

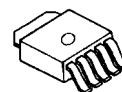
LOW DROPOUT VOLTAGE REGULATOR

■ GENERAL DESCRIPTION

The NJM2886 is low dropout voltage regulator designed for portable application.

Advanced Bipolar technology achieves low noise, high ripple rejection and low quiescent current.

■ PACKAGE OUTLINE

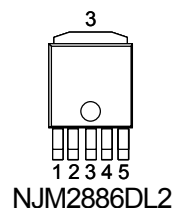


NJM2886DL2

■ FEATURES

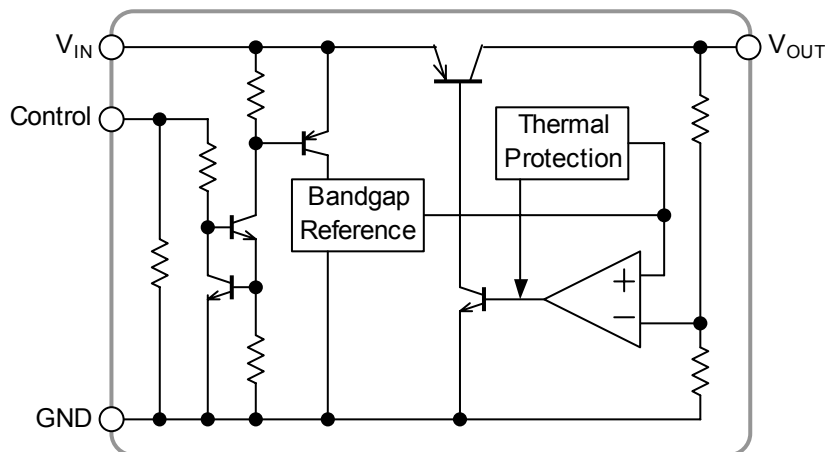
- High Ripple Rejection 75dB typ. (f=1kHz)
- Output Noise Voltage $V_{no}=45\mu V_{rms}$
- Output capacitor with 2.2 μF ceramic capacitor ($V_o \geq 2.7V$)
- Output Current $I_o(max.)=500mA$
- High Precision Output $V_o \pm 1.0\%$
- Low Dropout Voltage 0.18V typ. ($I_o=300mA$)
- ON/OFF Control
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-5

■ PIN CONFIGURATION



- PIN FUNCTION
- 1.CONTROL
 - 2.V_{IN}
 - 3.GND
 - 4.V_{OUT}
 - 5.NC

■ EQUIVALENT CIRCUIT



■ OUTPUT VOLTAGE RANK LIST

Device Name	V _{OUT}	Device Name	V _{OUT}
NJM2886DL2-18	1.8V	NJM2886DL2-03	3.0V
NJM2886DL2-21	2.1V	NJM2886DL2-33	3.3V
NJM2886DL2-25	2.5V	NJM2886DL2-35	3.5V
NJM2886DL2-26	2.6V	NJM2886DL2-38	3.8V
NJM2886DL2-28	2.8V	NJM2886DL2-05	5.0V

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{IN}	+14(*note 1)	V
Power Dissipation	P_D	8(Tc=25°C) 0.8(Ta≤25°C)	mW
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +125	°C

(*note 1): When input voltage is less than +14V, the absolute maximum control voltage is equal to the input voltage.

