z28	2.85 V
LD2979M30	LD2979Z30	3.0 V
LD2979M32	LD2979Z32	3.2 V
LD2979M33	LD2979Z33	3.3 V
LD2979M38	LD2979Z38	3.8 V
LD2979M50	LD2979Z50	5.0 V

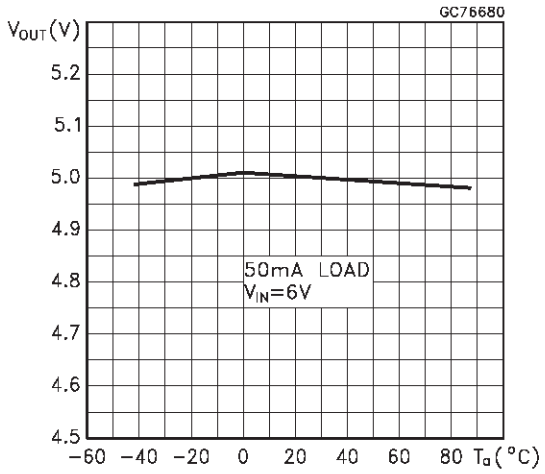
ELECTRICAL CHARACTERISTICS FOR LD2979 (refer to the test circuits, T_a = 25 °C, $V_{IN} = V_{O(NOM)}$ +1, C_O = 1 µF, I_O = 1mA, V_{inh} = 2V(*)) (unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_o	Output Voltage	V_{IN} = 3.85 V 1 < I_o < 50 mA, -25 < T_a < 125 °C	2.793 2.736	2.85	2.907 2.964	V V
V_o	Output Voltage	V_{IN} = 4 V 1 < I_o < 50 mA, -25 < T_a < 125 °C	2.940 2.880	3	3.060 3.120	V V
V_o	Output Voltage	V_{IN} = 4.2 V 1 < I_o < 50 mA, -25 < T_a < 125 °C	3.136 3.072	3.2	3.264 3.328	V V
V_o	Output Voltage	V_{IN} = 4.3 V 1 < I_o < 50 mA, -25 < T_a < 125 °C	3.234 3.168	3.3	3.366 3.432	V V
V_o	Output Voltage	V_{IN} = 4.8 V 1 < I_o < 50 mA, -25 < T_a < 125 °C	3.724 3.648	3.8	3.876 3.952	V V
V_o	Output Voltage	V_{IN} = 6 V 1 < I_o < 50 mA, -25 < T_a < 125 °C	4.9 4.8	5	5.1 5.2	V V
I_{out}	Output Current Limit		100			mA
ΔV_o	Line Regulation	$V_{O(NOM)}$ +1 < V_{IN} < 16V, I_o = 1 mA -25 < T_a < 125 °C			0.028 0.064	%/V_{in}
I_d	Quiescent Current	ON MODE I_o = 0 mA I_o = 0 mA -25 < T_a < 125 °C I_o = 50 mA I_o = 50 mA -25< T_a < 125 °C		 80 500	 110 170 700 1300	 µA µA µA µA
		OFF MODE (*) V_{ihn} < 0.18 V V_{ihn} < 0.18 V -25< T_a < 125 °C		 0	 1	 µA µA
SVR	Supply Voltage Rejection	I_o = 50 mA, f = 120 Hz, C_{out} = 10 µF		63		dB
V_d	Dropout Voltage	I_o = 0 mA I_o = 0 mA -25 < T_a < 125 °C I_o = 1 mA I_o = 1 mA -25 < T_a < 125 °C I_o = 10 mA I_o = 10 mA -25< T_a < 125 °C I_o = 50 mA I_o = 50 mA -25< T_a < 125 °C		6 30 100 200	12 18 60 90 200 300 400 600	mV mV mV mV mV mV mV mV
V_{il}	Control Input Logic Low	-25 < T_a < 125 °C (*) Device Off			0.18	V
V_{ih}	Control Input Logic High	-25 < T_a < 125 °C (*) Device On	2			V
I_i	Control Input Current	$V_{inhibit}$ = 0 V (*) $V_{inhibit}$ = 5 V, -25< T_a < 125 °C (*)		0 5	-1 15	µA µA
eN	Output Noise Voltage (RMS)	BW = 300 Hz to 50 KHz, C_{out} = 10 µF		160		µV

