

Low Dropout Voltage Regulator with Reset

■ GENERAL DISCRIPTION

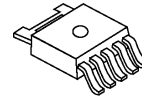
The NJM2806 is a low dropout voltage regulator with reset function.

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

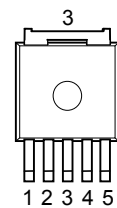
- Output Voltage Accuracy $V_o \pm 1.0\%$
- Reset Voltage Accuracy $V_{RT} \pm 1.0\%$
- Adjust reset delay time with external capacitor.
- Ripple Rejection 75dB typ. (f=1kHz)
- Input Voltage Monitor type
- Open Collector Output
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection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

■ PACKAGE OUTLINE



NJM2806DL3

■ PIN CONFIGURATION



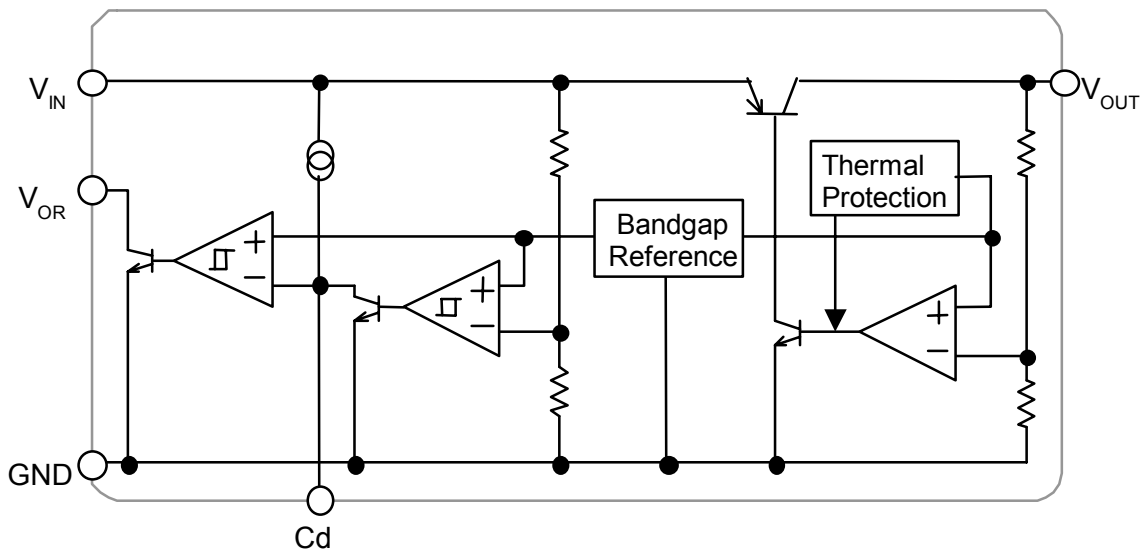
- 1. V_{OR}
- 2. V_{IN}
- 3. GND
- 4. V_{OUT}
- 5. Cd

