

Low Dropout Voltage Regulator with Reset

■ GENERAL DISCRIPTION

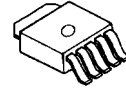
The NJM2807 is a low dropout voltage regulator with reset function.

It provides up to 500mA of logic supply, and the reset function monitors input voltage of the regulator with 1% accuracy. It is suitable for local power supply and reset for small micro controller and other logic chips.

■ FEATURES

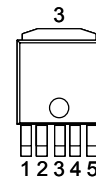
- Output Voltage Accuracy $V_o = \pm 1.0\%$
- Reset Voltage Accuracy $V_{reset} = \pm 1.0\%$
- Reset Hold Time $t_d = 10\text{mS} \pm 1.0\text{mS}$
- Ripple Rejection 75dB typ. (f=1kHz)
- Quiescent Current $I_Q = 330\mu\text{A}$ (typ.)
- Output Voltage Monitor type
- Open Collector Output
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-5

■ PACKAGE OUTLINE



NJM2807DL2

■ PIN CONFIGURATION



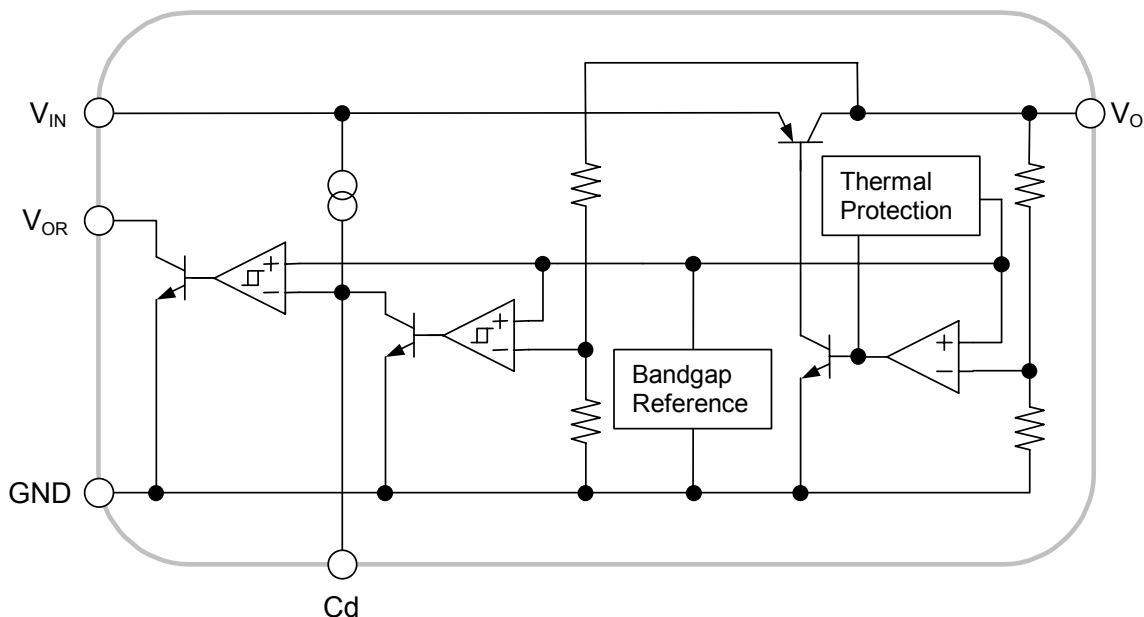
1. V_{OR}
2. V_{IN}
3. GND
4. V_O
5. C_d

NJM2807DL2

■ OUTPUT VOLTAGE/ DETECTION VOLTAGE

Device Name	Output Voltage	Detection Voltage
NJM2807DL2-0543	5.0V	4.3V

■ EQUIVALENT CIRCUIT



NJM2807

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V _{IN}	+14	V
Power Dissipation	P _D	8 (Tc=25°C)	W
		0.8(Ta≤25°C)	
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tstg	-40~+125	°C

