

80V Linear Regulator PR2101

The PR2101 is a high voltage, low quiescent current, linear regulator. It has a wide operating input voltage range of 7V to 80V for an output voltage of 5V.

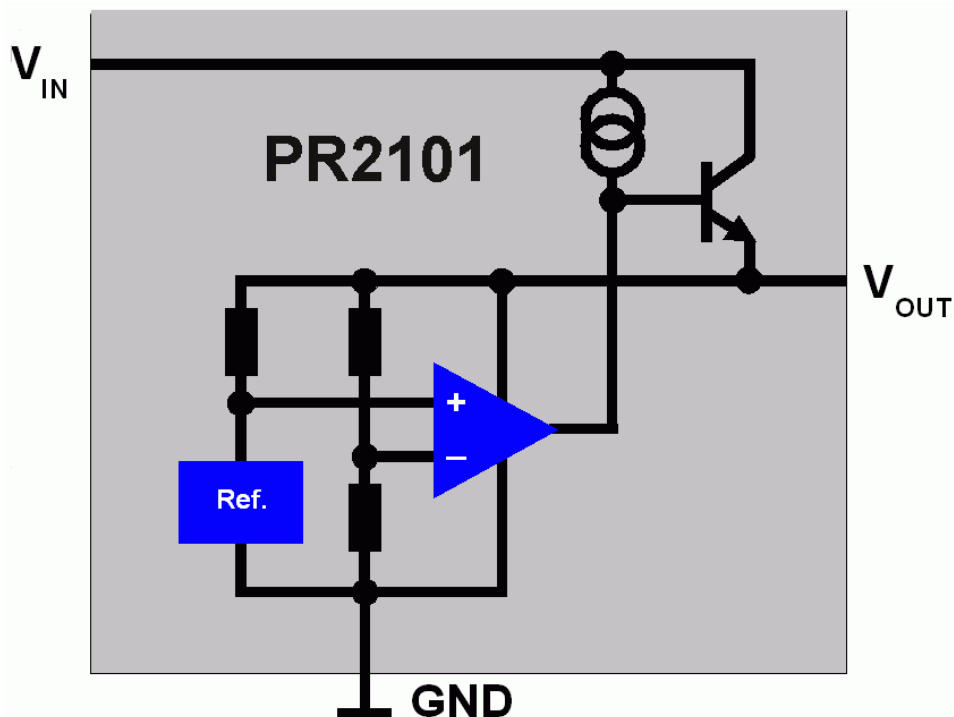
Features

- 7V to 80V input voltage range
- voltage stability 30 ppm over input voltage range 10...80V
- temperature stability +/-0.5% over temperature range -40°C...+120°C.
- Low quiescent current of typ. 50µA
- Output current up to 6mA
- Stable without capacitors

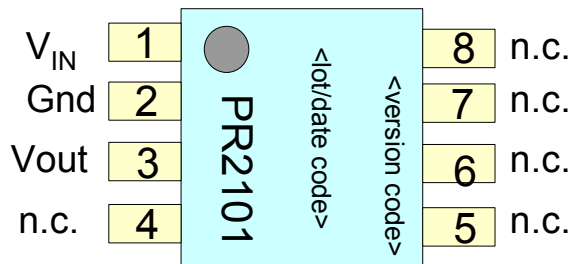
Applications

- Low current, high voltage regulators
- Battery powered systems
- Automotive applications
- Telecom applications

Block Diagram



Pin Description PR2101



Pin No	Pin Name	Pin Function Description
1	VIN	Input voltage
2	Gnd	Ground connection
3	Vout	Output voltage
4	n.c.	not connected
5	n.c.	not connected
6	n.c.	not connected
7	n.c.	not connected
8	n.c.	not connected

Package: SO8 (150 mil)

Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units
dVIN (transients, no damage)	-0.3		90	V
Operating Temperature Range	-20		85	°C
Storage Temperature Range	-55		150	°C
Electrostatic Discharge (ESD) Protection	1			kV