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

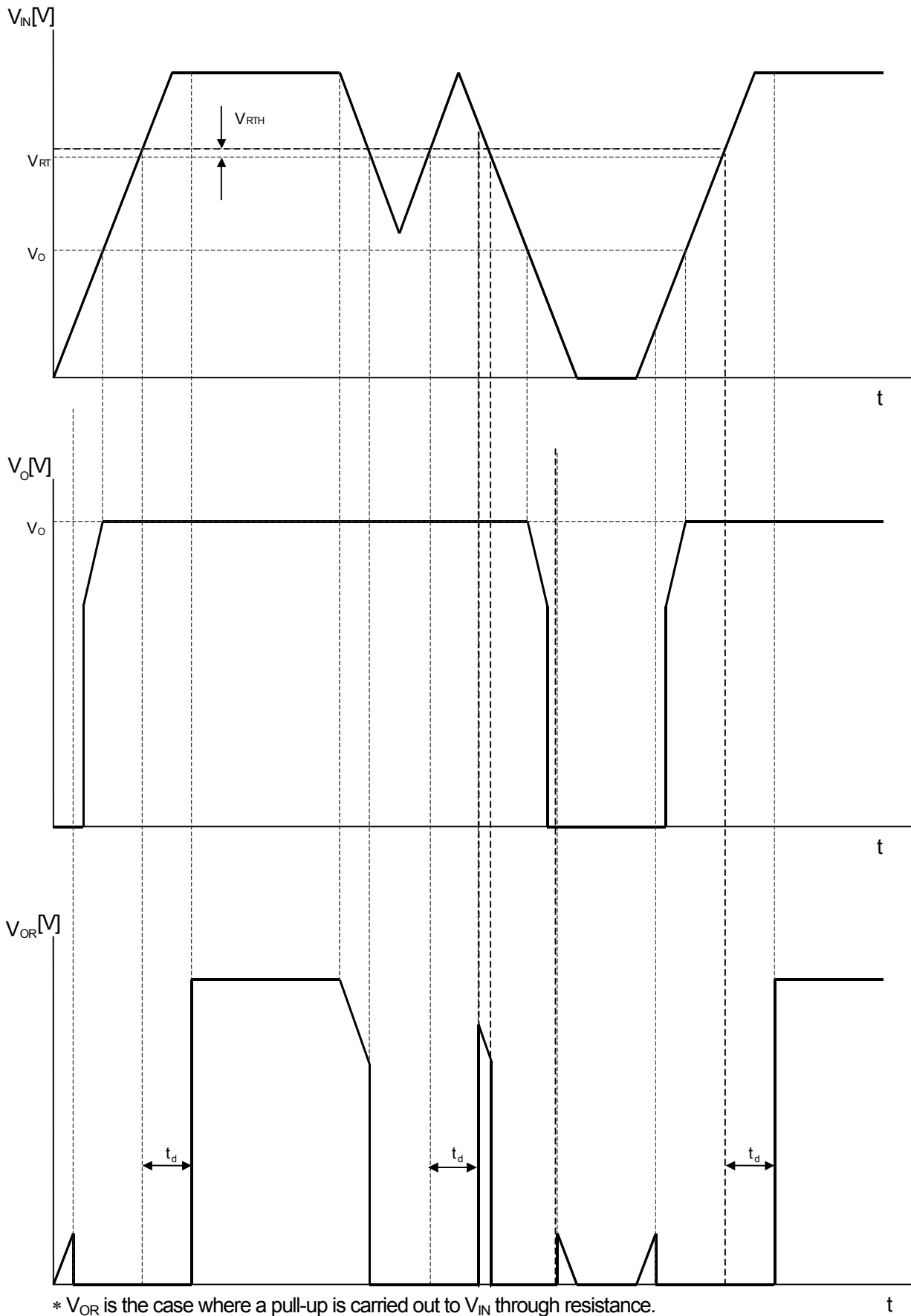
($V_{IN}=V_o+1V$, $C_{IN}=0.33\mu F$, $C_o=1.0\mu F$ ($C_o=2.2\mu F$: $V_o\leq 2.4V$) Ta=25°C)

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	$\Delta V_o/\Delta V_{IN}$	$V_{IN}=V_o+1V\sim V_o+6.0V$, $I_o=30mA$	–	–	0.10	%/V
Load Regulation	$\Delta V_o/\Delta I_o$	$I_o=0\sim 500mA$	–	–	0.03	%/mA
Dropout Voltage	ΔV_{I_O}	$I_o=300mA$	–	0.18	0.28	V
Ripple Rejection	RR	$e_{in}=200mV_{rms}$, $f=1kHz$, $I_o=10mA$, $V_o=3.0V$ Version	–	75	–	dB
Output Voltage Temperature Coefficient	$\Delta V_o/\Delta T$	Ta=0~85°C, $I_o=10mA$	–	±50	–	ppm/°C
Output Noise Voltage	V_{NO}	$f=10Hz\sim 80kHz$, $I_o=10mA$, $V_o=3.0V$ Version	–	45	–	μV_{rms}
Reset Block						
Voltage Detection	V_{RT}	$V_{IN}=H\rightarrow L$	-1.0%	–	+1.0%	V
Hysteresis Voltage	V_{RTH}	$V_{IN}=H\rightarrow L\rightarrow H$	$V_{RT}\times 3\%$	$V_{RT}\times 5\%$	$V_{RT}\times 8\%$	V
Low Level Output Voltage	R_{ORL}	$V_{IN}=V_{RT}-0.5V$, $R_L=100k\Omega$	–	100	300	mV
Output Leak Current	I_{ORH}	$V_{IN}=V_{RT}+0.5V$	–	–	0.1	μA
On time Output Current	I_{ORL}	$V_{IN}=V_{RT}-0.5V$, $R_L=0\Omega$	5	–	–	mA
Reset Output Delay Time	t_d	$V_{IN}=(V_{RT}-0.5V)\rightarrow (V_{RT}+0.5V)$, $C_d=0.1\mu F$	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.

