

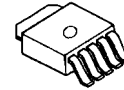
LOW DROPOUT VOLTAGE REGULATOR

■ 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

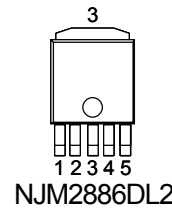


NJM2886DL2

■ FEATURES

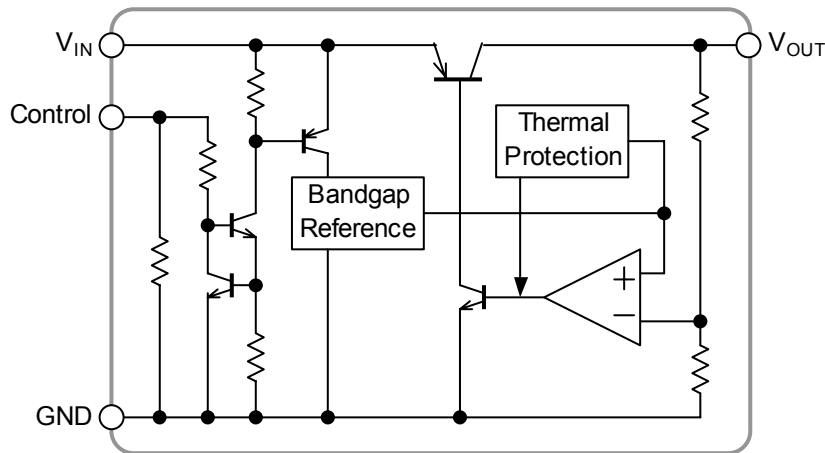
- High Ripple Rejection 75dB typ. (f=1kHz)
- Output Noise Voltage $V_{no}=45\mu V_{rms}$
- Output capacitor with 2.2 μF ceramic capacitor ($V_o \geq 2.7V$)
- Output Current $I_o(max.)=500mA$
- High Precision Output $V_o \pm 1.0\%$
- Low Dropout Voltage 0.18V typ. ($I_o=300mA$)
- ON/OFF Control
- Internal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

NJM2886

■ 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

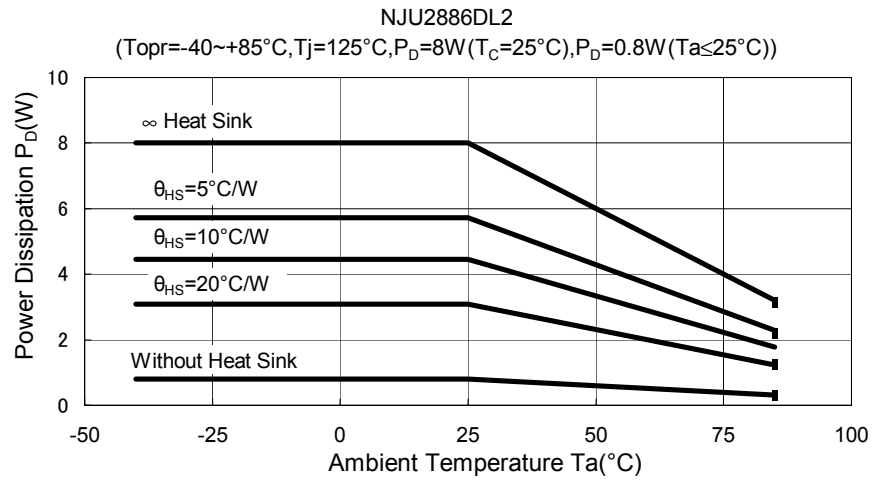
(V_{IN}=V_O+1V, C_{IN}=0.33μF, Co=2.2μF: V_O≥2.7V (Co=4.7μF: V_O≤2.6V), Ta=25°C)