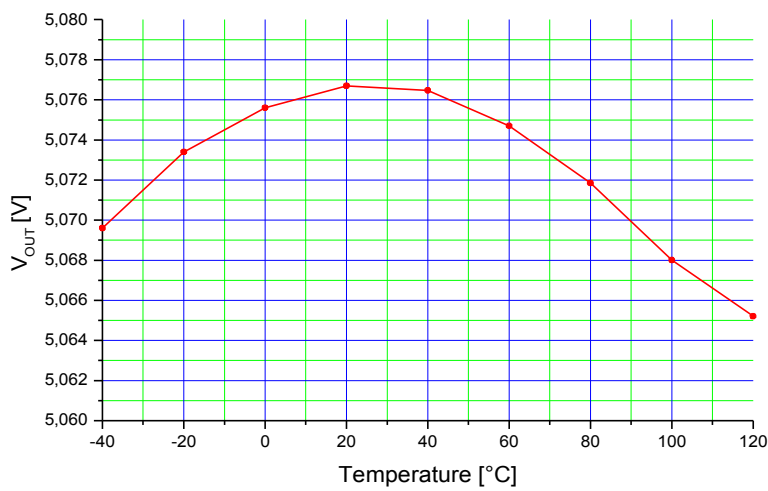
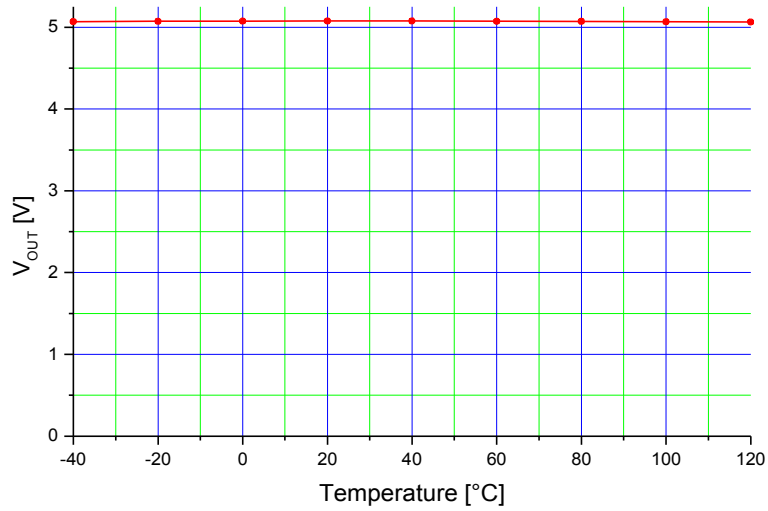
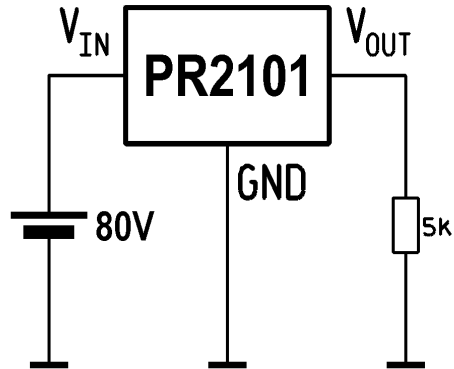
Electrical Characteristics

Parameter		Conditions	Min	Typ	Max	Units
Input Voltage	V _{IN}		7		80	V
Output Voltage	V _{OUT}	T _A =25°C	4.8	5.0	5.2	V
Output Current	I _{OUT}	V _{IN} ≥ 7V			6	mA
Regulator voltage drop	V _{IN} -V _{OUT}		2		80	V
Line Regulation	ΔV _{OUT}	10V < V _{IN} < 80V, I _{OUT} =1mA		±0.003		%
Load Regulation	ΔV _{OUT}	V _{IN} =80V, 1mA < I _{OUT} < 6mA		±0.2		%
Temperature Stability	ΔV _{OUT}	V _{IN} =80V, I _{OUT} =1mA, -40°C < T _A < 120°C		±0.5		%
Quiescent Current	I _{IDLE}	V _{IN} =80V, I _{OUT} =0mA T _A =25°C	40	50	60	μA
Junction Temperature	T _J				125	°C
Thermal Resistance	Θ _{JA}	SO-8 package, no air convection		160		°C/W