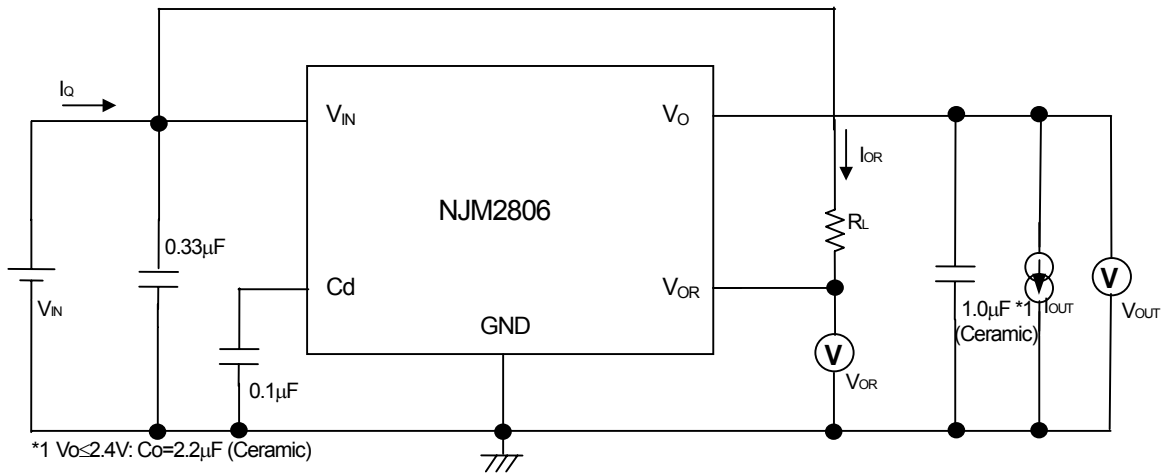
Therefore, it may be different from the individual specification for a specific output voltage.

