

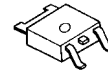
LOW DROPOUT VOLTAGE REGULATOR

■ 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

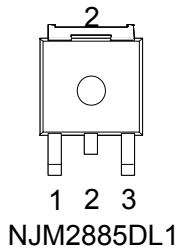


NJM2885DL1

■ FEATURES

- High Ripple Rejection 75dB typ. (f=1kHz)
- Output Noise Voltage $V_{no}=45\mu V_{rms}$
- 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. ($I_o=300mA$)
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-3

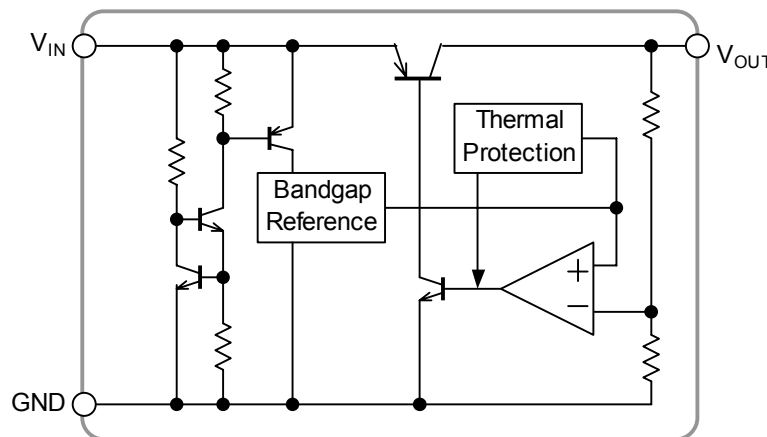
■ PIN CONFIGURATION



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

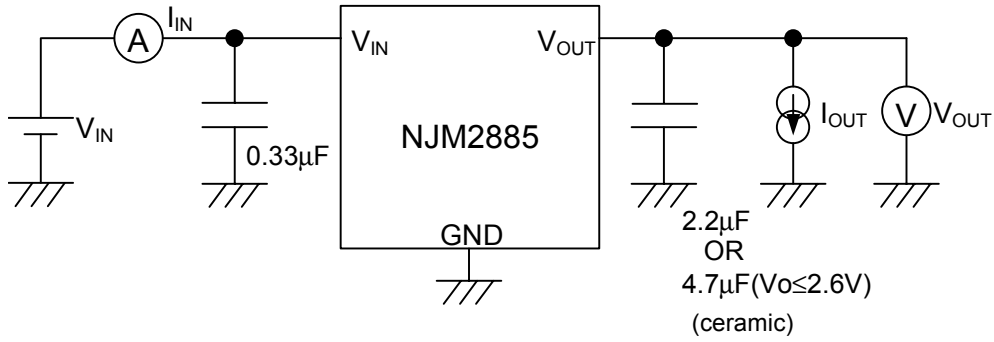
($V_{IN}=V_o+1V$, $C_{IN}=0.33\mu F$, $C_o=2.2\mu F$: $V_o\geq 2.7V$ ($C_o=4.7\mu F$: $V_o\leq 2.6V$), $T_a=25^\circ C$)

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
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
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}

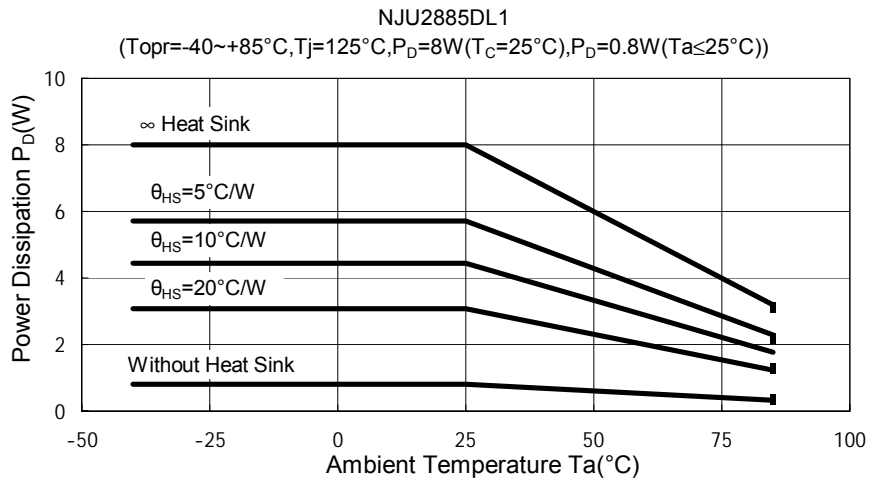
(*note 1): The above specification is a common specification for all output voltages.