■ ELECTRICAL CHARACTERISTICS

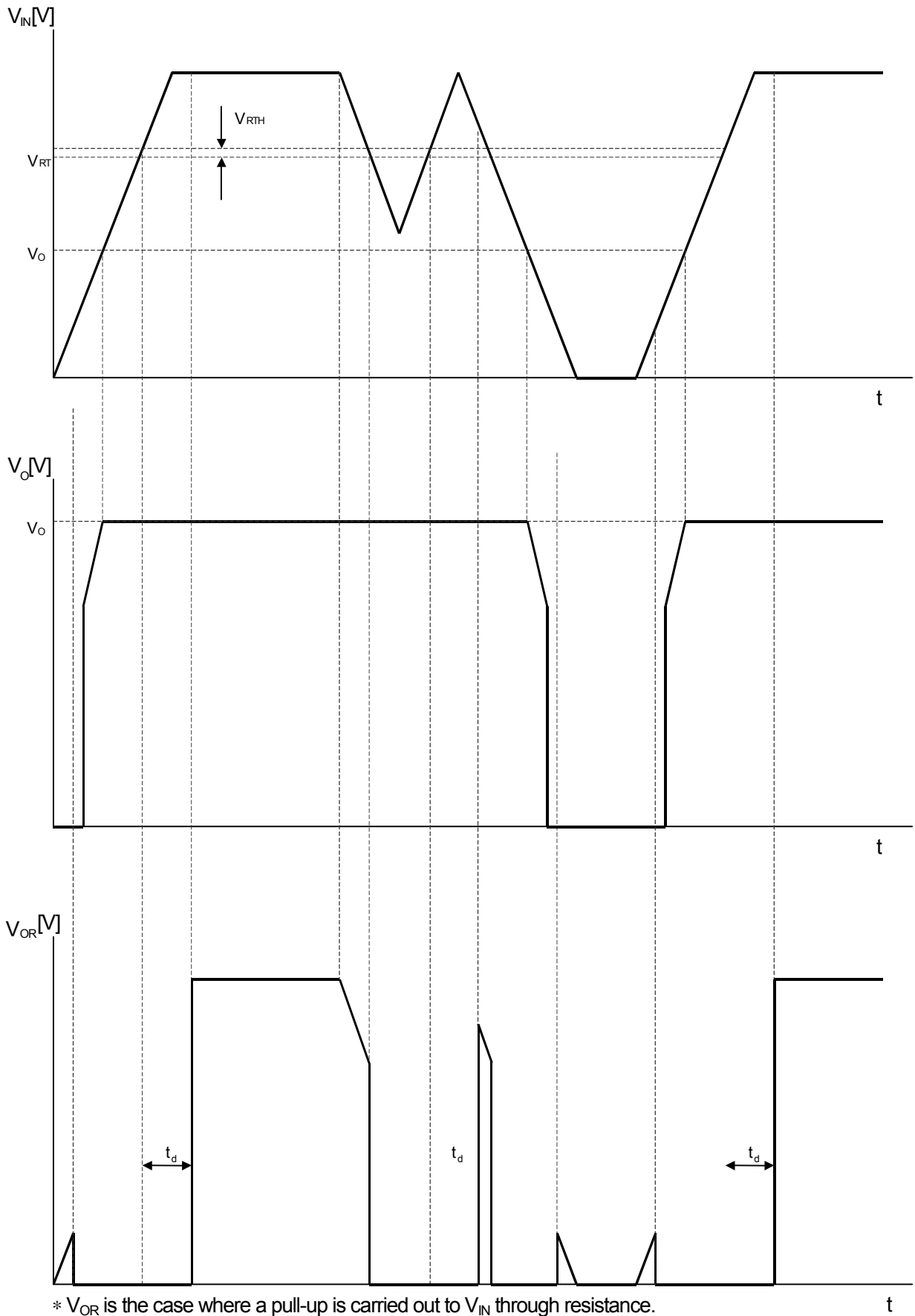
(V_{IN}=V_o+1V, C_{IN}=0.1μF, C_o=2.2μF (V_o≤2.6V: C_o=4.7μF) Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I _Q	V _{IN} =V _o +2V, I _o =0mA	-	330	430	μA
Regulator Block						
Output Voltage	V _o	I _o =30mA	-1.0%	-	+1.0%	V
Output Current	I _o	V _o -0.3V	500	650	-	mA
Line Regulation	ΔV _o /ΔV _{IN}	V _{IN} =V _o +1V~V _o +6V, I _o =30mA	-	-	0.10	%/V
Load Regulation	ΔV _o /ΔI _o	I _o =0~500mA	-	-	0.03	%/mA
Dropout Voltage	ΔV _{L_O}	I _o =300mA	-	0.18	0.28	V
Ripple Rejection	RR	e _{in} =200mVrms, f=1kHz, I _o =10mA, V _o =3V Version	-	75	-	dB
Output Voltage Temperature Coefficient	ΔV _o /ΔT	Ta=0~85°C, I _o =10mA	-	±50	-	ppm/°C
Output Noise Voltage	V _{NO}	f=10Hz~100kHz, I _o =10mA, V _o =3V Version	-	45	-	μVrms
Reset Block						
Voltage Detection	V _{RT}	V _{IN} =H→L	-1.0%	-	+1.0%	V
Hysteresis Voltage	V _{RTH}	V _{IN} =H→L→H	V _{RT} ×3	V _{RT} ×5	V _{RT} ×8	mV
Low Level Output Voltage	R _{ORL}	V _{IN} =V _{RT} -0.5V, R _L =100kΩ	-	100	300	mV
Output Leak Current	I _{ORH}	V _{IN} =V _{RT} +0.5V	-	-	0.1	μA
On time Output Current	I _{ORL}	V _{IN} =V _{RT} -0.5V, R _L =0Ω	5	-	-	mA
Reset Output Delay Time	t _d	V _{IN} =(V _{RT} -0.5V)→(V _{RT} +0.5V), C _d =0.1μF	9	10	11	mS
Operation Voltage Limit	V _{OPL}	V _{ORL} =0.4V	-	0.9	-	V