■ TIMING CHART

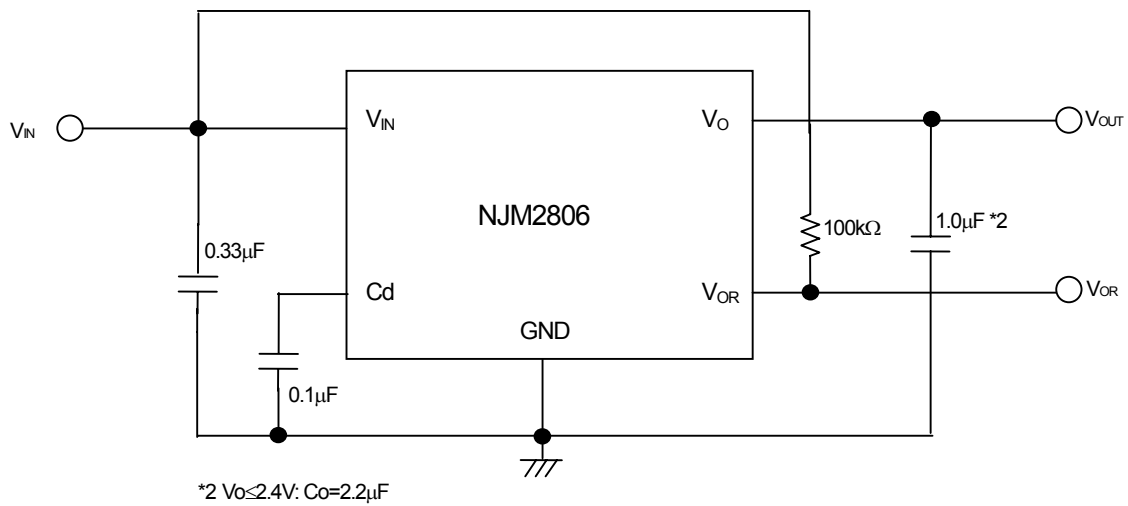


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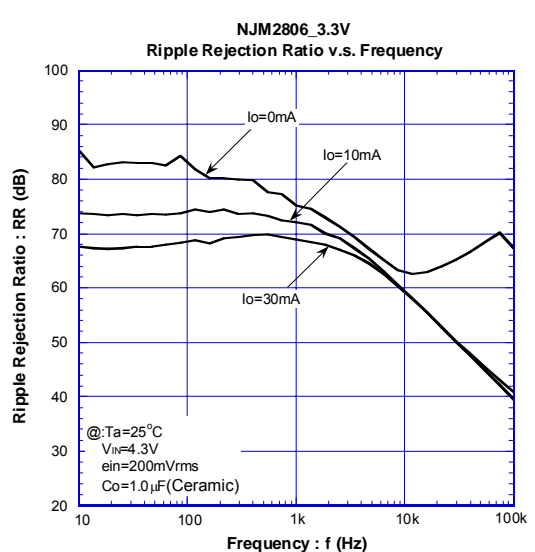
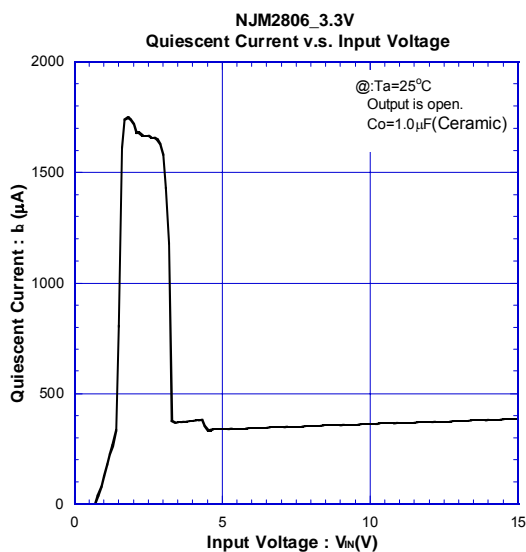
