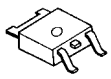
LOW DROPOUT VOLTAGE REGULATOR

■ 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

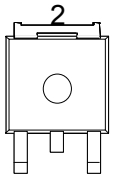


NJM2885DL1

■ FEATURES

- ●High Ripple Rejection 75dB typ. (f=1kHz)
- ●Output Noise Voltage Vno=45μVrms
- ●Output capacitor with 2.2μF ceramic capacitor (Vo≥2.7V)
- ●Output Current Io(max.)=500mA
- ●High Precision Output Vo±1.0%
- ●Low Dropout Voltage 0.18V typ. (Io=300mA)
- ●Internal Short Circuit Current Limit
- ●Internal Thermal Overload Protection
- ●Bipolar Technology
- ●Package Outline TO-252-3

■ PIN CONFIGURATION



NJM2885DL1

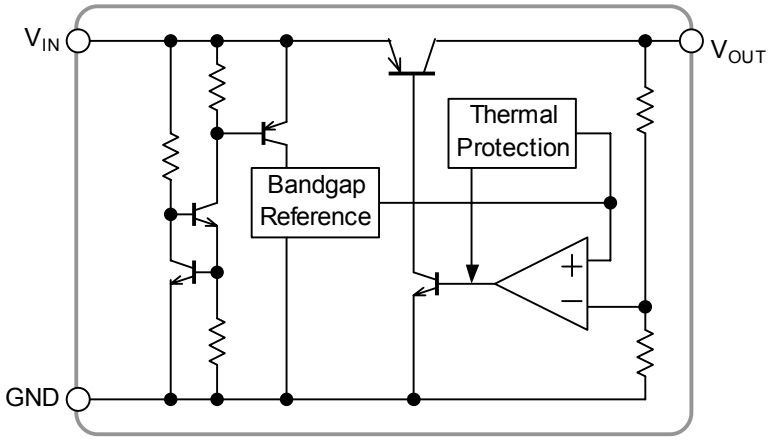
PIN FUNCTION

1.V_{IN}

2.GND

3.V_{OUT}

■ EQUIVALENT CIRCUIT



■ OUTPUT VOLTAGE RANK LIST

Device Name	V_{OUT}	Device Name	V_{OUT}
NJM2885DL1-18	1.8V	NJM2885DL1-30	3.0V
NJM2885DL1-21	2.1V	NJM2885DL1-33	3.3V
NJM2885DL1-25	2.5V	NJM2885DL1-35	3.5V
NJM2885DL1-26	2.6V	NJM2885DL1-38	3.8V
NJM2885DL1-28	2.8V	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)	mW
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +125	°C

