

Low Dropout Voltage Regulator with Reset

■ GENERAL DISCRIPTION

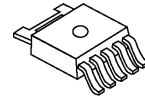
The NJM2806 is a low dropout voltage regulator with reset function.

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

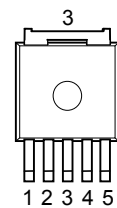
- Output Voltage Accuracy $V_o \pm 1.0\%$
- Reset Voltage Accuracy $V_{RT} \pm 1.0\%$
- Adjust reset delay time with external capacitor.
- Ripple Rejection 75dB typ. (f=1kHz)
- Input Voltage Monitor type
- Open Collector Output
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-5(DL3)

■ PACKAGE OUTLINE



NJM2806DL3

■ PIN CONFIGURATION



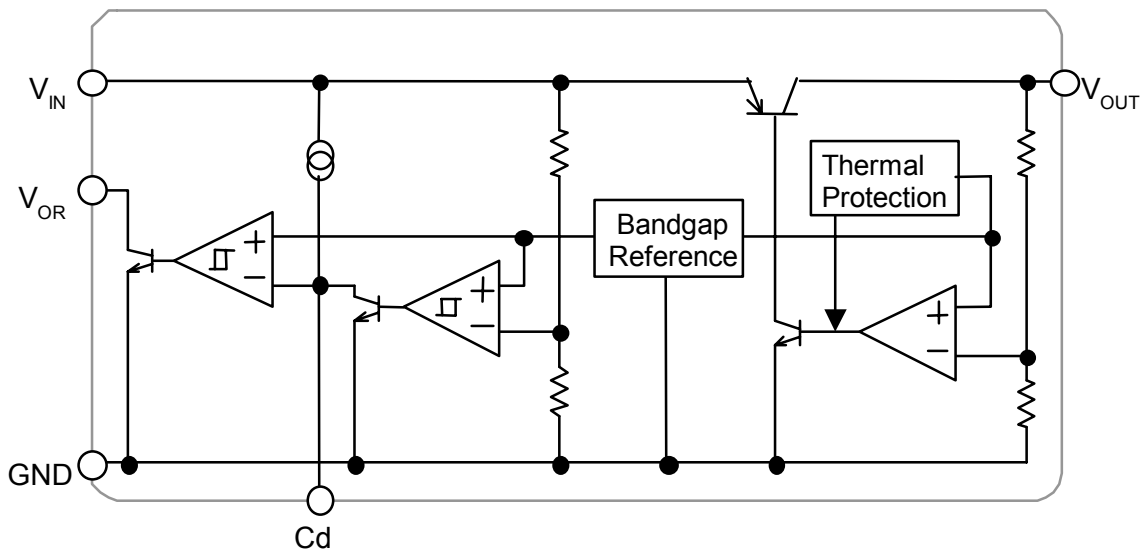
- 1. V_{OR}
- 2. V_{IN}
- 3. GND
- 4. V_{OUT}
- 5. Cd

NJM2806DL3

■ OUTPUT VOLTAGE/ DETECTION VOLTAGE

Device Name	Output Voltage	Detection Voltage
NJM2806DL3-2528	2.5V	2.8V
NJM2806DL3-3142	3.1V	4.2V
NJM2806DL3-3342	3.3V	4.2V