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	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 _{LO}	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
Average Temperature Coefficient of Output Voltage	ΔV _O /ΔTa	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
Control Voltage for ON-state	V _{CONT(ON)}		1.6	-	-	V
Control Voltage for OFF-state	V _{CONT(OFF)}		-	-	0.6	V

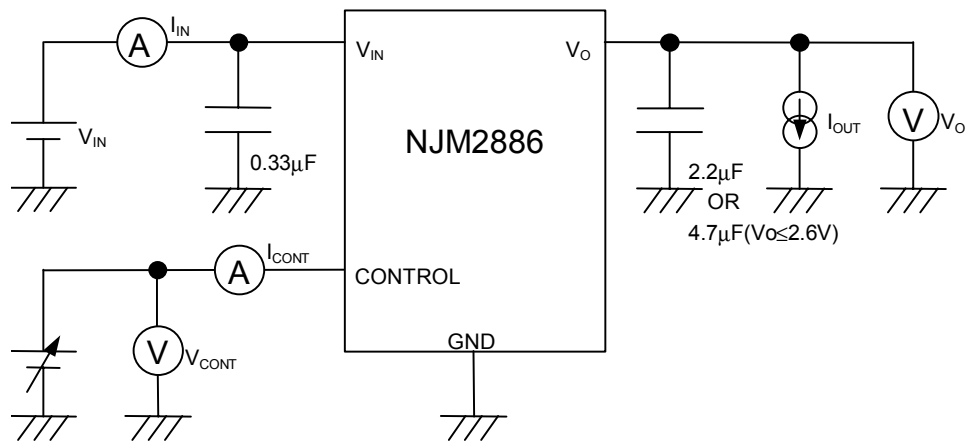
(*note 2): The above specification is a common specification for all output voltages.