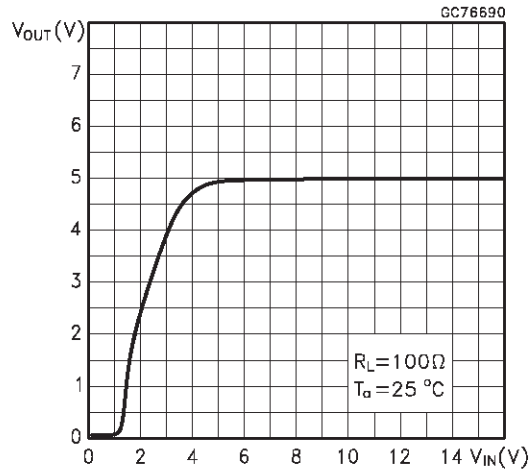
(*) Note: Only for types in SOT23-5L

TYPICAL PERFORMANCE CHARACTERISTICS (unless otherwise specified T_a=25°C)

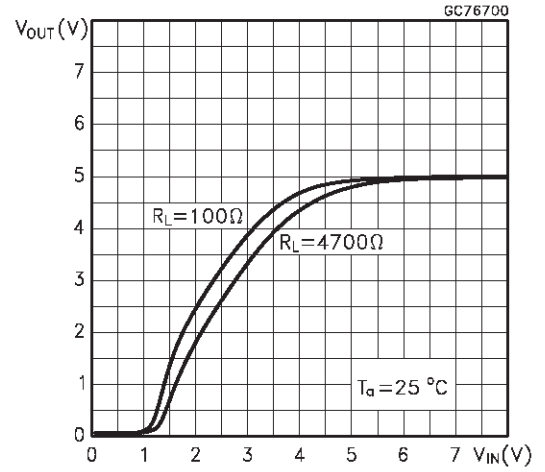
Output Voltage vs Temperature



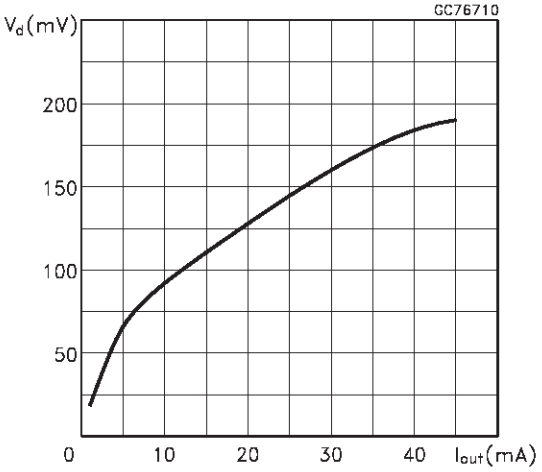
Output Voltage vs Input Voltage



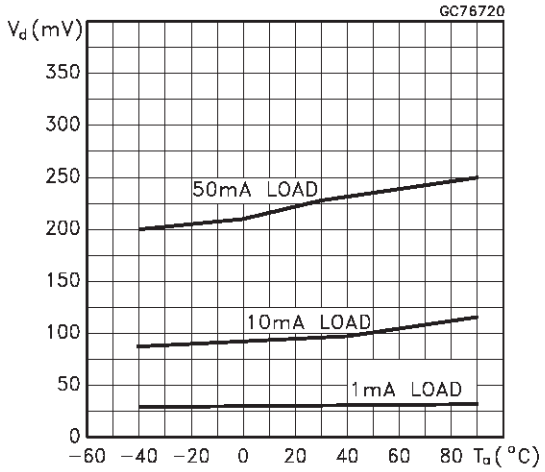
Output Voltage vs Input Voltage