■ EQUIVALENT CIRCUIT



NJM2806

■ 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

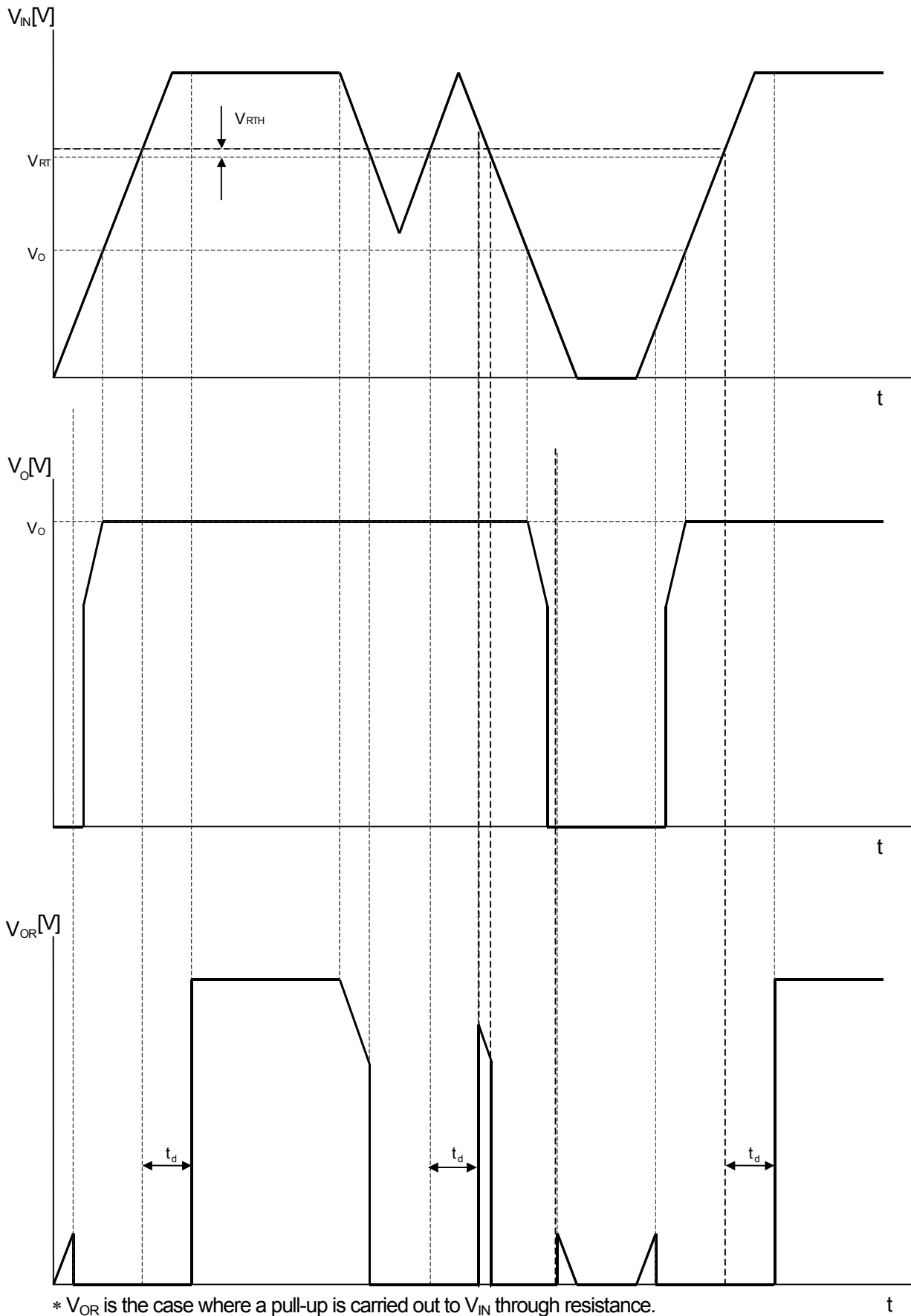
(V_{IN}=V_o+1V, C_{IN}=0.33μF, C_o=1.0μF (C_o=2.2μF: V_o≤2.4V) Ta=25°C)

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 +6.0V, I _o =30mA	–	–	0.10	%/V
Load Regulation	ΔV _o /ΔI _o	I _o =0~500mA	–	–	0.03	%/mA
Dropout Voltage	ΔV _{I_O}	I _o =300mA	–	0.18	0.28	V