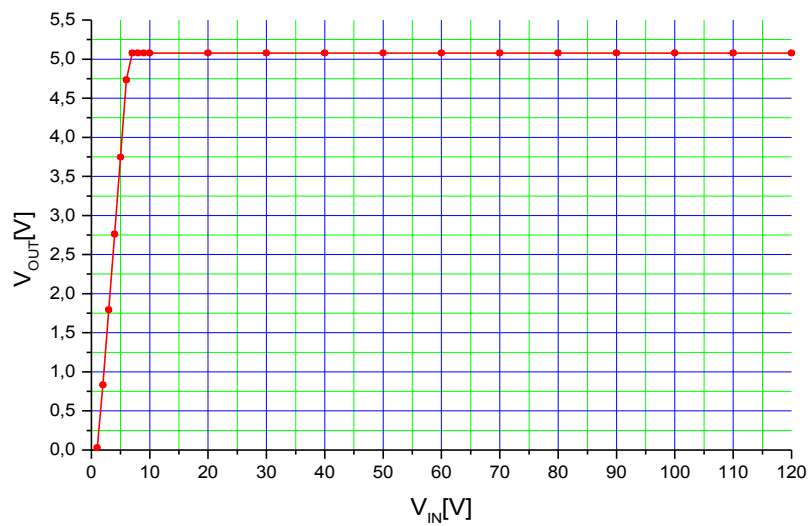
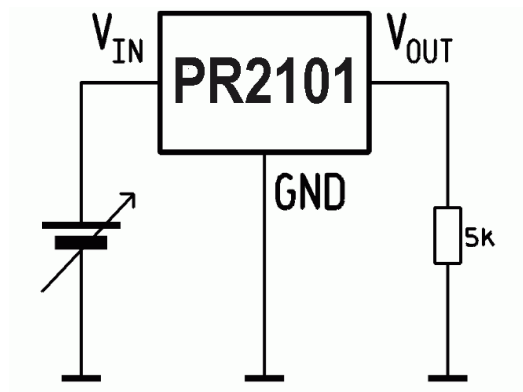
All data are preliminary

Typical Performance Characteristics

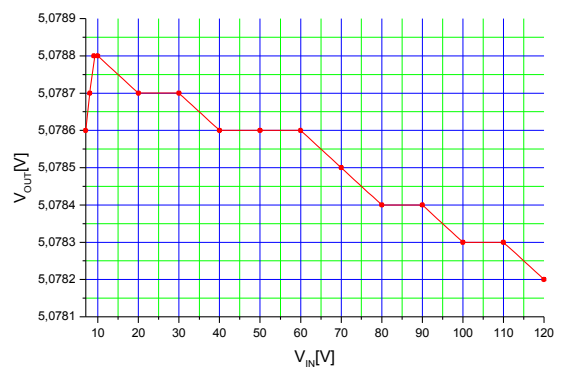
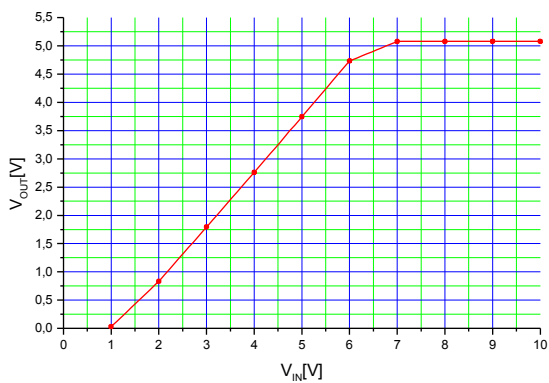
Temperature Variation