■ ELECTRICAL CHARACTERISTICS

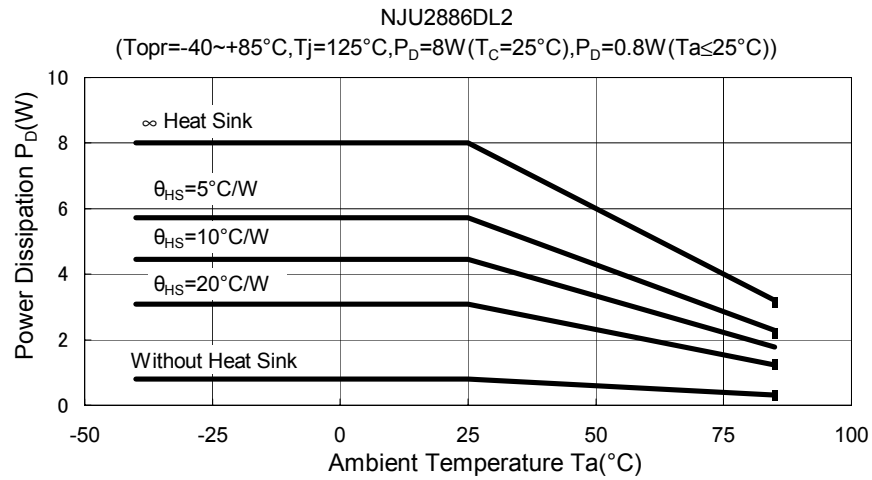
($V_{IN}=V_O+1V$, $C_{IN}=0.33\mu F$, $C_O=2.2\mu F$: $V_O\geq 2.7V$ ($C_O=4.7\mu F$: $V_O\leq 2.6V$), Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_O	$I_O=30mA$	-1.0%	—	+1.0%	V
Quiescent Current	I_Q	$I_O=0mA$	—	200	300	μA
Quiescent Current at Control OFF	$I_{Q(OFF)}$	$V_{CONT}=0V$	—	—	100	nA
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_{LO}	$I_O=300mA$	—	0.18	0.28	V
Ripple Rejection	RR	$e_{in}=200mV_{rms}$, $f=1kHz$, $I_O=10mA$ $V_O=3.0V$ Version	—	75	—	dB
Average Temperature Coefficient of Output Voltage	$\Delta V_O/\Delta T_a$	$T_a=0\sim 85^\circ C$, $I_O=10mA$	—	± 50	—	ppm/°C
Output Noise Voltage	V_{NO}	$f=10Hz\sim 80kHz$, $I_O=10mA$, $V_O=3.0V$ Version	—	45	—	μV_{rms}
Control Voltage for ON-state	$V_{CONT(ON)}$		1.6	—	—	V
Control Voltage for OFF-state	$V_{CONT(OFF)}$		—	—	0.6	V

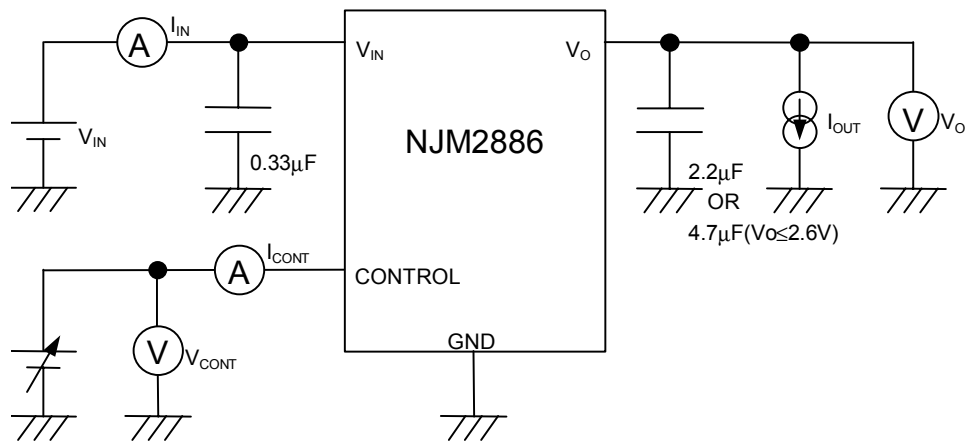
(*note 2): The above specification is a common specification for all output voltages.

