

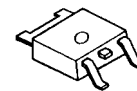
LOW DROPOUT VOLTAGE REGULATOR

■ GENERAL DESCRIPTION

The NJM2885 is low dropout voltage regulator designed for portable application.

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

■ PACKAGE OUTLINE

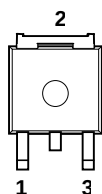


NJM2885DL1

■ FEATURES

- High Ripple Rejection 75dB typ. ($f=1\text{kHz}$, $V_o=3\text{V}$ Version)
- Output Noise Voltage $V_{no}=45\mu\text{V}_{\text{rms}}$ typ.
- Output capacitor with $2.2\mu\text{F}$ ceramic capacitor ($V_o\geq 2.7\text{V}$)
- Output Current $I_o(\text{max.})=500\text{mA}$
- High Precision Output $V_o\pm 1.0\%$
- Low Dropout Voltage 0.18V typ. ($I_o=300\text{mA}$)
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-3

■ PIN CONFIGURATION

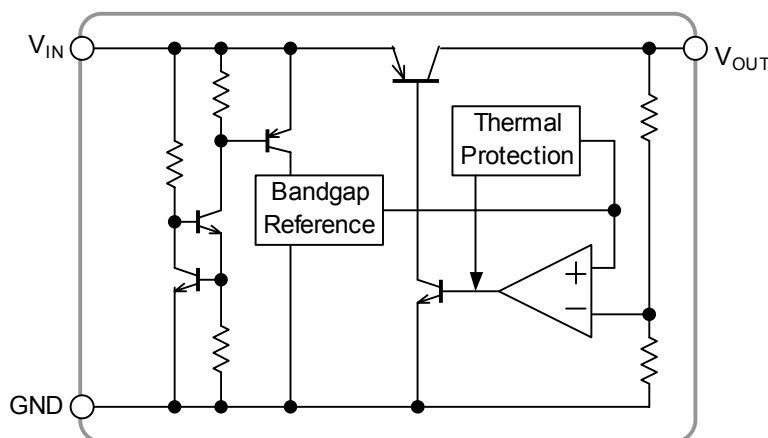


NJM2885DL1

PIN FUNCTION

1. V_{IN}
2. GND
3. V_{OUT}

■ EQUIVALENT CIRCUIT



■ OUTPUT VOLTAGE RANK LIST

Device Name	V _{OUT}	Device Name	V _{OUT}
NJM2885DL1-15	1.5V	NJM2885DL1-28	2.8V
NJM2885DL1-18	1.8V	NJM2885DL1-03	3.0V
NJM2885DL1-19	1.9V	NJM2885DL1-33	3.3V
NJM2885DL1-21	2.1V	NJM2885DL1-35	3.5V
NJM2885DL1-25	2.5V	NJM2885DL1-38	3.8V
NJM2885DL1-26	2.6V	NJM2885DL1-05	5.0V

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

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

■ Operating Voltage

V_{IN}=+2.3V ~ +14.0V (In case of Vo<2.1V)

■ ELECTRICAL CHARACTERISTICS

(V_{IN}=Vo+1V, C_{IN}=0.33μF, Co=2.2μF, (1.7V<Vo≤2.6V: Co=4.7μF, Vo≤1.7V:Co=10μF), Ta=25°C)