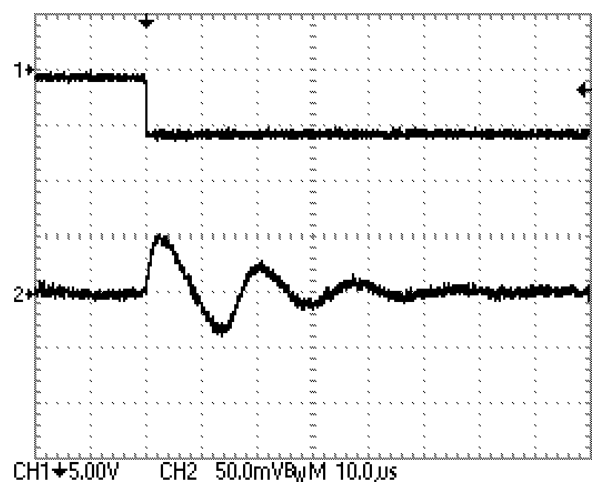
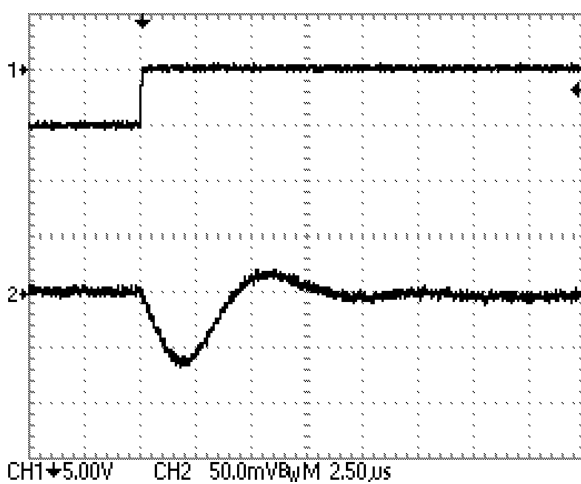
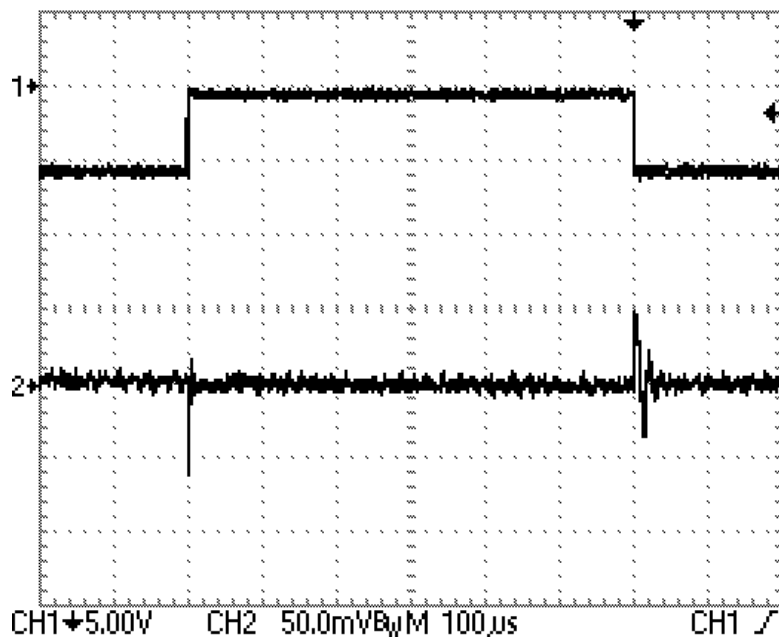
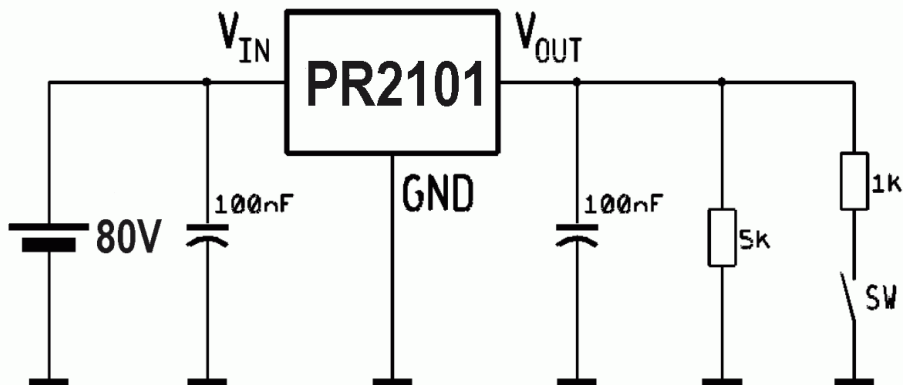
V_{OUT} versus V_{IN}