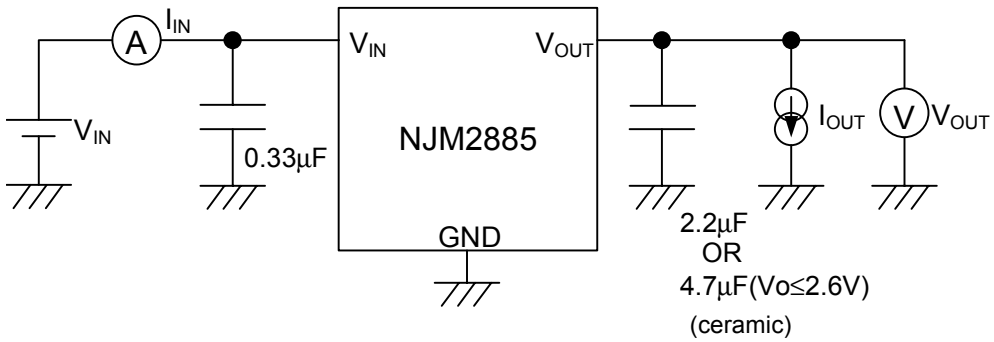
■ ELECTRICAL CHARACTERISTICS

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

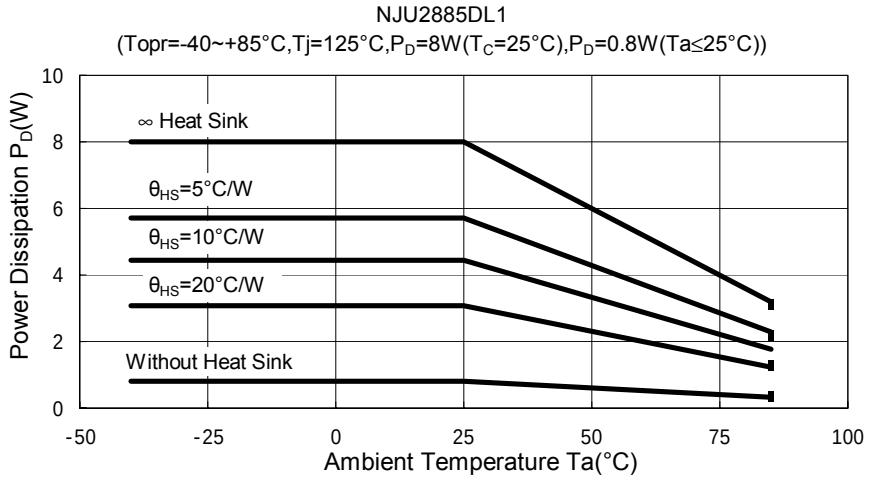
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	Vo	Io=30mA	-1.0%	–	+1.0%	V
Quiescent Current	I_Q	Io=0mA	–	200	300	µA
Output Current	Io	Vo-0.3V	500	650	-	mA
Line Regulation	$\Delta Vo/\Delta V_{IN}$	V_{IN}=Vo+1V ~ Vo+6.0V, Io=30mA	–	–	0.10	%/V
Load Regulation	$\Delta Vo/\Delta Io$	Io=0 ~ 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	$\Delta Vo/\Delta Ta$	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

(*note 1): 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.

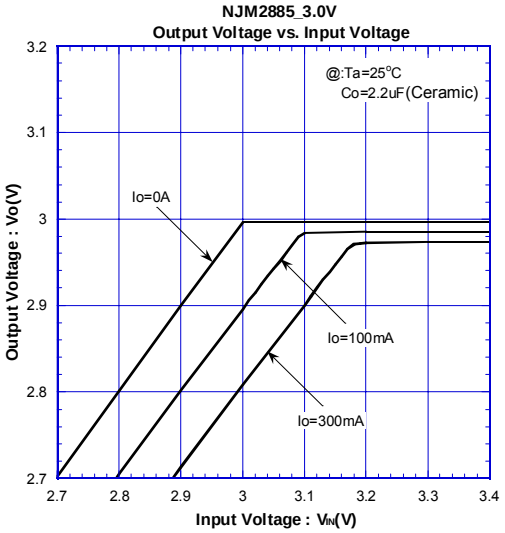
■ TEST CIRCUIT

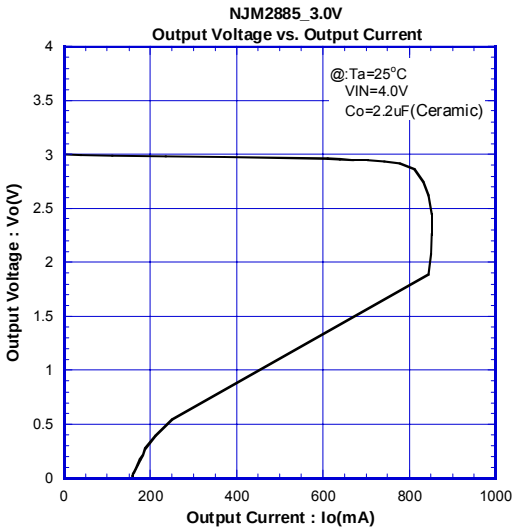


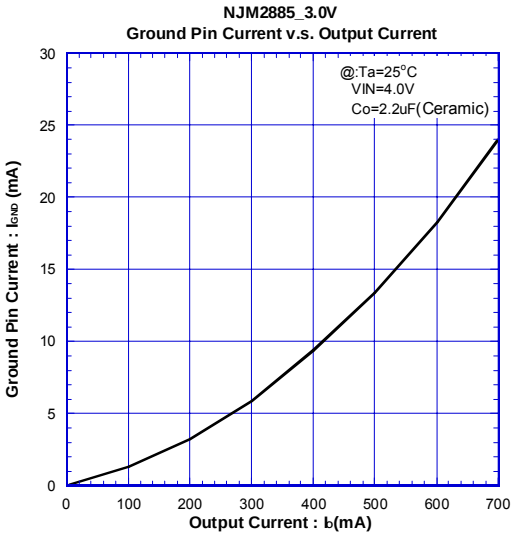
■ POWER DISSIPATION VS. AMBIENT TEMPERATURE