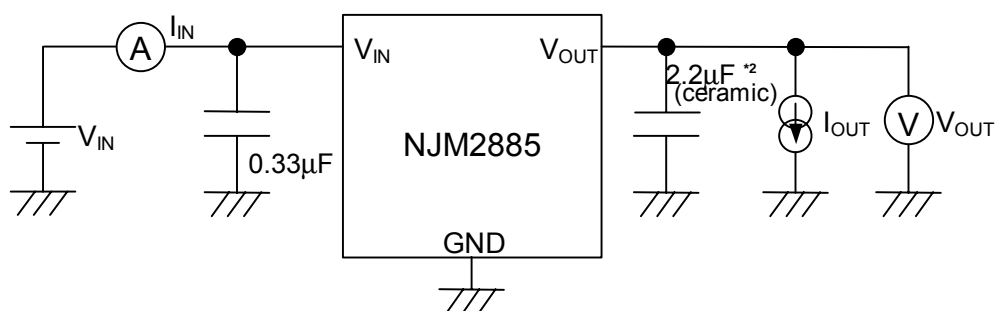
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	Vo	Io=30mA	-1.0%	—	+1.0%	V
Quiescent Current	I _Q	Io=0mA	—	200	300	μA
Output Current	Io	Vo-0.3V	500	650	—	mA
Line Regulation	ΔVo/ΔV _{IN}	V _{IN} =Vo+1V ~ Vo+6.0V, Io=30mA	—	—	0.10	%/V
Load Regulation	ΔVo/ΔIo	Io=0 ~ 500mA	—	—	0.03	%/mA
Dropout Voltage	ΔV _{I-O}	Io=300mA	—	0.18	0.28	V
Ripple Rejection	RR	ein=200mVrms, f=1kHz, Io=10mA Vo=3.0V Version	—	75	—	dB
Average Temperature Coefficient of Output Voltage	ΔVo/ΔTa	Ta=0~85°C, Io=10mA	—	±50	—	ppm/°C
Output Noise Voltage	V _{NO}	f=10Hz~80kHz, Io=10mA, Vo=3.0V Version	—	45	—	μVrms

(*1): The output voltage excludes under 2.1V.

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

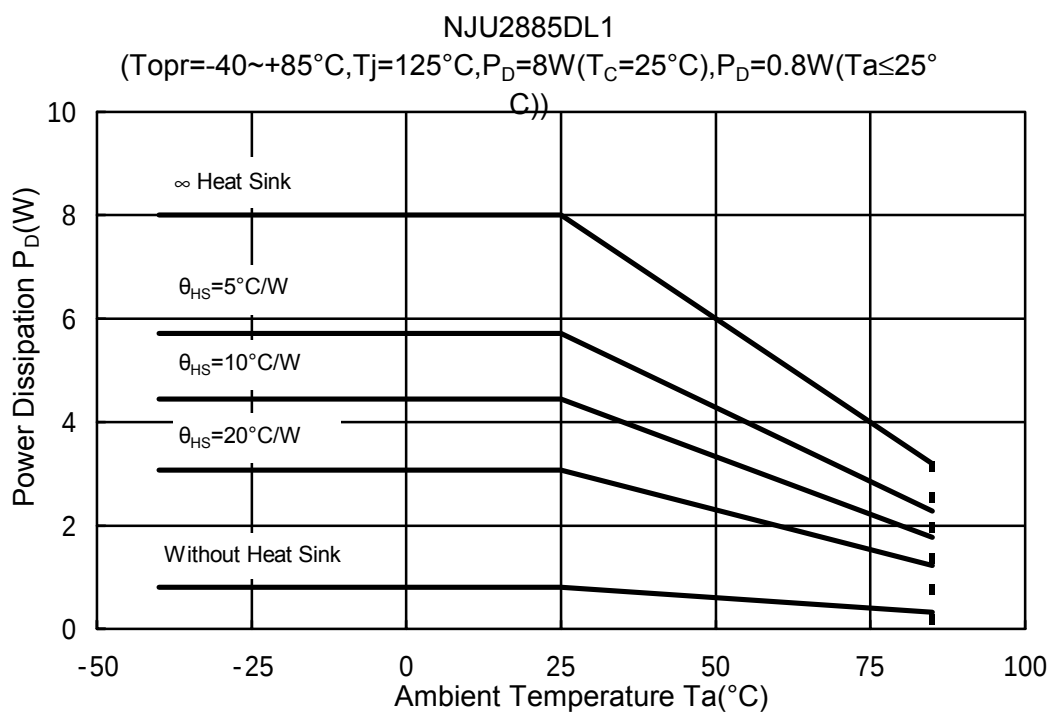
Therefore, it may be different from the individual specification for a specific output voltage.