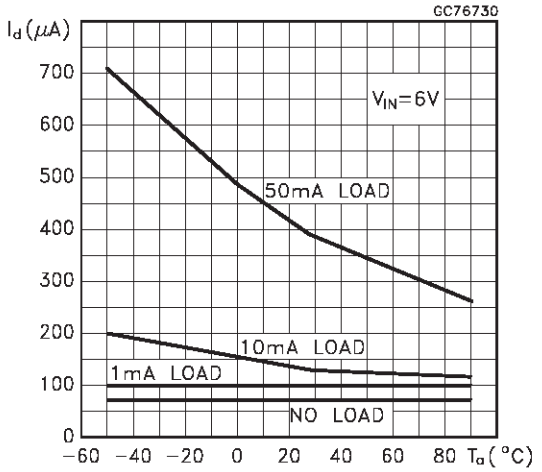
Dropout Voltage vs Output Current



Dropout Voltage vs Temperature

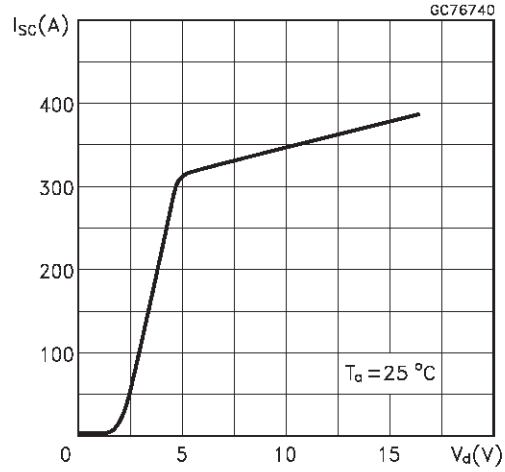


Quiescent Current vs Temperature

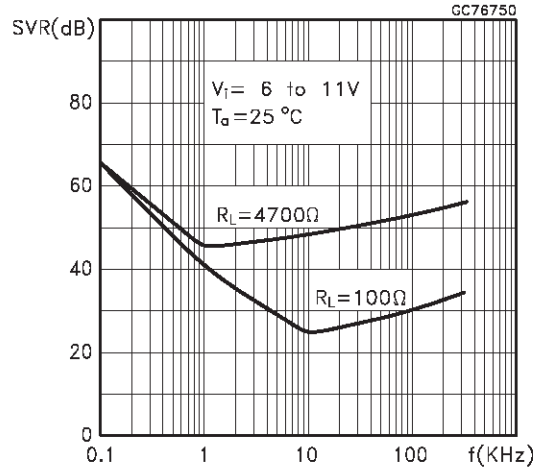


TYPICAL PERFORMANCE CHARACTERISTICS (continued)

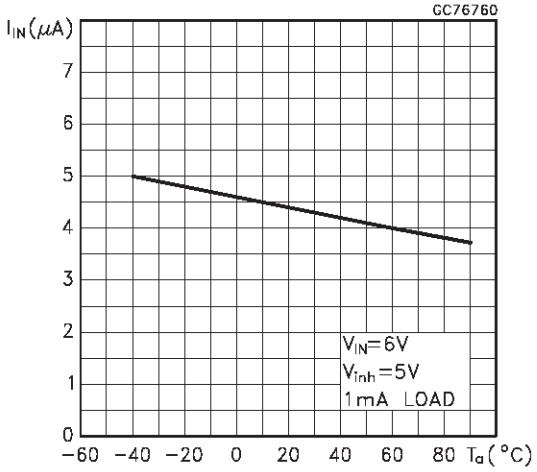
Short Circuit Current vs Dropout Voltgae