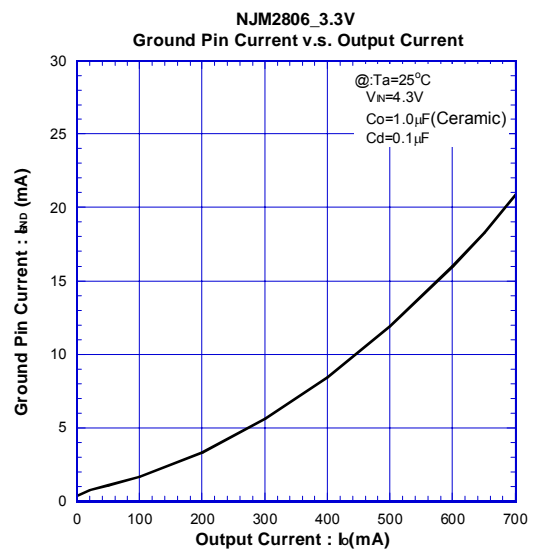
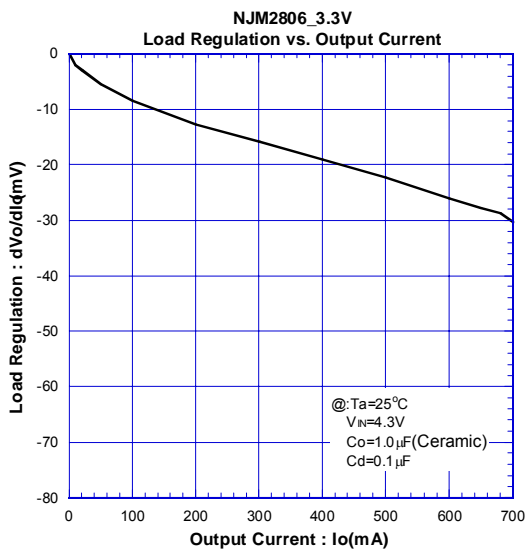
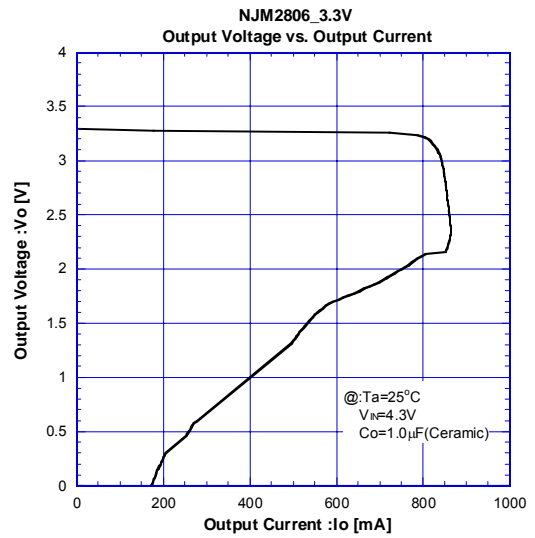
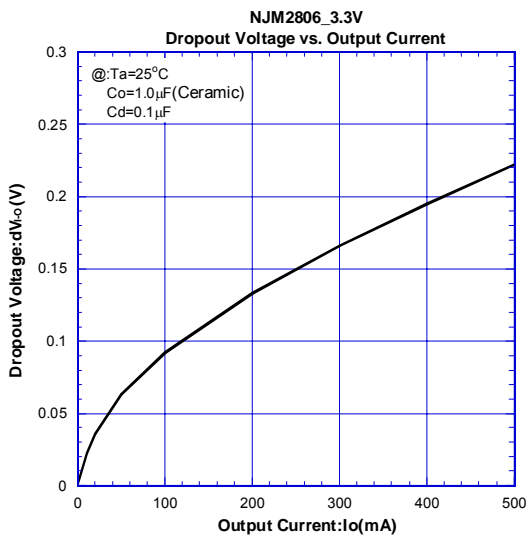
■ TEST CIRCUIT