Ripple Rejection	RR	e _{in} =200mVrms, f=1kHz, I _o =10mA, V _o =3.0V 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~80kHz, I _o =10mA, V _o =3.0V 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%	V
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

The above specification is a common specification for all output voltages.

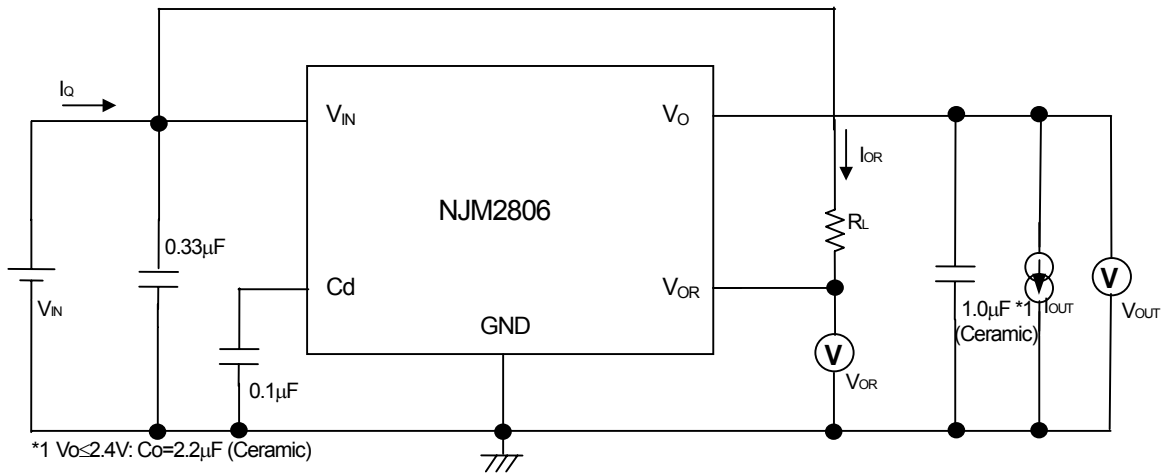
Therefore, it may be different from the individual specification for a specific output voltage.