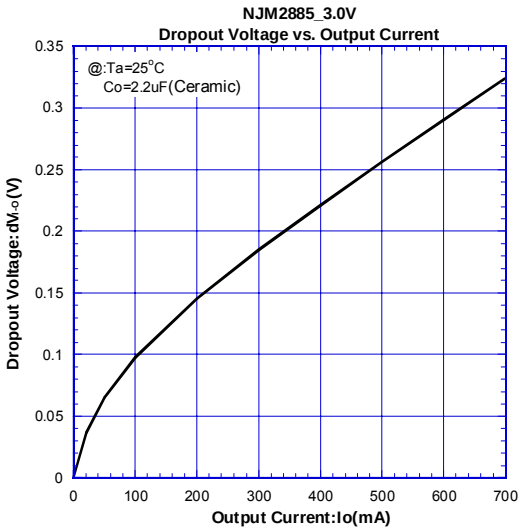


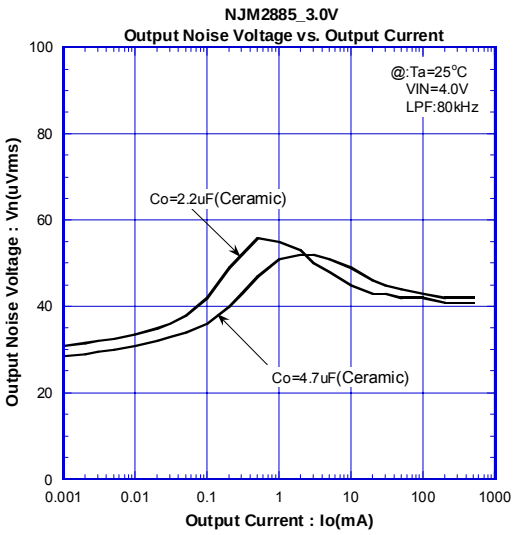
■ ELECTRICAL CHARACTERISTICS

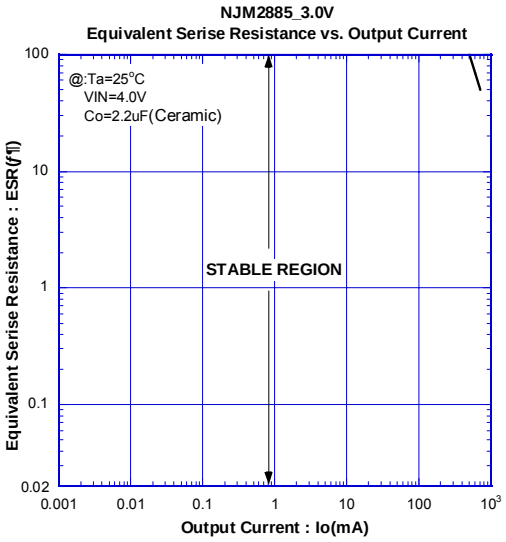






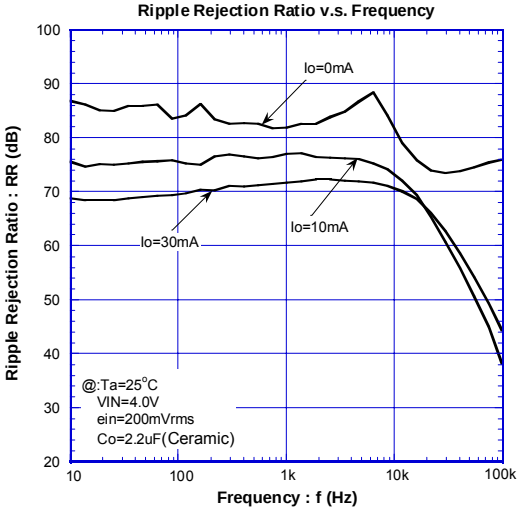




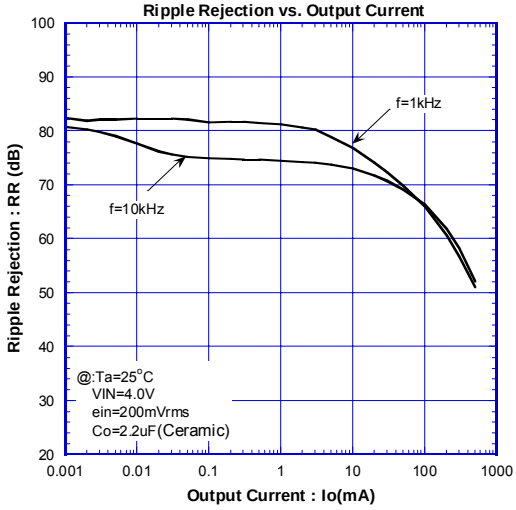


■ ELECTRICAL CHARACTERISTICS

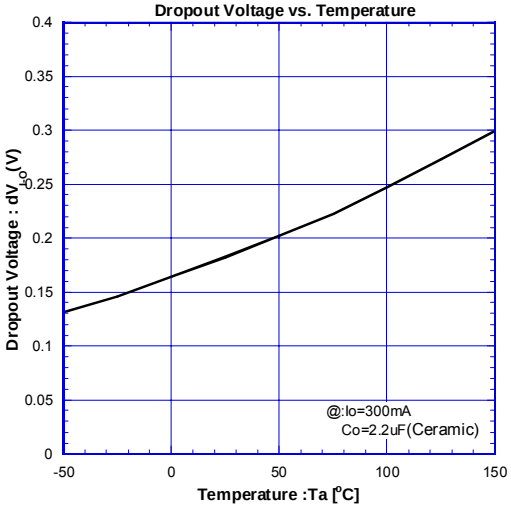
NJM2885_3.0V
Ripple Rejection Ratio v.s. Frequency