■ TYPICAL APPLICATIONS

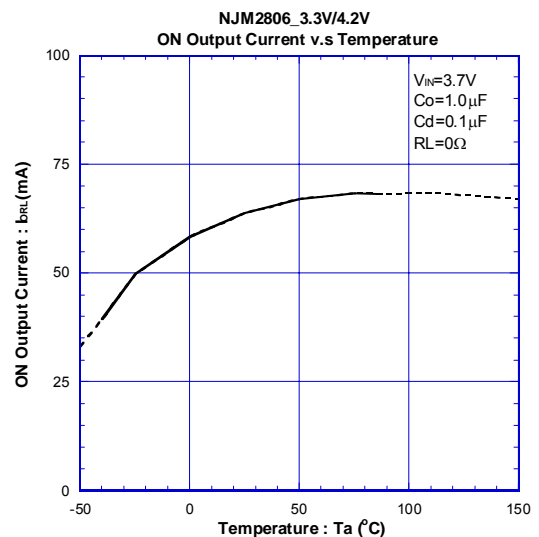
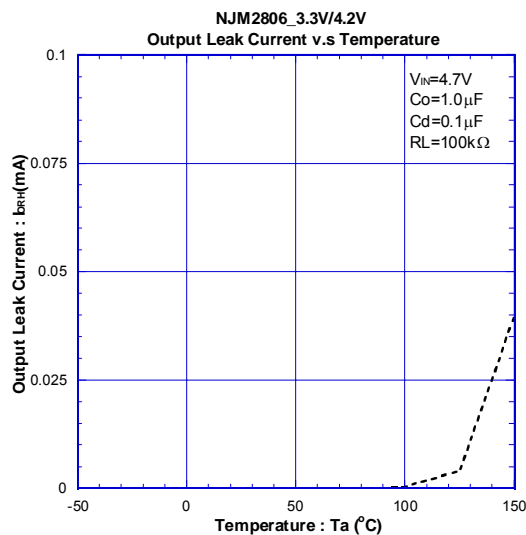
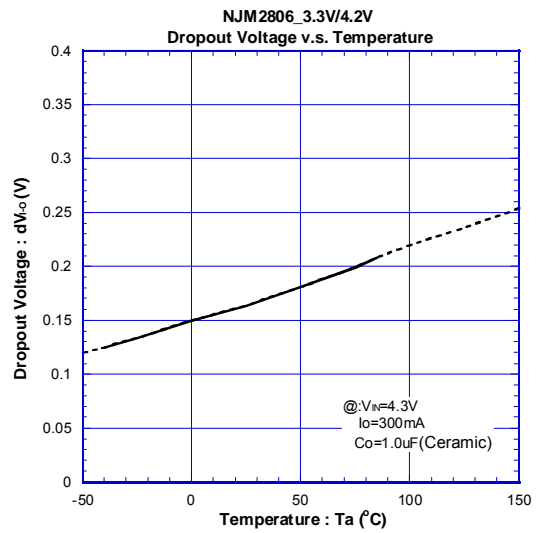
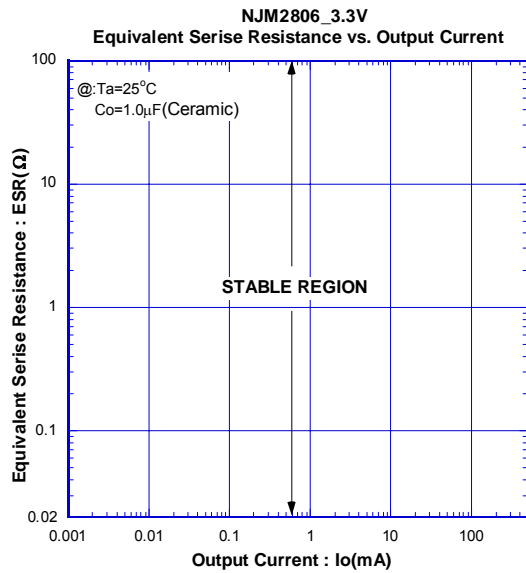
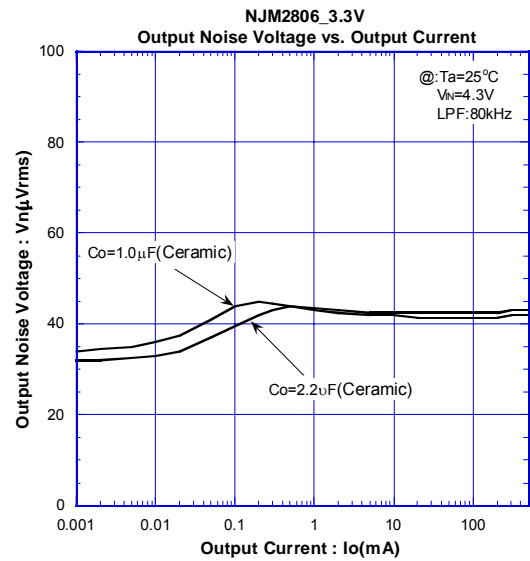
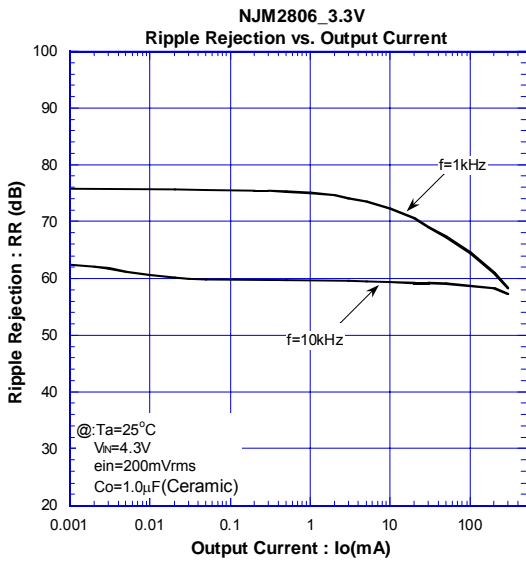