■ TIMING CHART

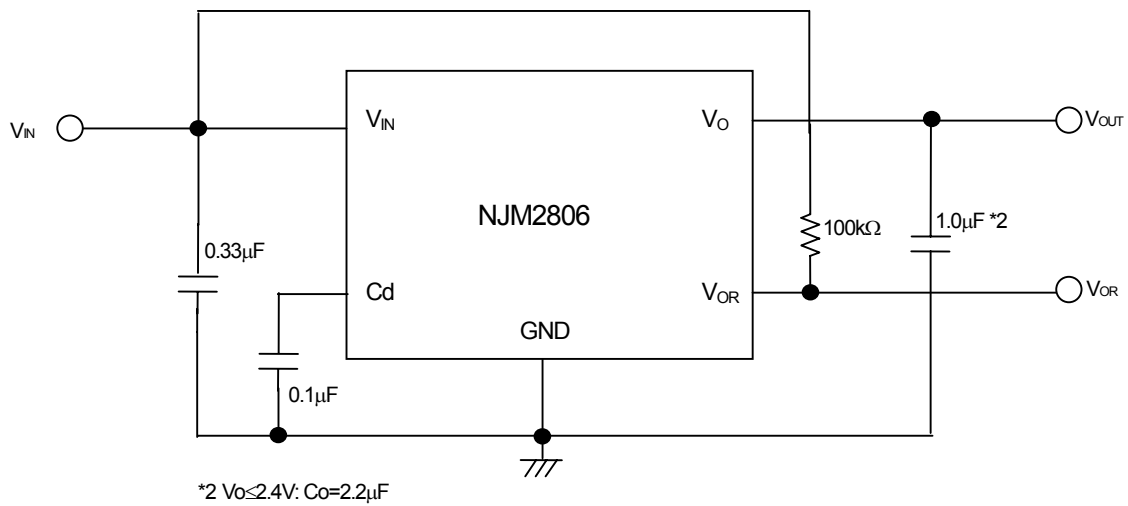


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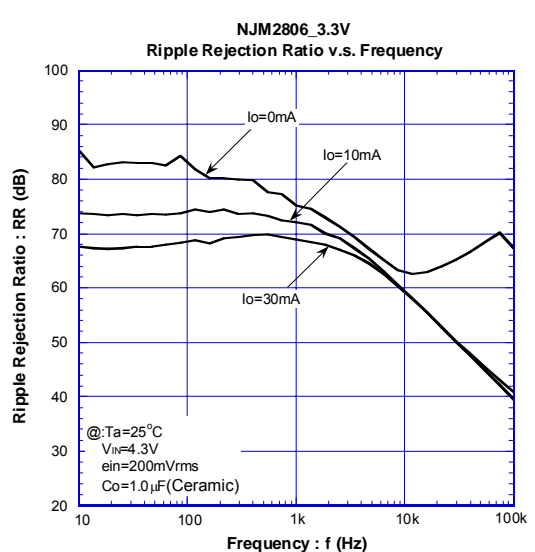
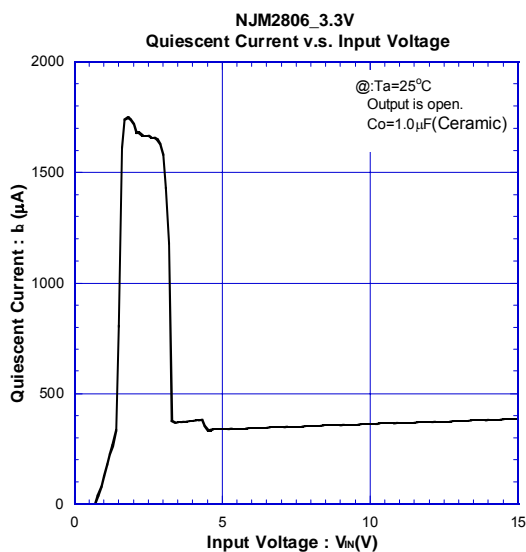