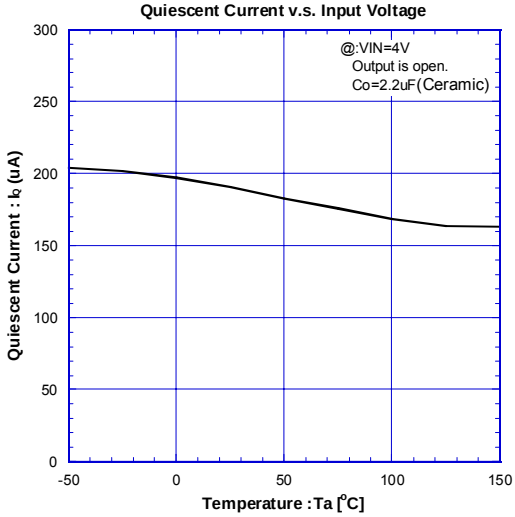
NJM2885_3.0V
Ripple Rejection vs. Output Current



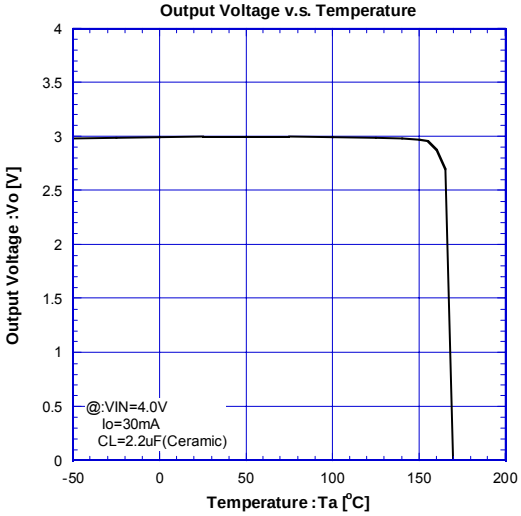
NJM2885_3.0V
Dropout Voltage vs. Temperature



NJM2885_3.0V
Quiescent Current v.s. Input Voltage



NJM2885_3.0V
Output Voltage v.s. Temperature



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