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

POWER DISSIPATION VS. AMBIENT TEMPERATURE

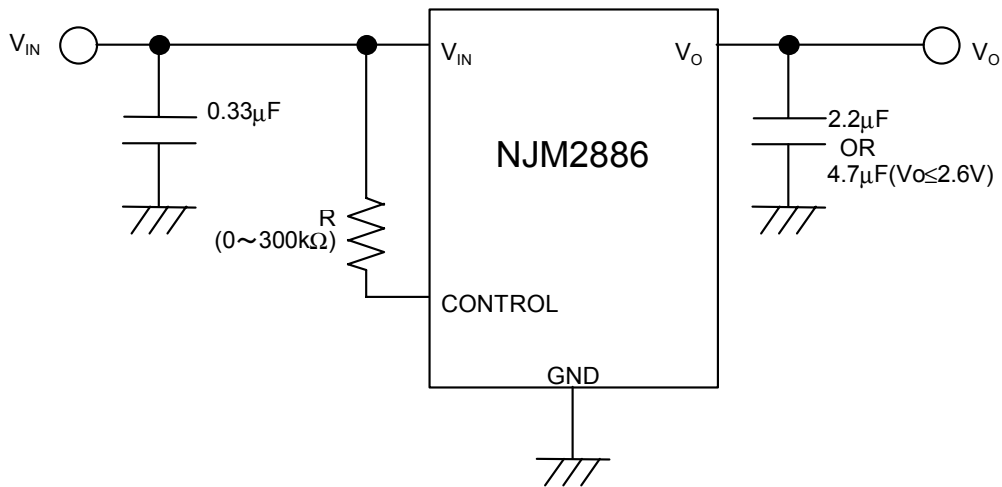


TEST CIRCUIT



■ TYPICAL APPLICATION

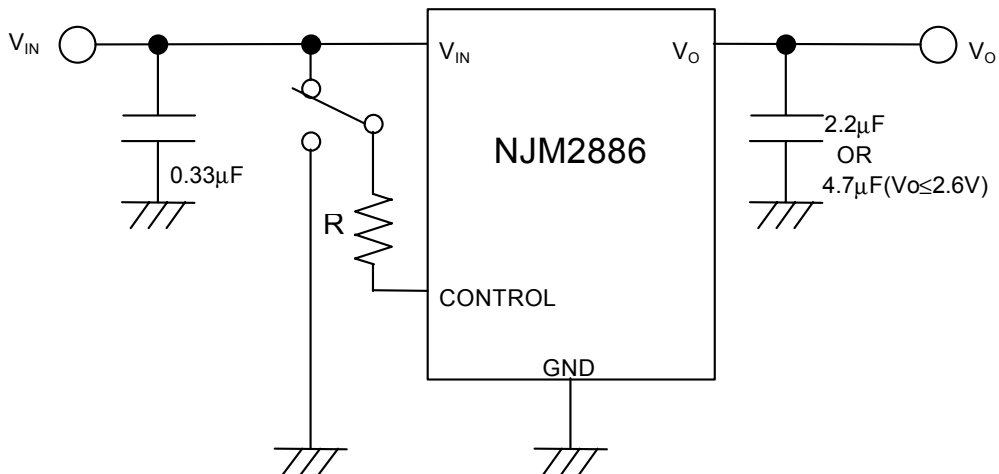
① In the case where ON/OFF Control is not required:



Connect control terminal to V_{IN} terminal

The quiescent current can be reduced by using a resistance "R". Instead, it increases the minimum operating voltage. For further information, please refer to Figure "Output Voltage vs. Control Voltage".