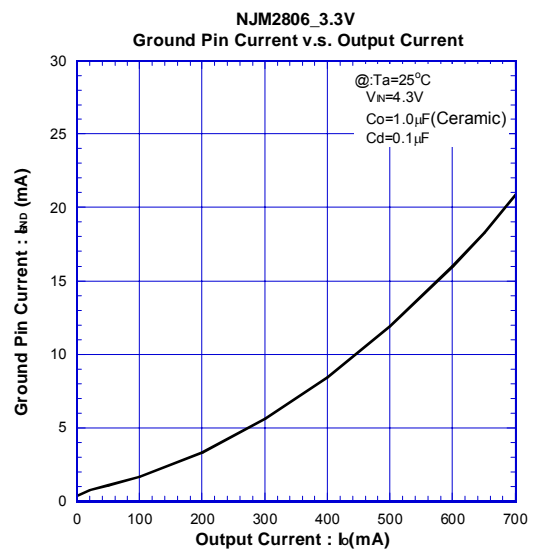
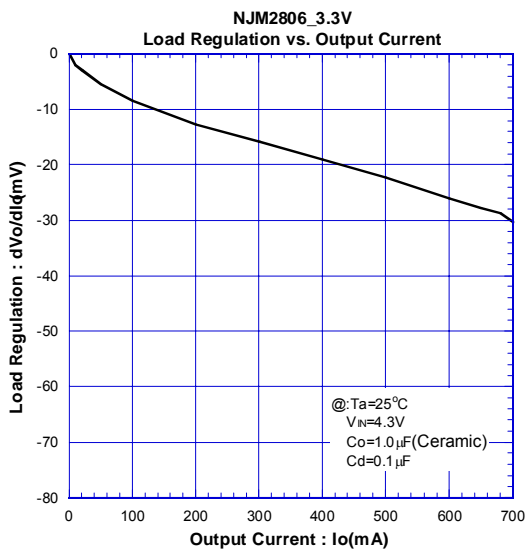
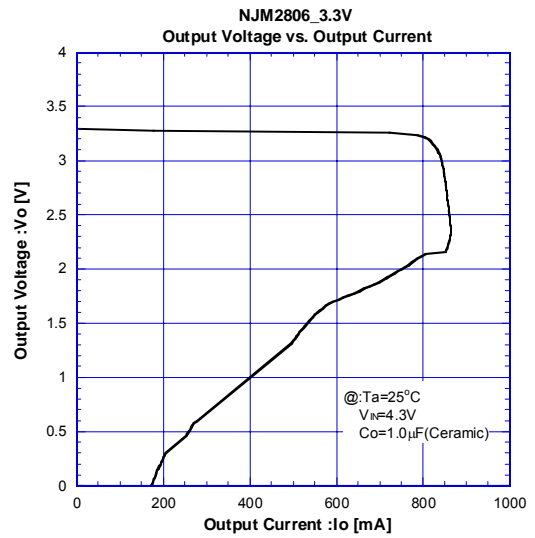
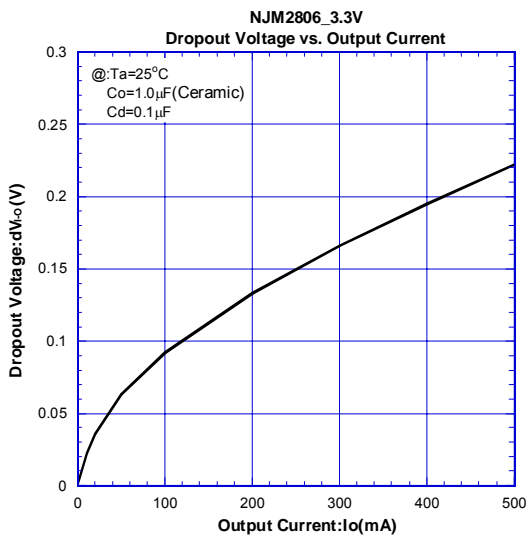
TEST CIRCUIT