ELECTRICAL CHARACTERISTICS

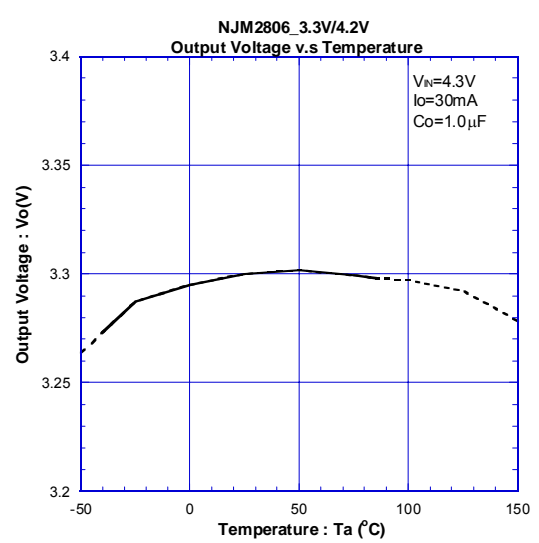
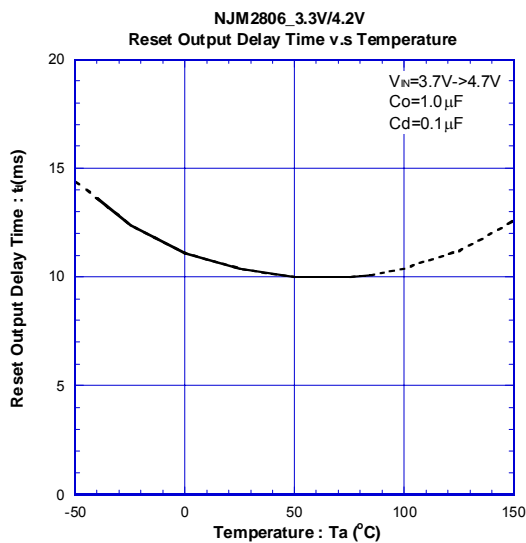
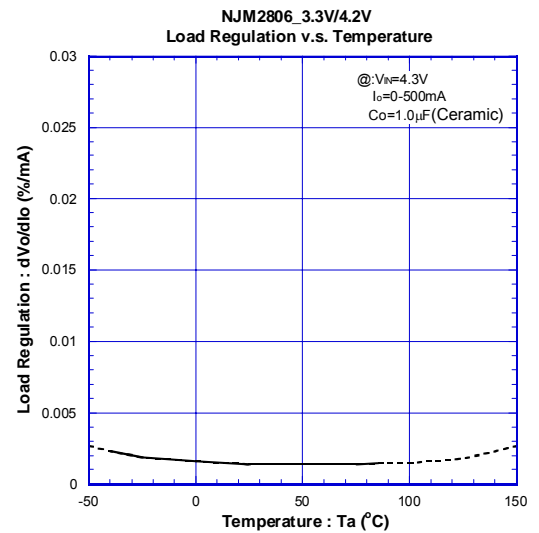
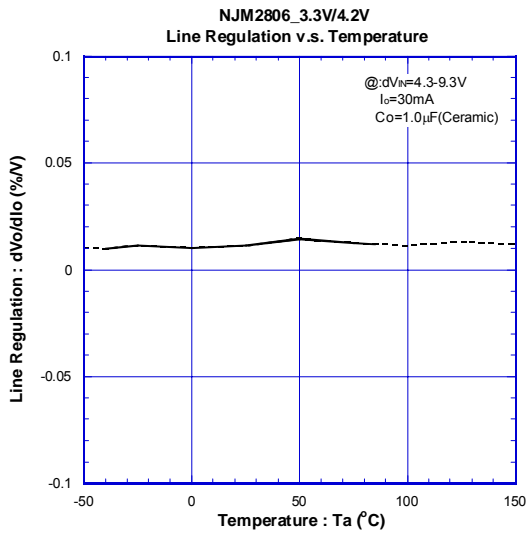
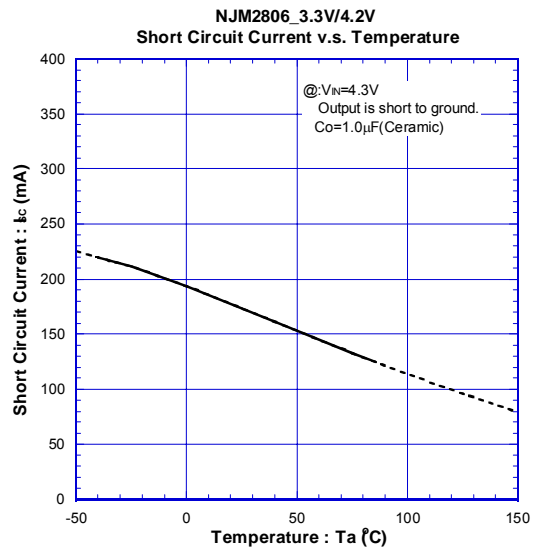
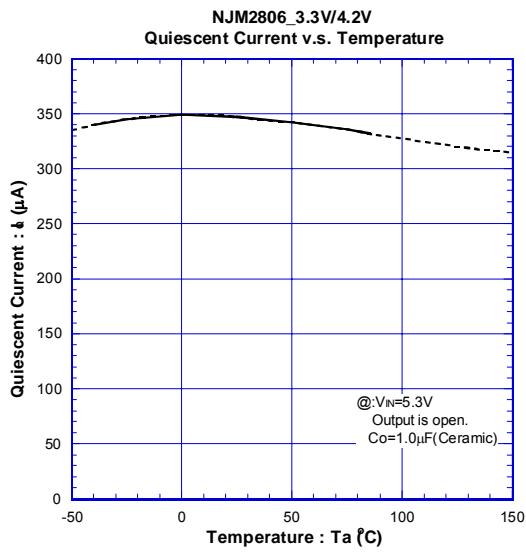