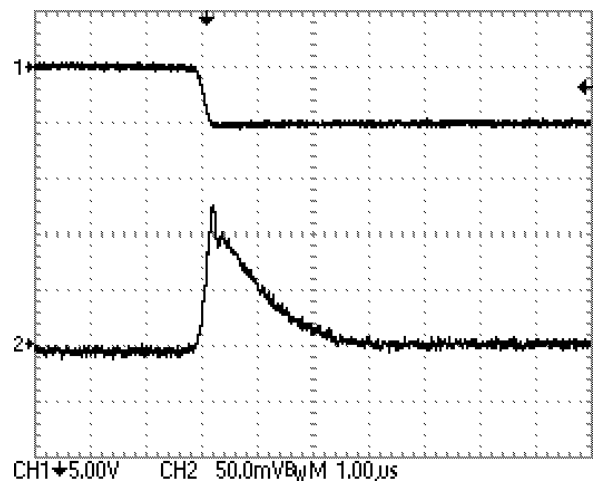
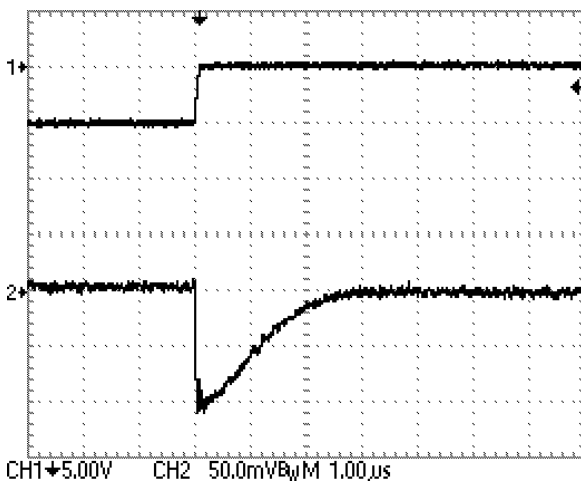
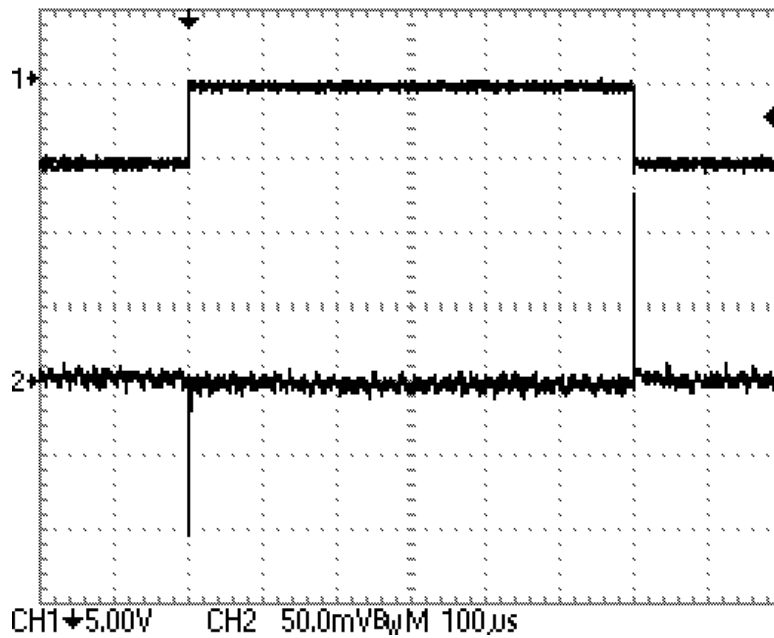
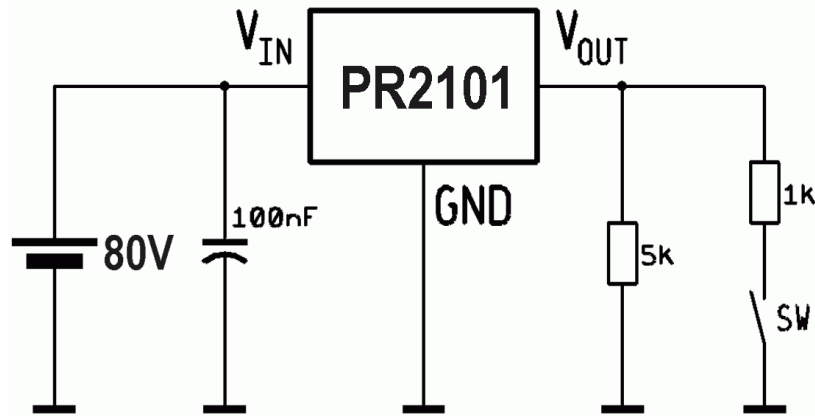
Voltages above 80V are shown for demonstration purposes only, but not a specified parameter.