TYPICAL APPLICATIONS

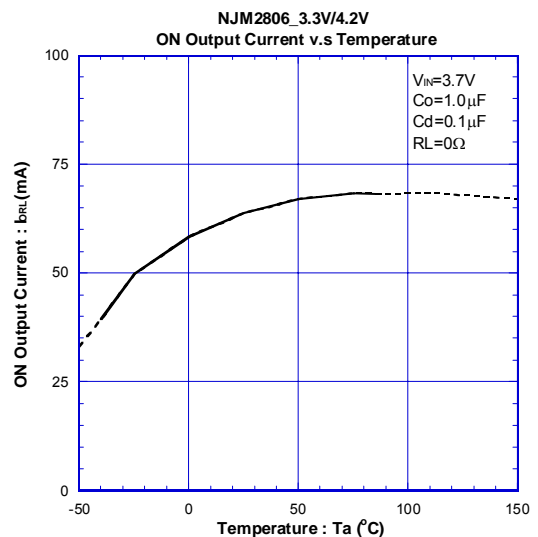
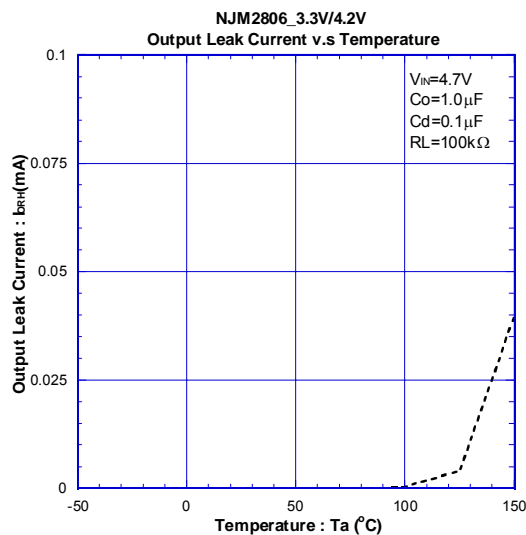
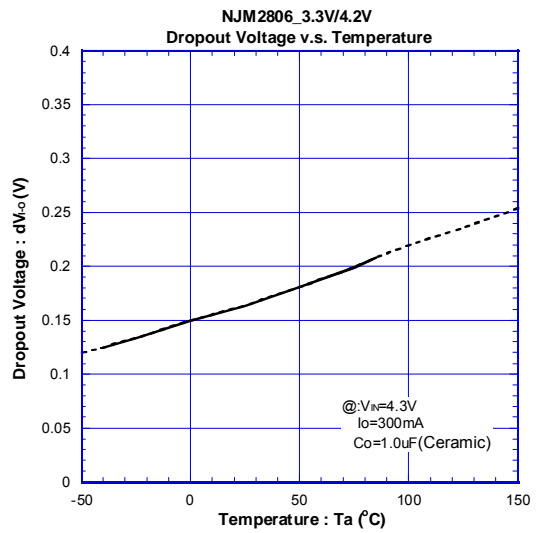
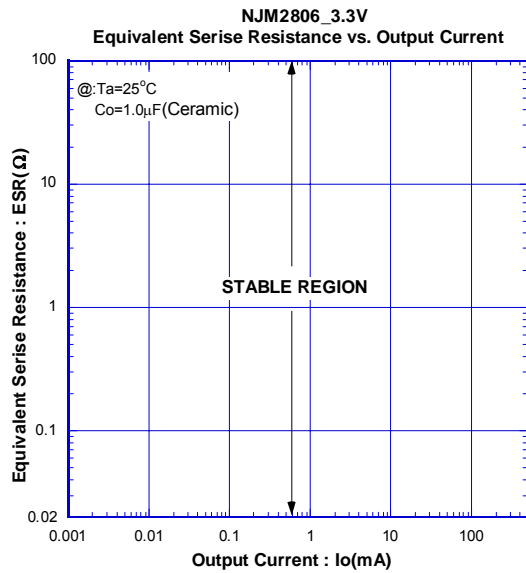
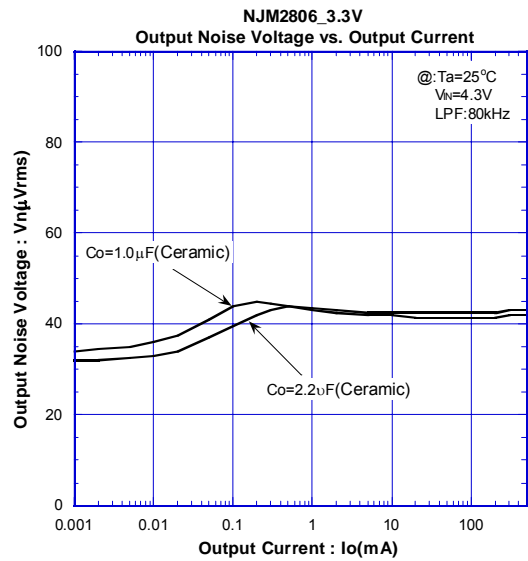
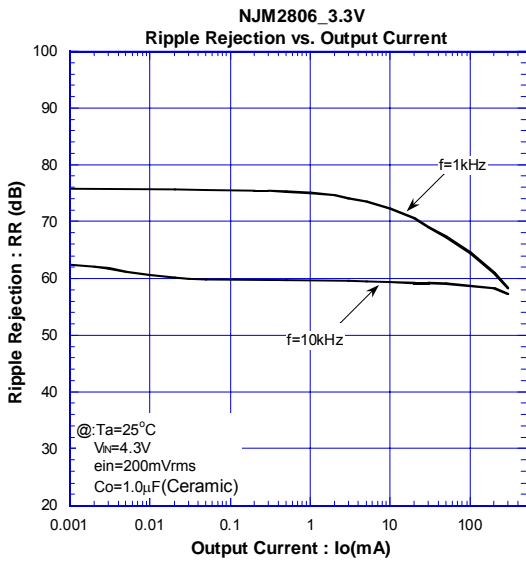