■ TEST CIRCUIT

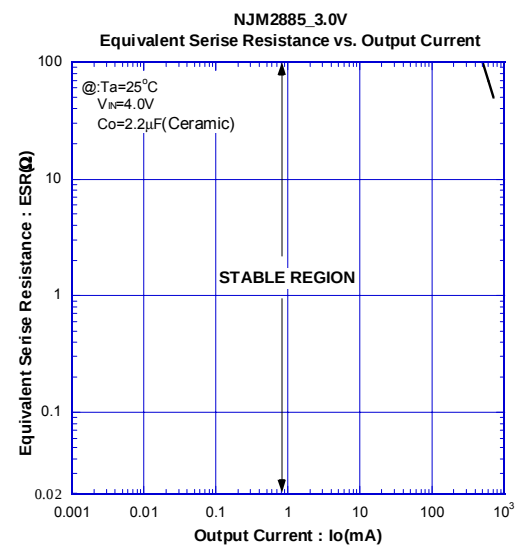
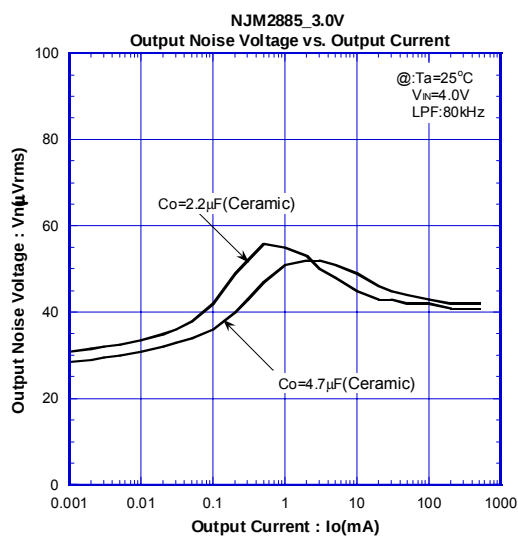
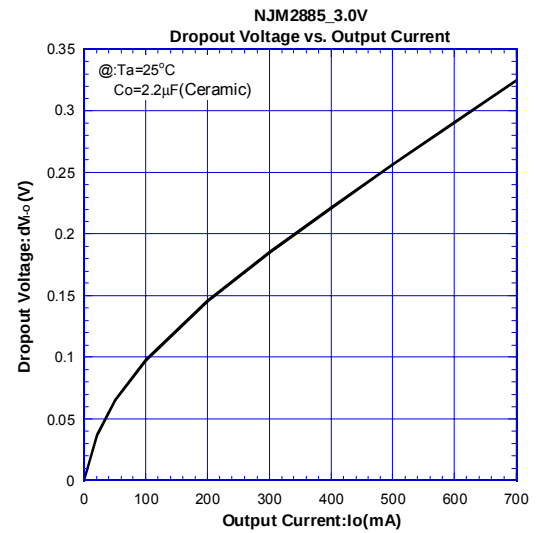
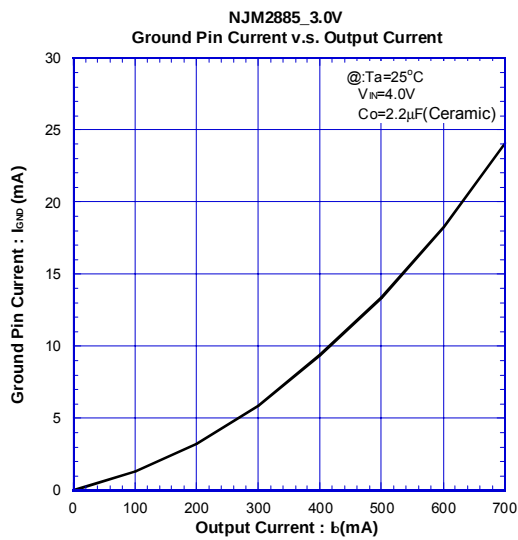
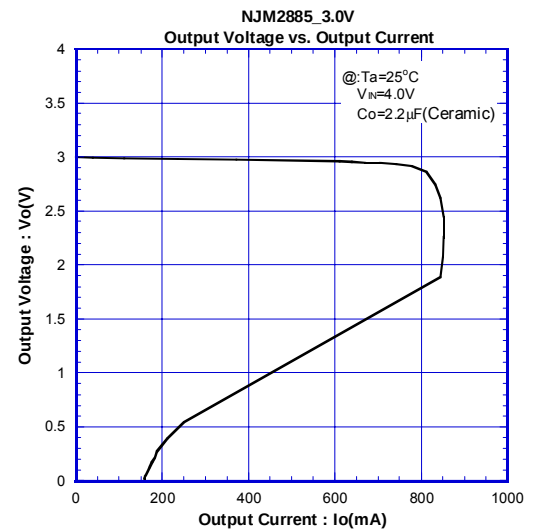
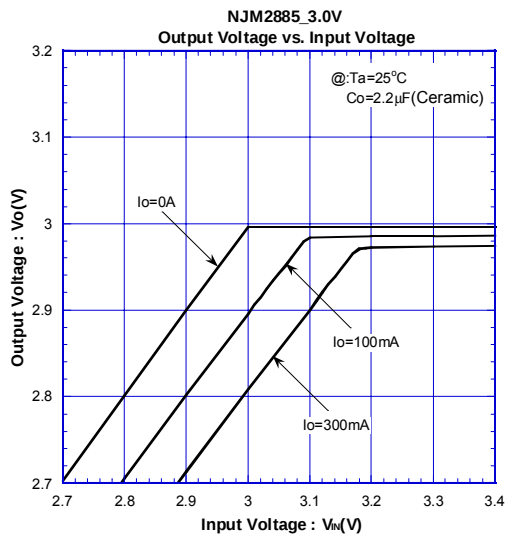