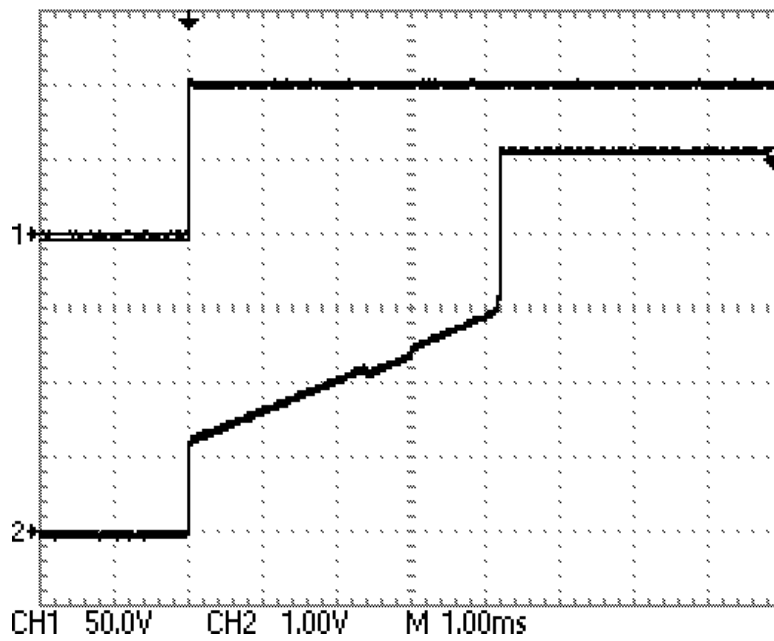
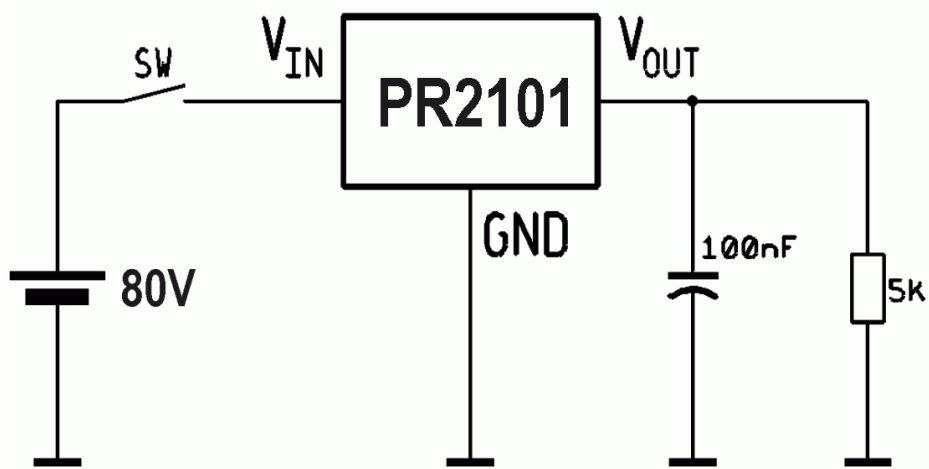
Load Transient Response with 100nF Output Capacitor



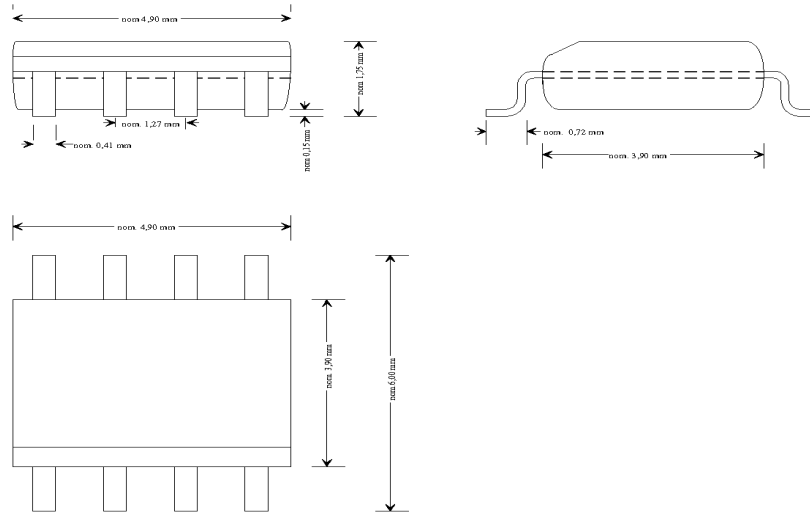
Load Transient Response without Output Capacitor



Line Transient Response



Package Dimensions and Designation

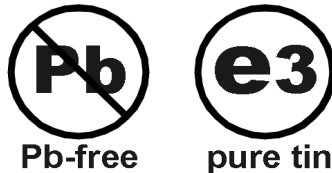


Package: 8L SOIC (150 mils)

PR2101 SOIC package in plastic tube or tape and reel

Packing unit: 100 ICs per tube or 3500 ICs per reel

All parts delivered comply with RoHS. Finish is pure tin.



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