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

POWER DISSIPATION VS. AMBIENT TEMPERATURE



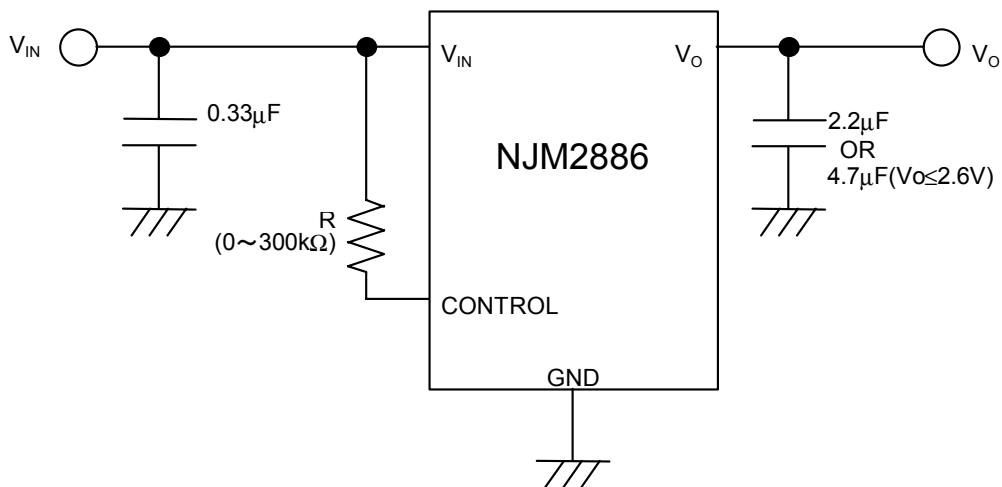
TEST CIRCUIT



NJM2886

■ TYPICAL APPLICATION

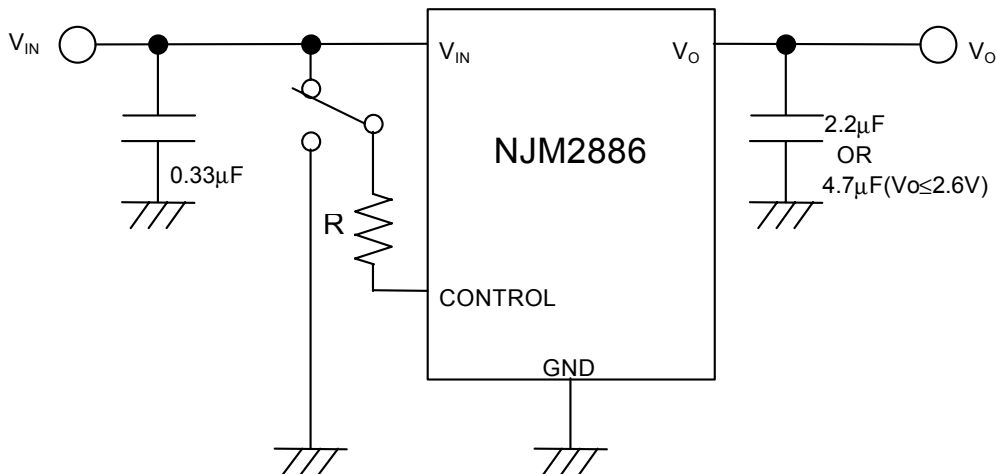
① In the case where ON/OFF Control is not required:



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".