ELECTRICAL CHARACTERISTICS

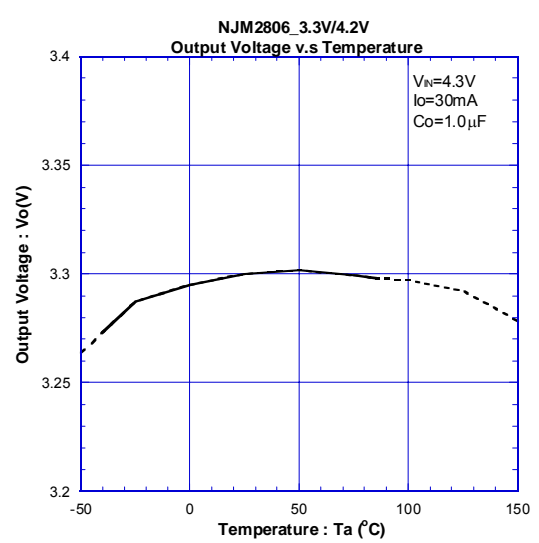
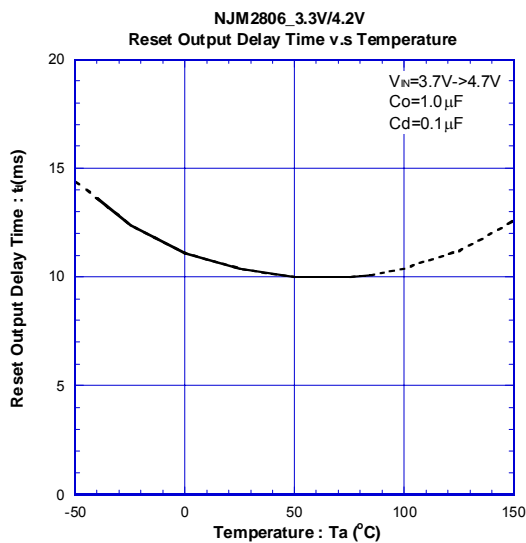
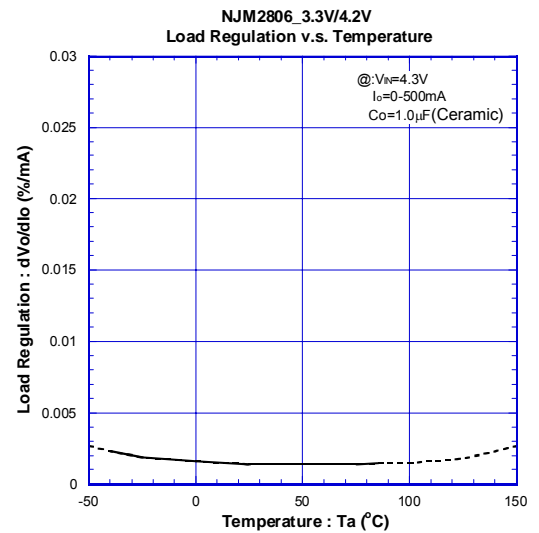
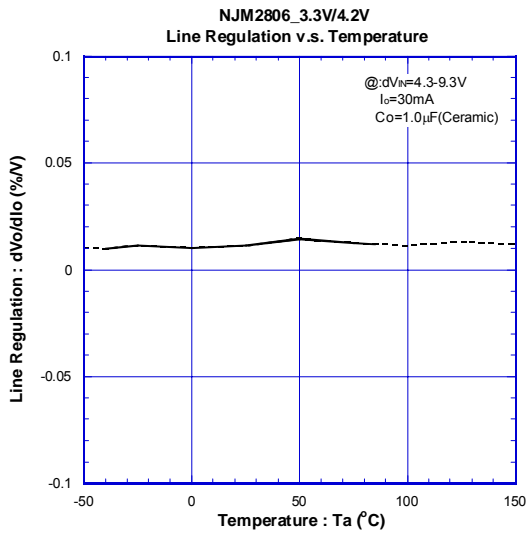
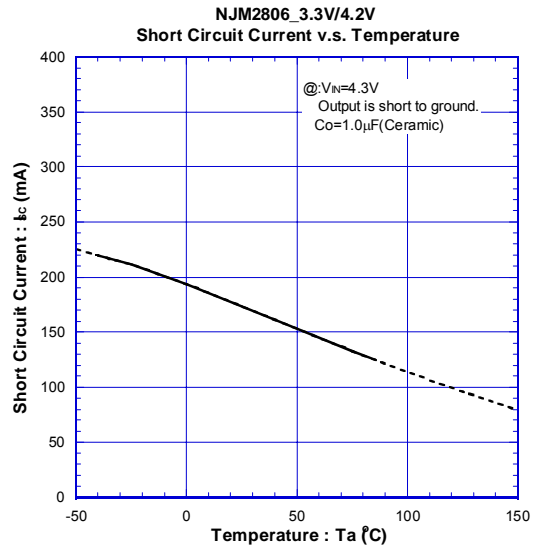
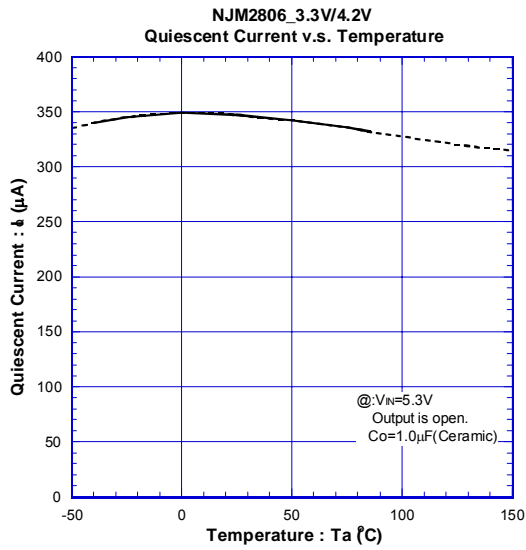