(*note 1) The above specification is a common specification for all output voltages.

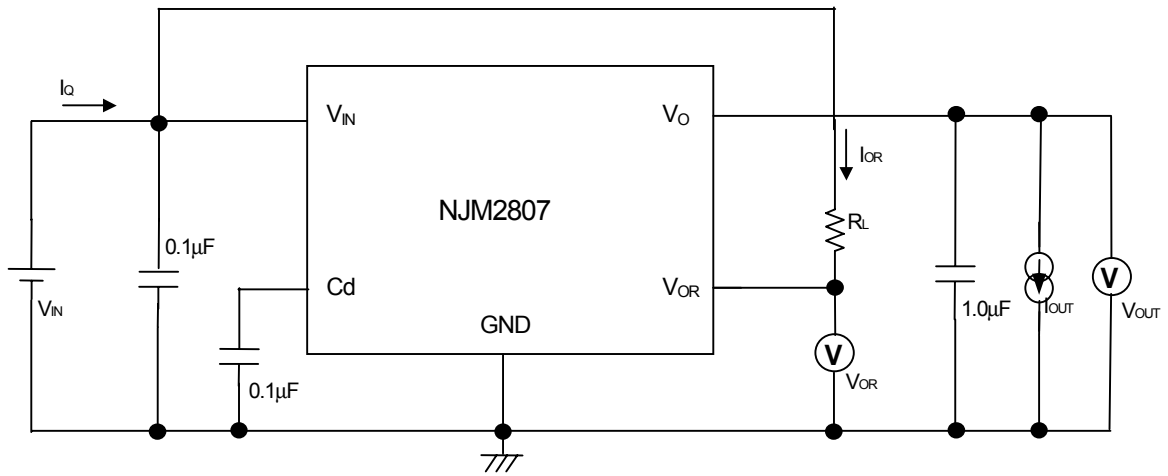
Therefore, it may be different from the individual specification for a specific output voltage.

■ TIMING CHART

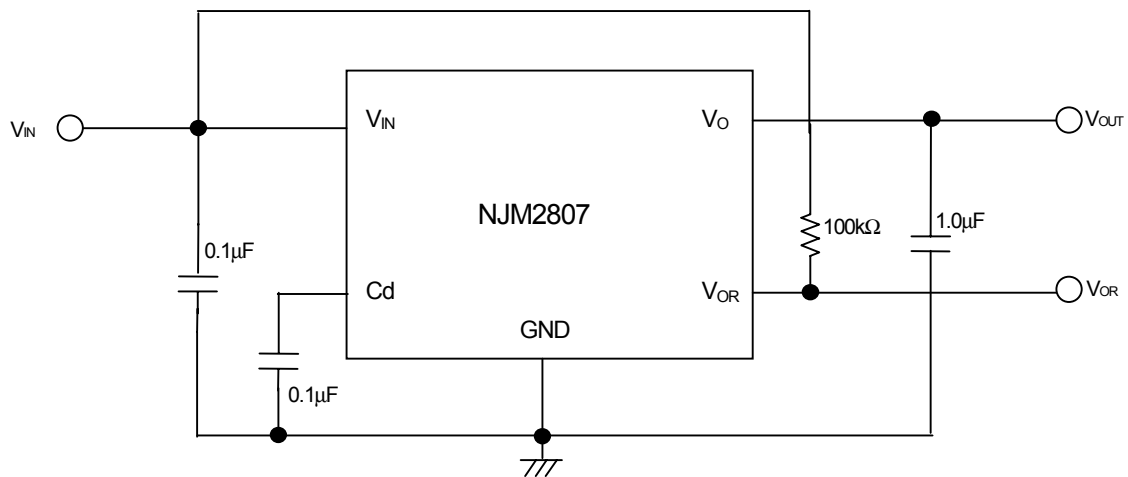


NJM2807

TEST CIRCUIT



TYPICAL APPLICATIONS



[CAUTION]

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