*2 1.7V<V_O≤2.6V version: C_O=4.7μF(ceramic)
V_O≤1.7V version: 10μF(ceramic)

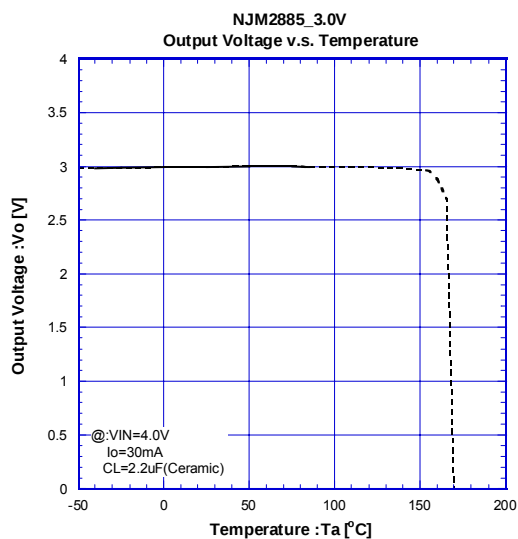
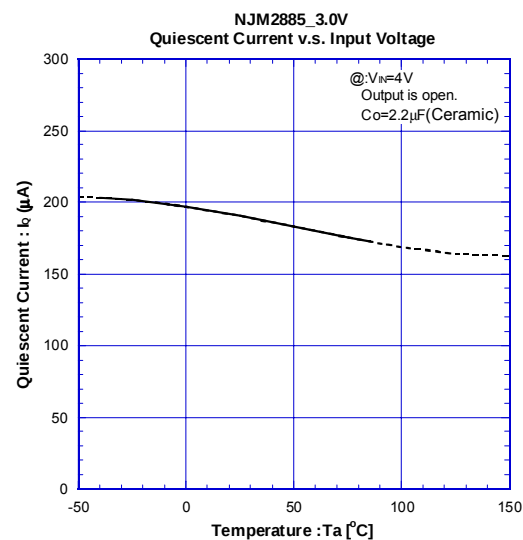
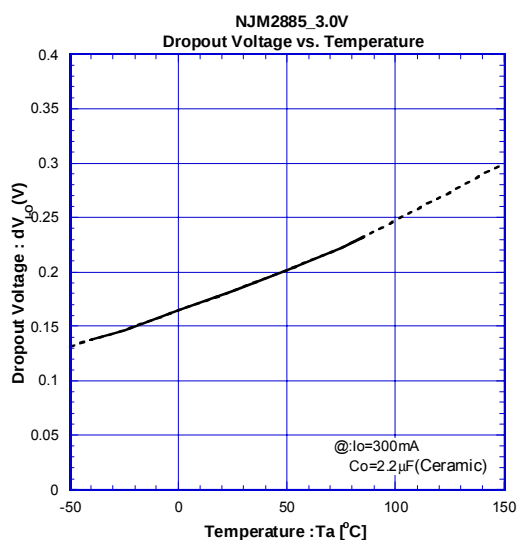
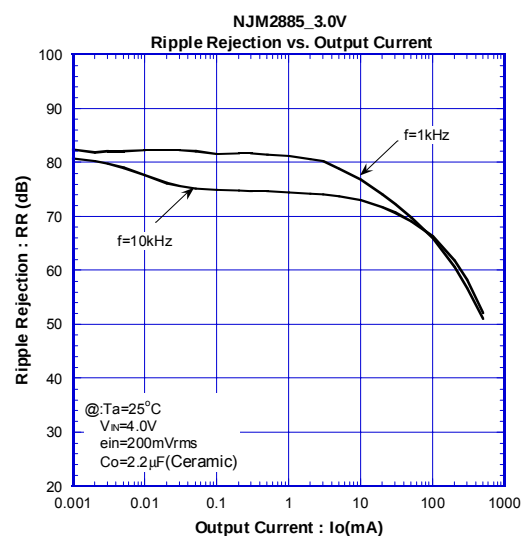
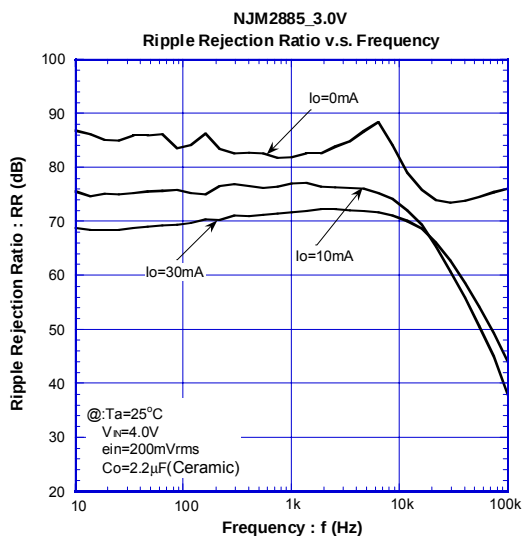
■ POWER DISSIPATION VS. AMBIENT TEMPERATURE