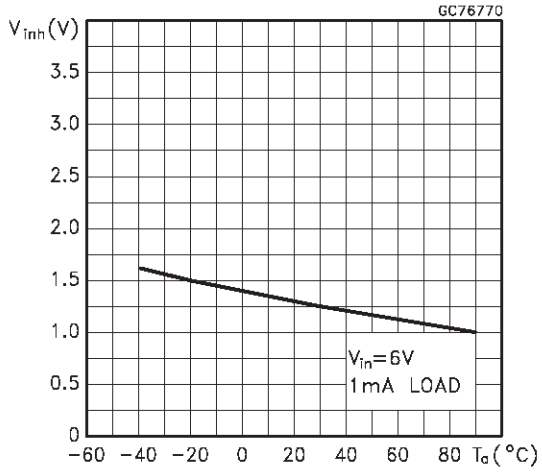
S.V.R. vs Frequency



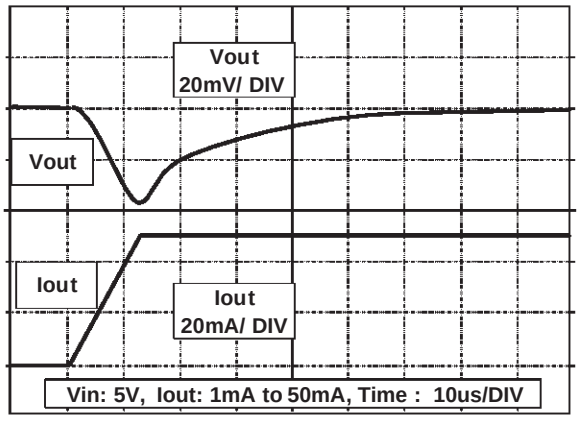
Inhibit Current vs Temperature



Inhibit Voltage vs Temperature

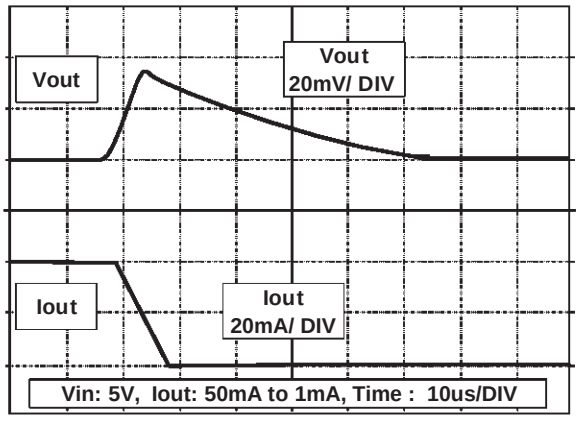


Load Transient Response



C_O = 10μF (ESR=1Ω at 1KHz)

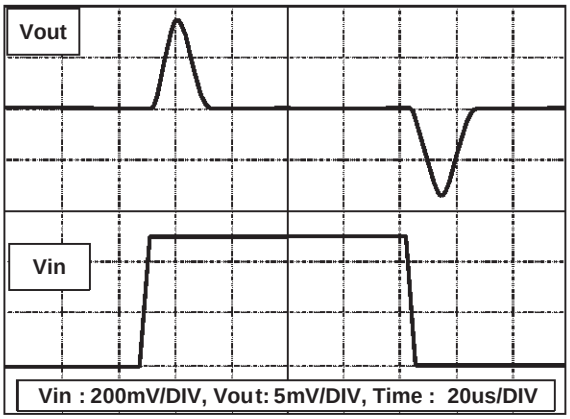
Load Transient Response



C_O = 10μF (ESR=1Ω at 1KHz)

TYPICAL PERFORMANCE CHARACTERISTICS (continued)

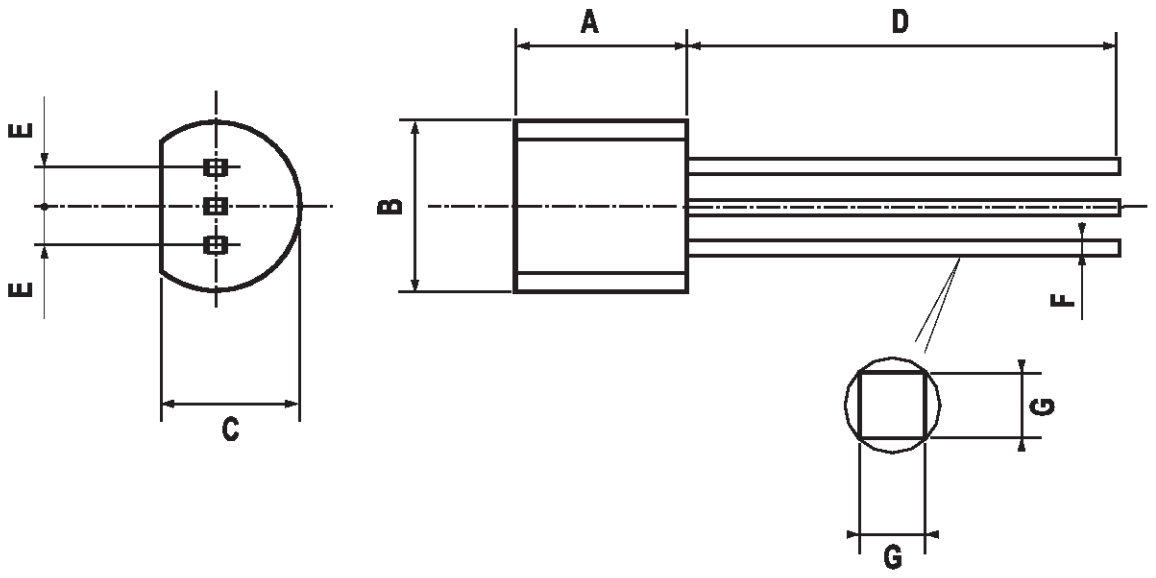
Line Transient Response



V_{CC} = 4.75 to 5.25V, I_{OUT} = 0.1A, C_O = 10µF (ESR=1Ω at 1KHz)

TO-92 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.58		5.33	0.180		0.210
B	4.45		5.2	0.175		0.204
C	3.2		4.2	0.126		0.165
D	12.7			0.500		
E		1.27			0.050	
F	0.4		0.51	0.016		0.020
G	0.35			0.14		



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