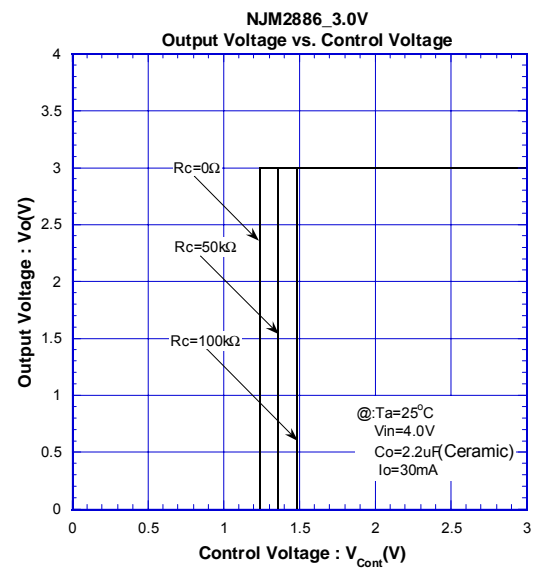
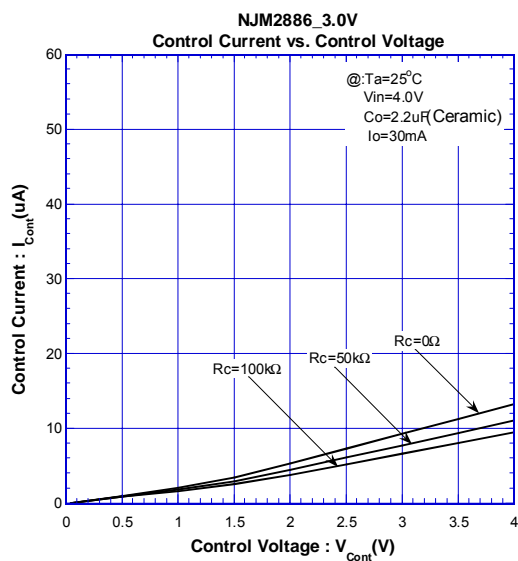
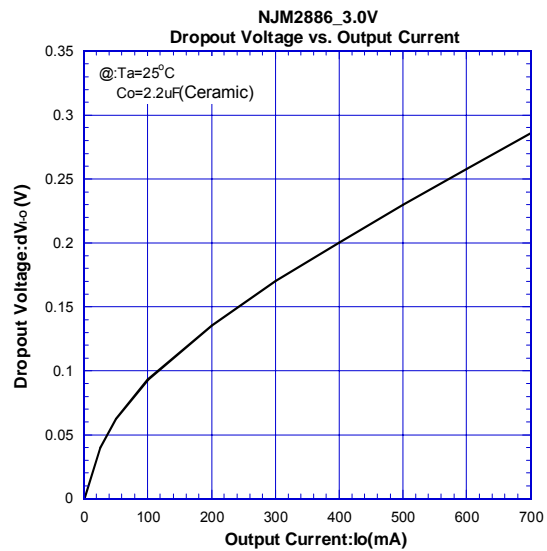
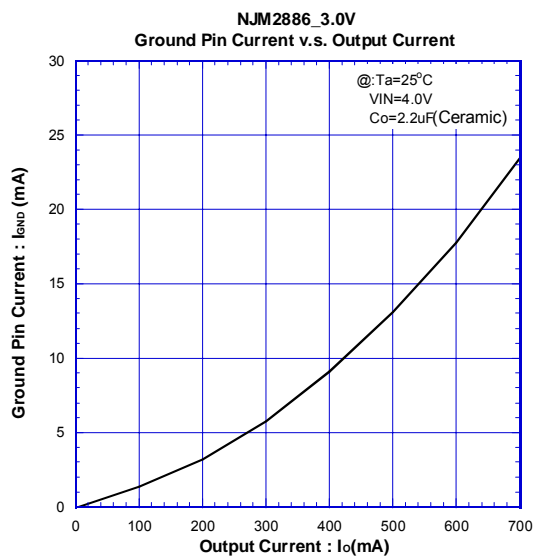
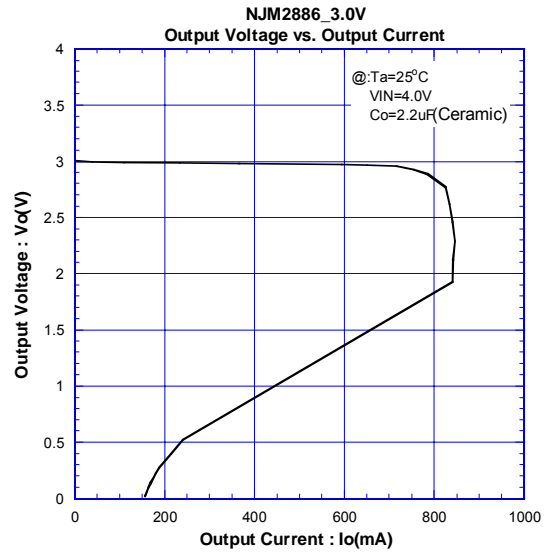
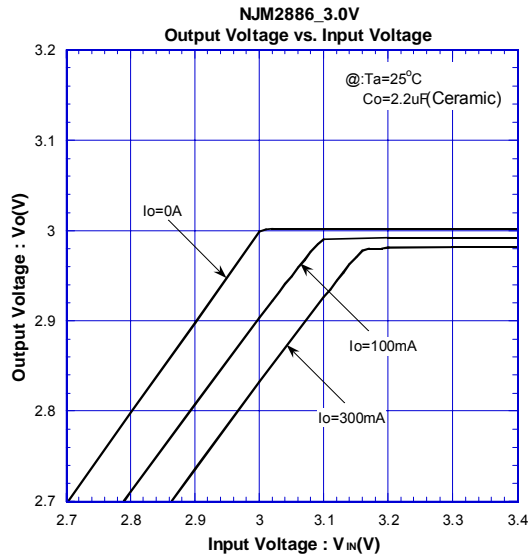
② In use of ON/OFF CONTROL:



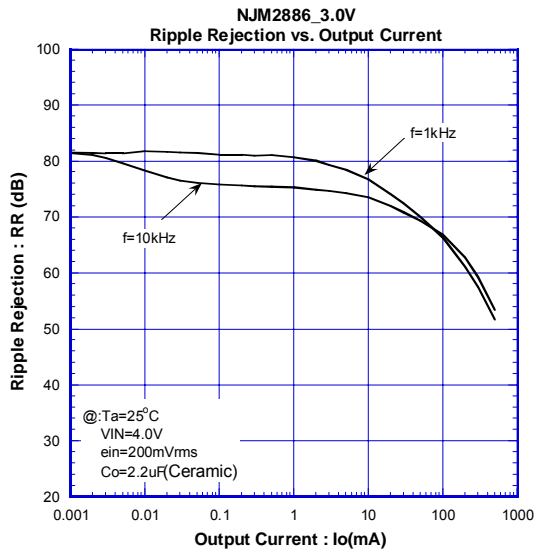
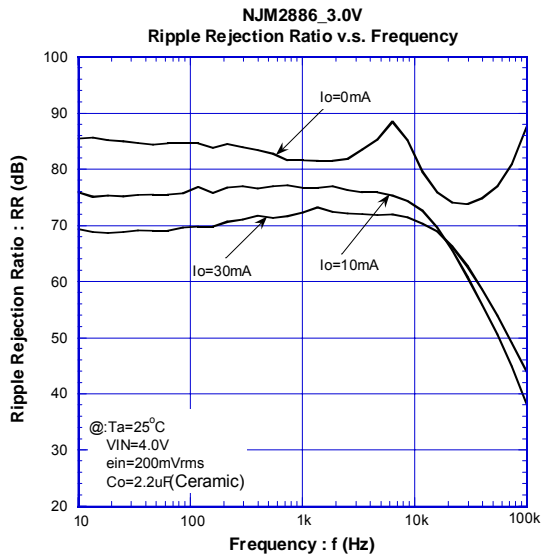
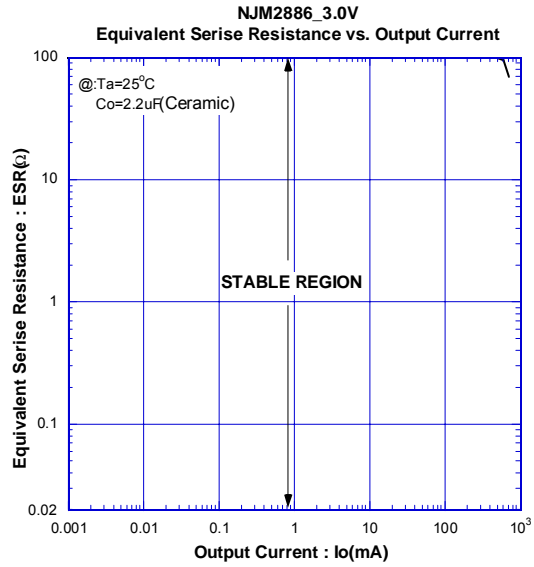
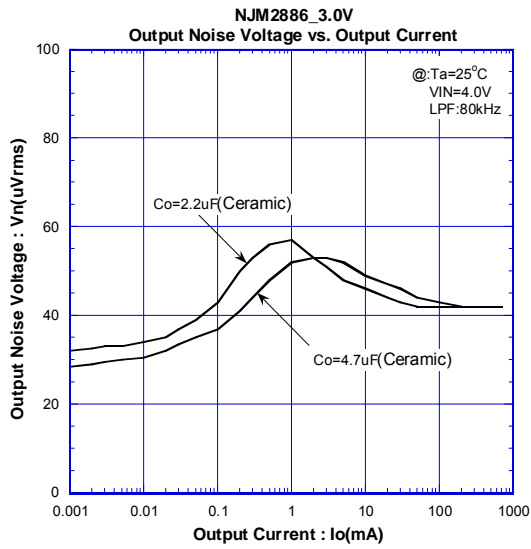
State of control terminal:

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

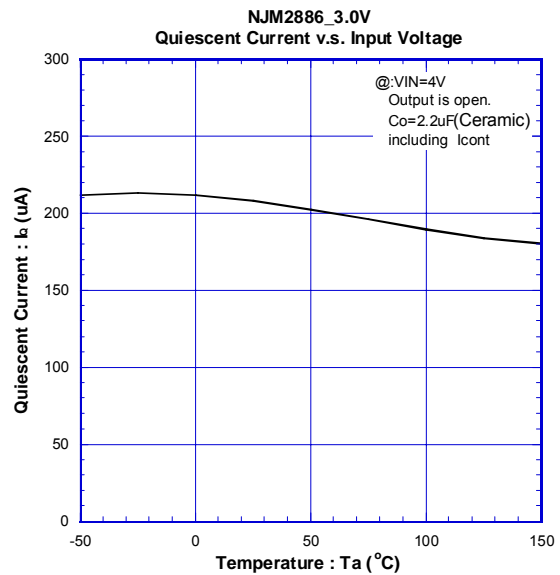
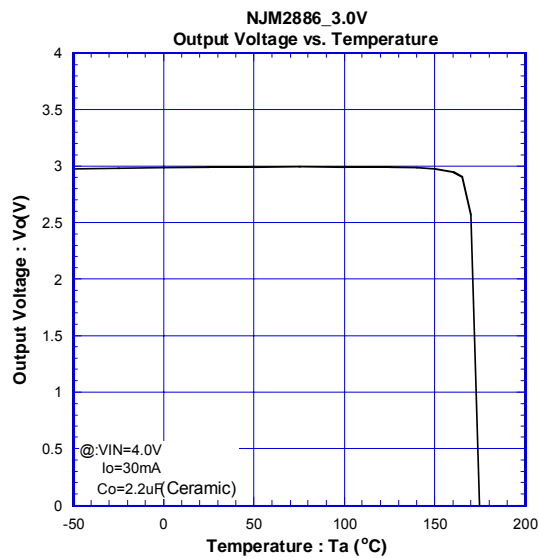
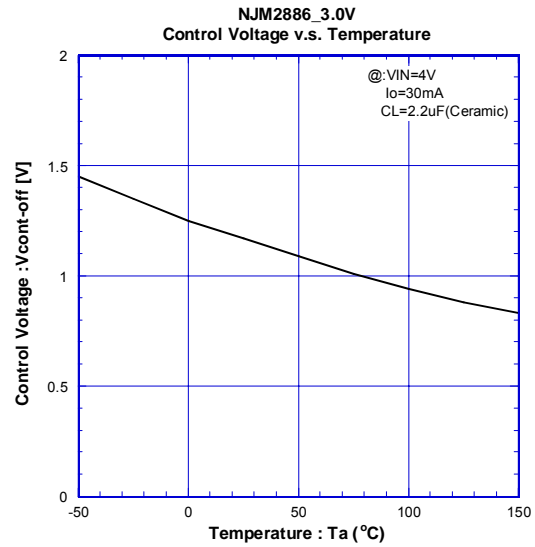
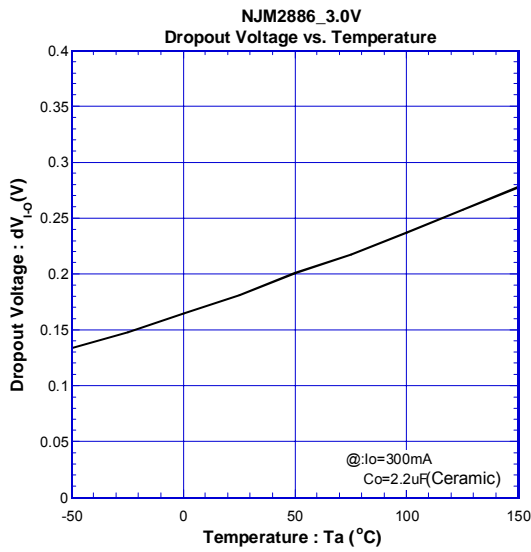
ELECTRICAL CHARACTERISTICS



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[CAUTION]

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