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ELECTRICAL CHARISTICS

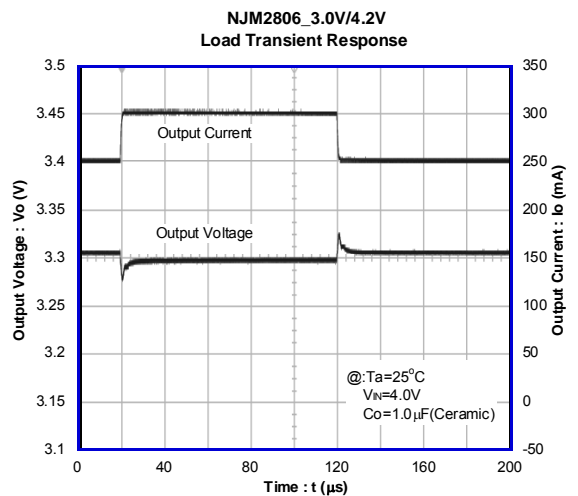
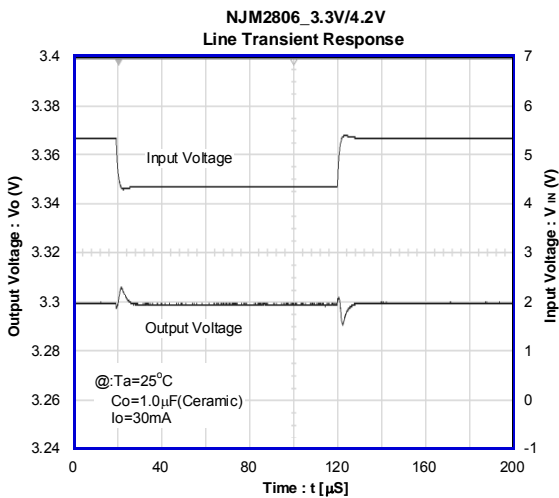
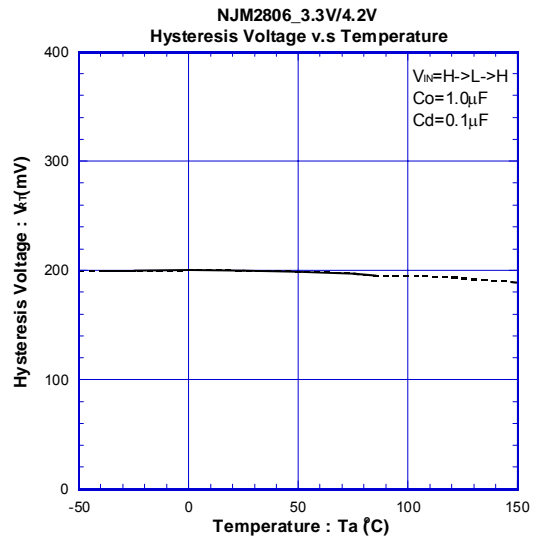
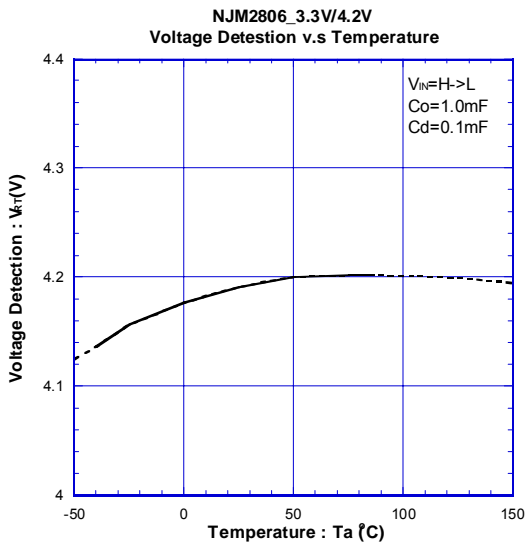
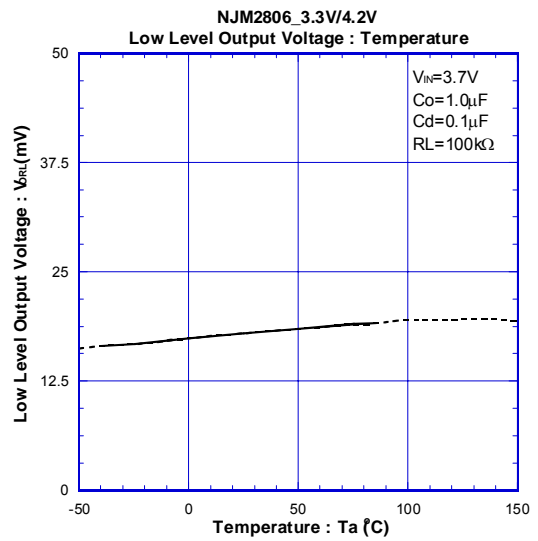
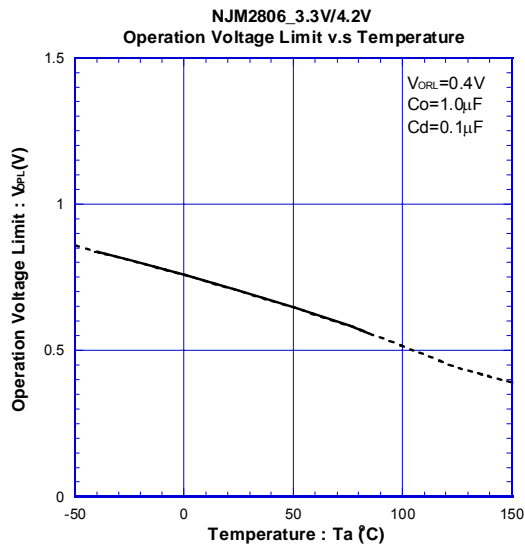


ELECTRICAL CHARACTERISTICS



NJM2806

■ ELECTRICAL CHARISTICS



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