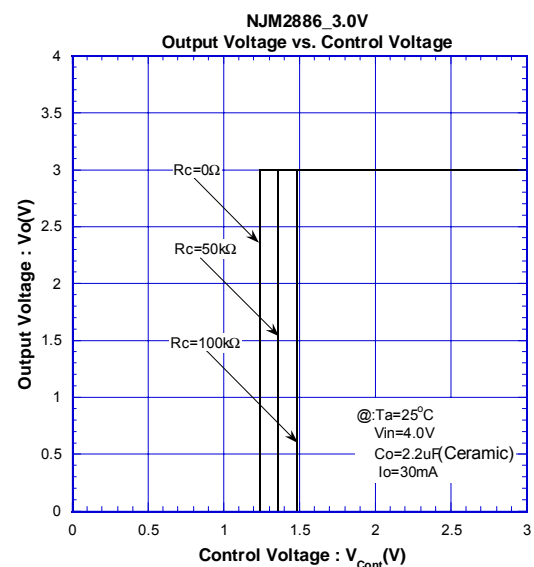
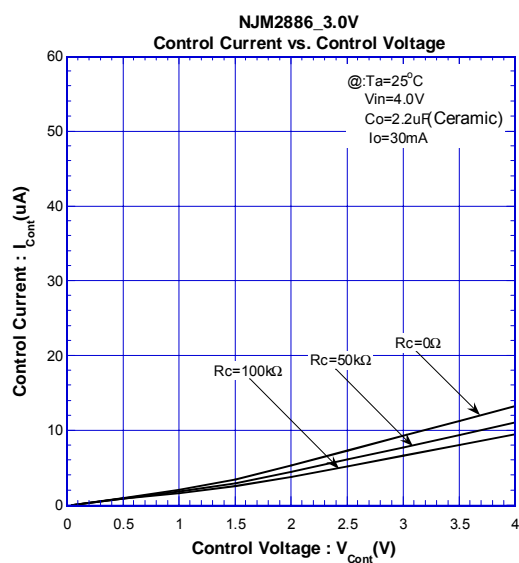
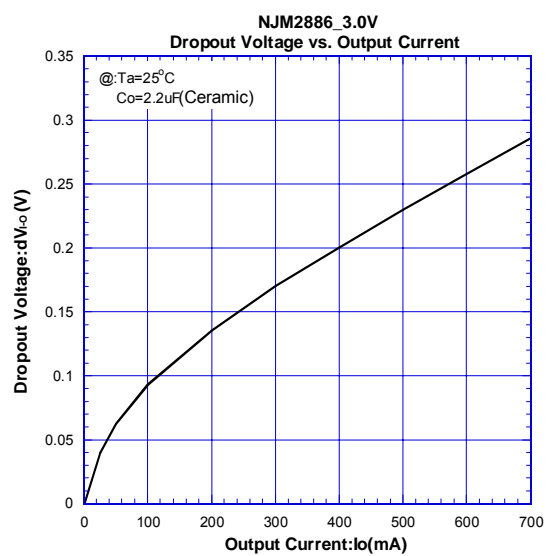
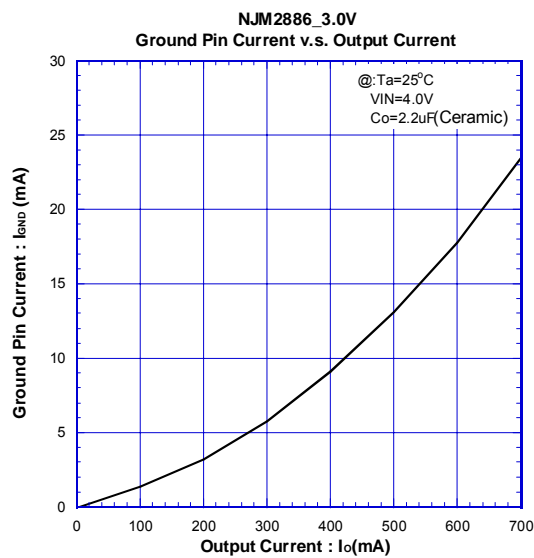
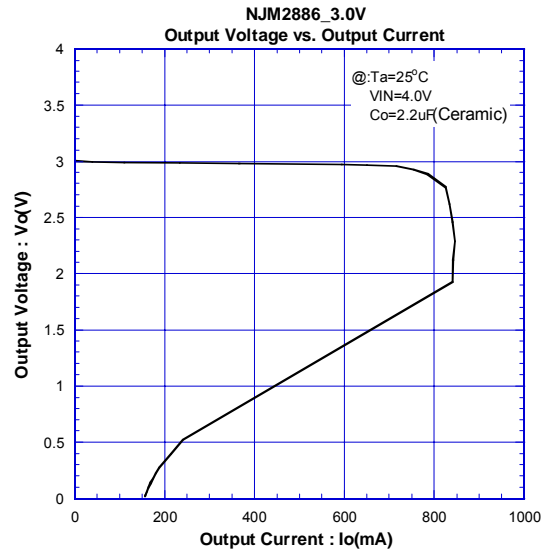
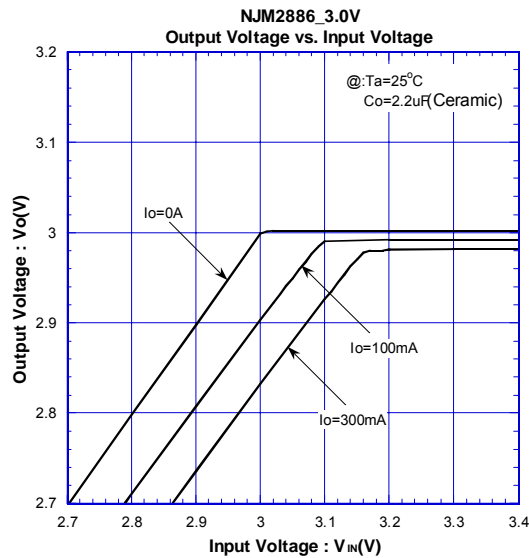
② In use of ON/OFF CONTROL:



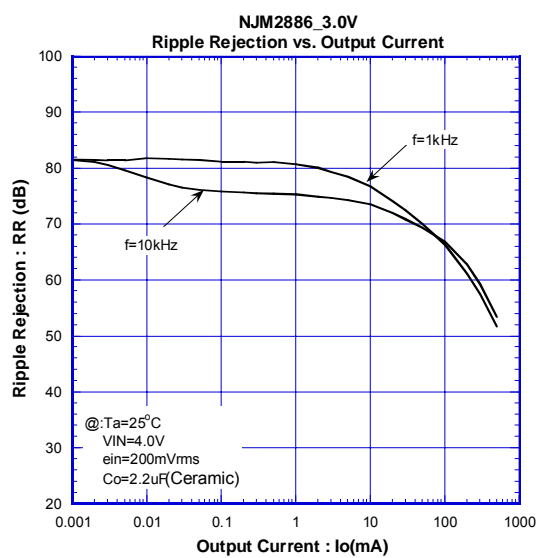
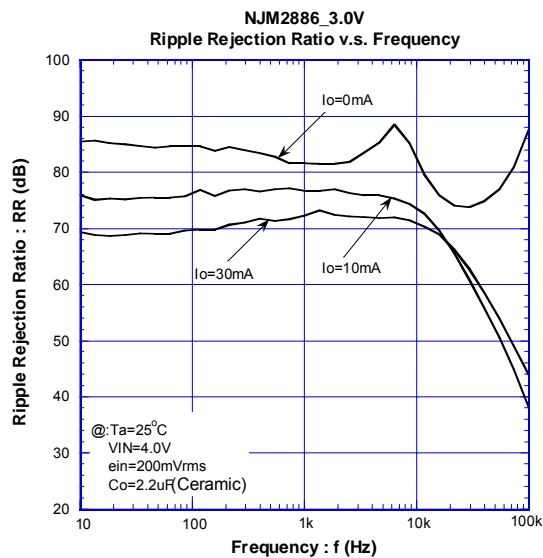
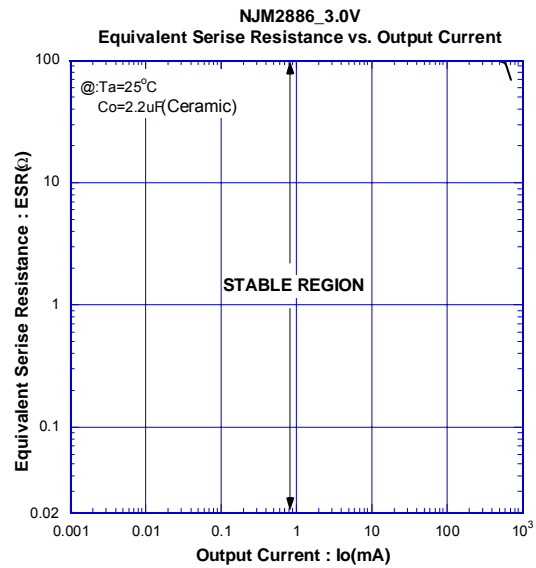
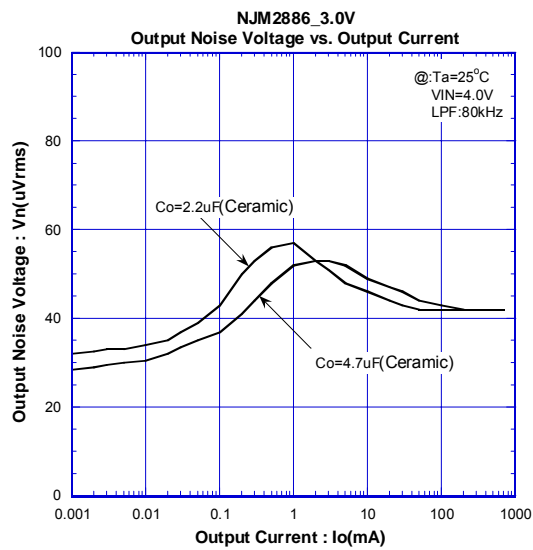
State of control terminal:

- "H" → output is enabled.
- "L" or "open" → output is disabled.