NJM2806

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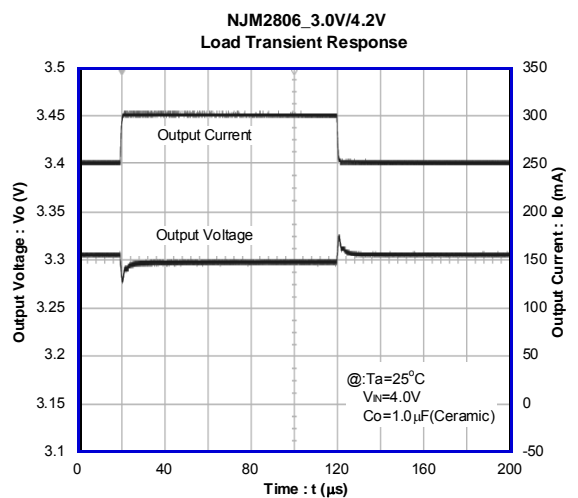
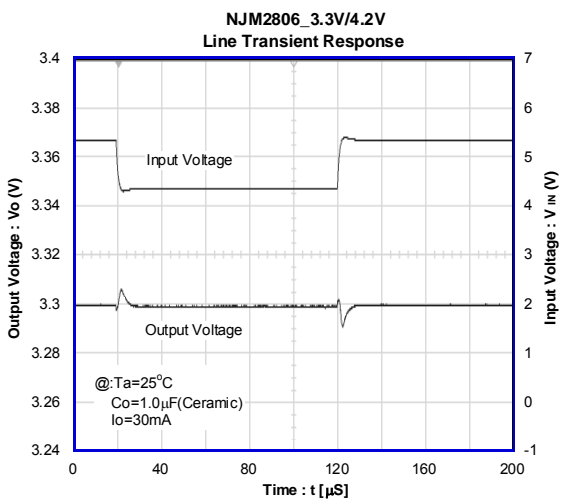
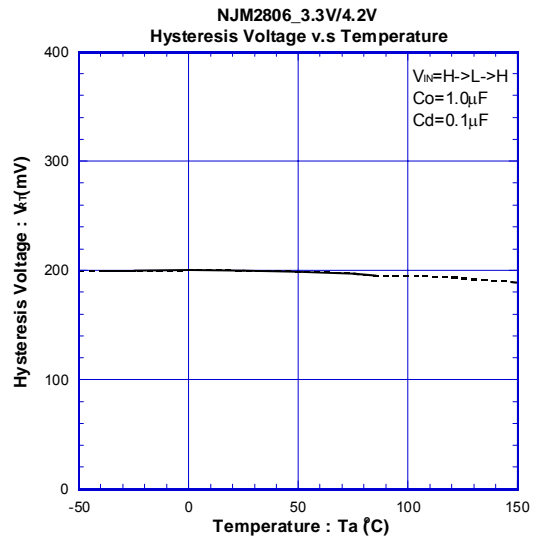
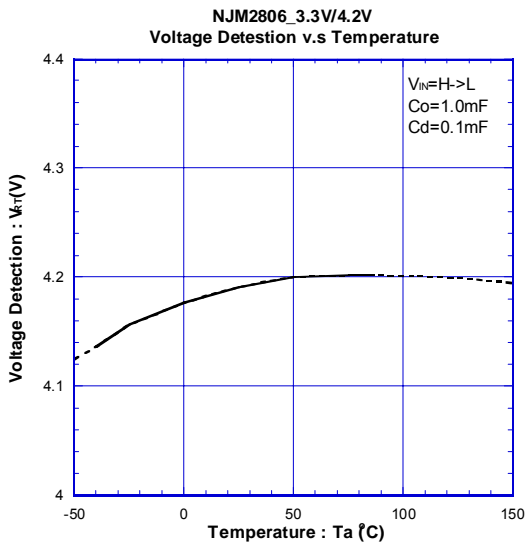
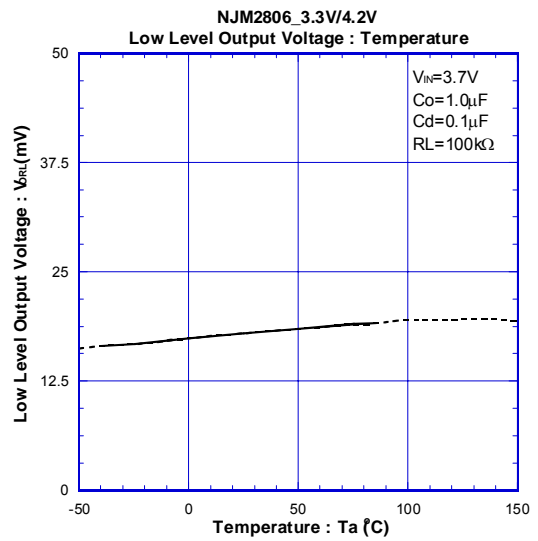
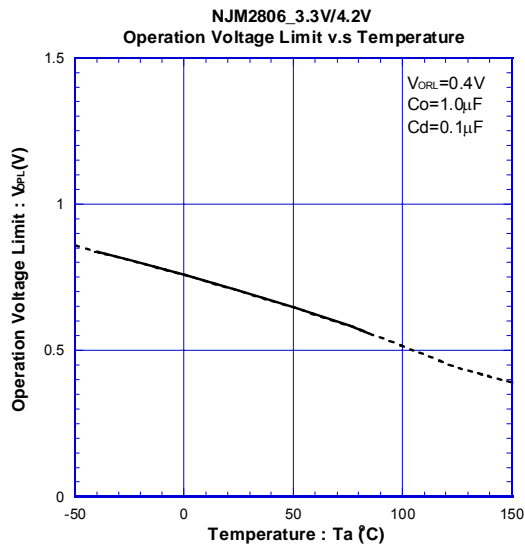


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NJM2806

ELECTRICAL CHARACTERISTICS



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