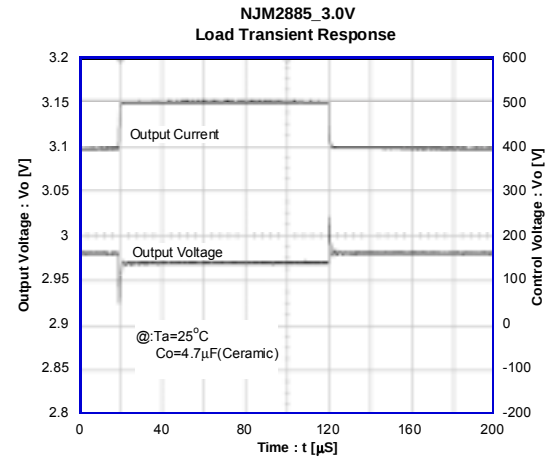
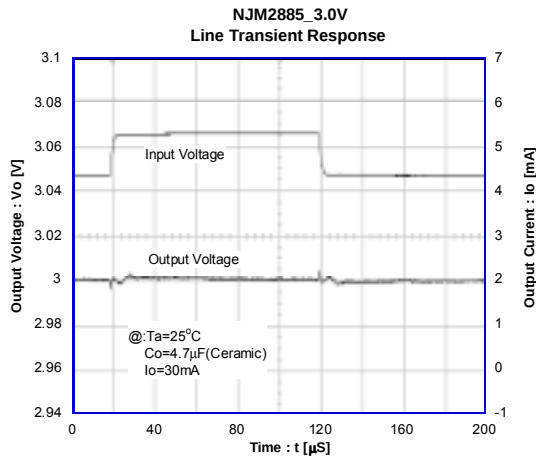
ELECTRICAL CHARACTERISTICS



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[CAUTION]

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