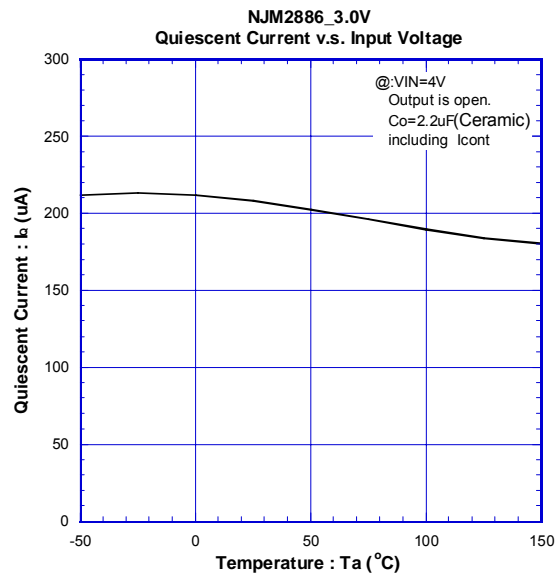
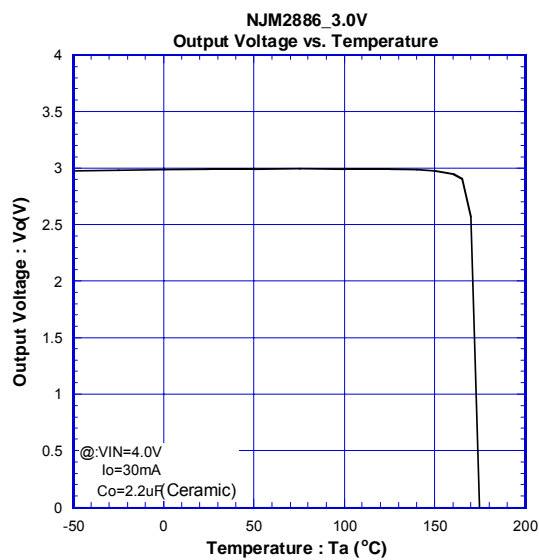
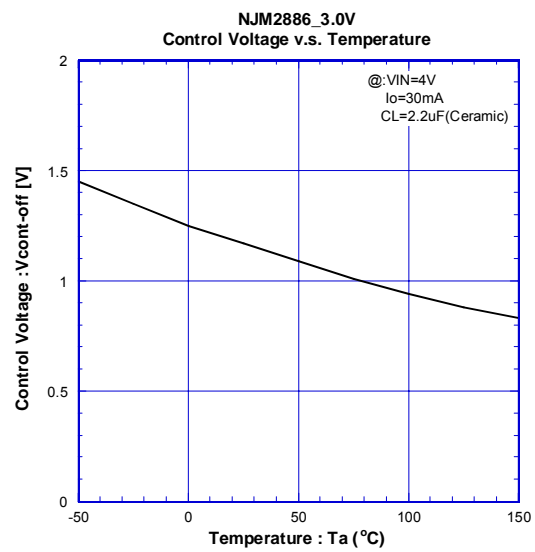
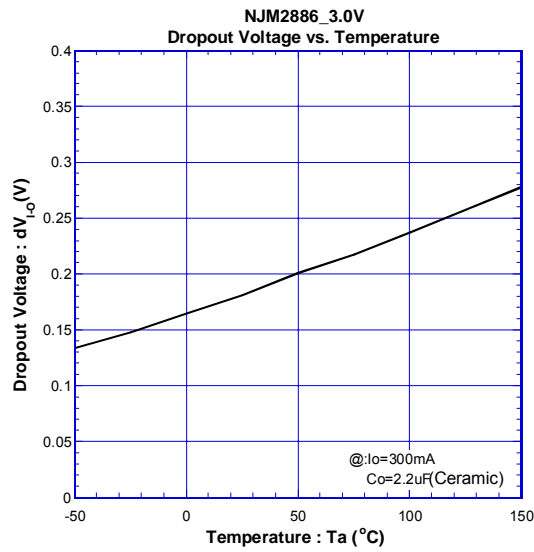
ELECTRICAL CHARACTERISTICS



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[CAUTION]

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