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

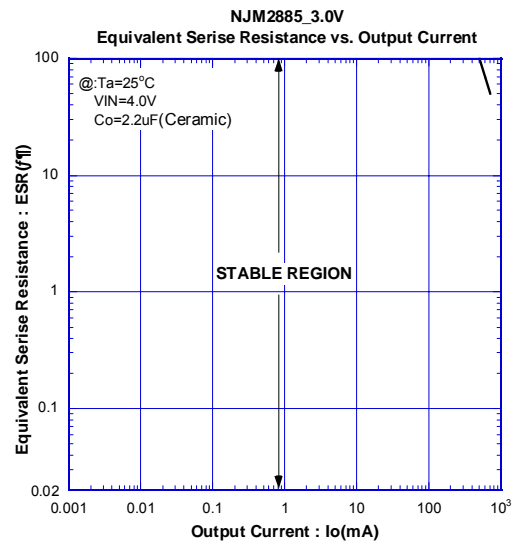
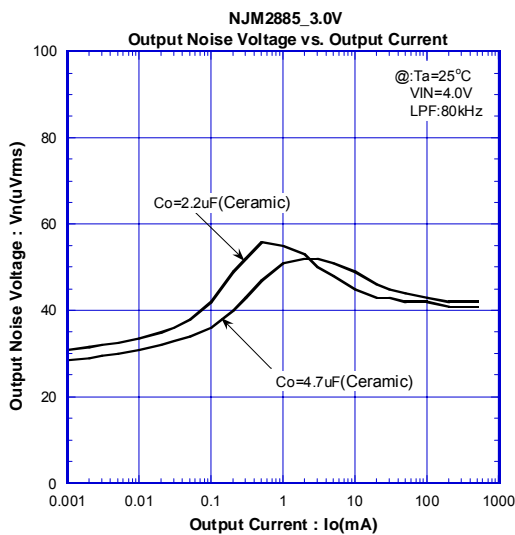
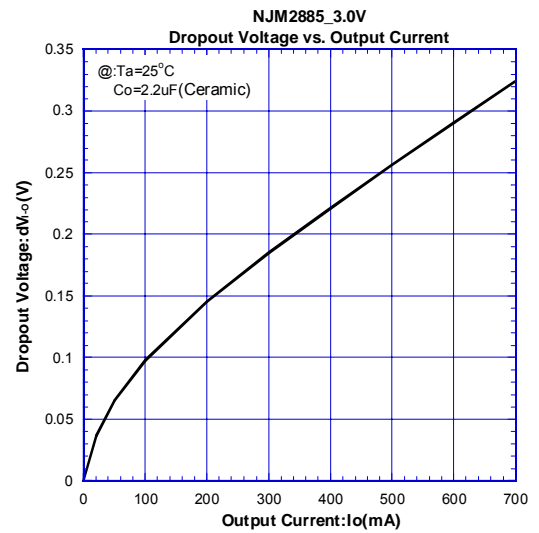
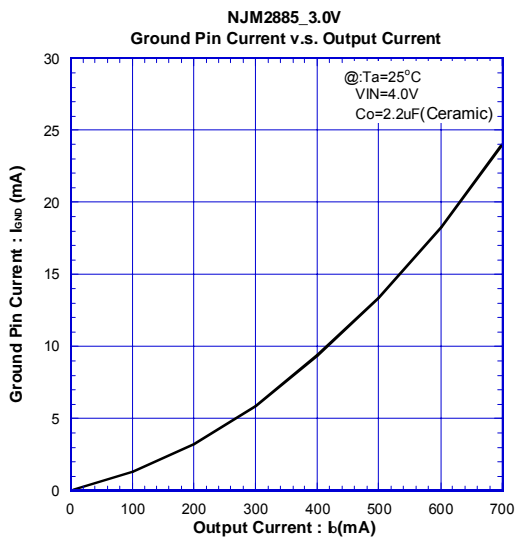
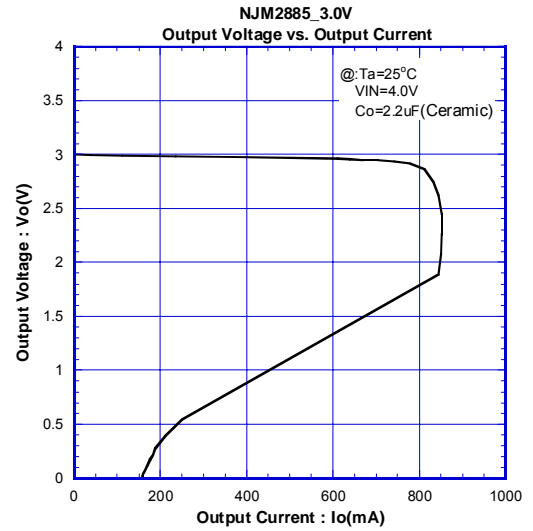
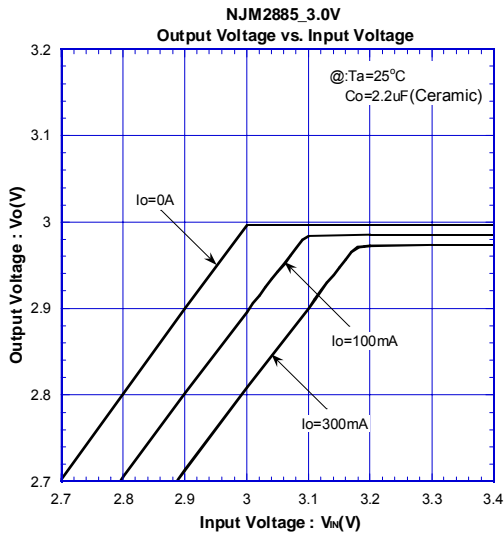
■ TEST CIRCUIT



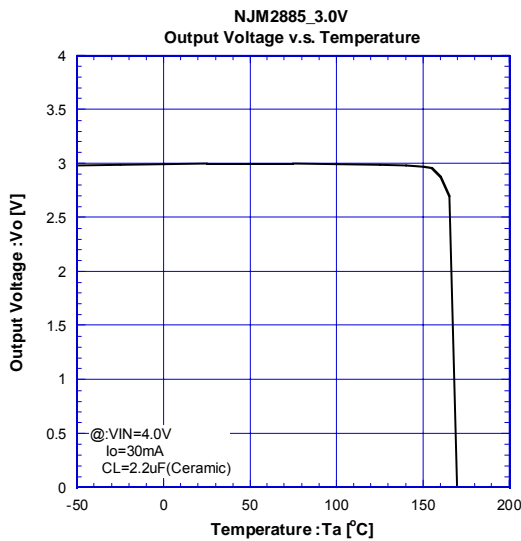
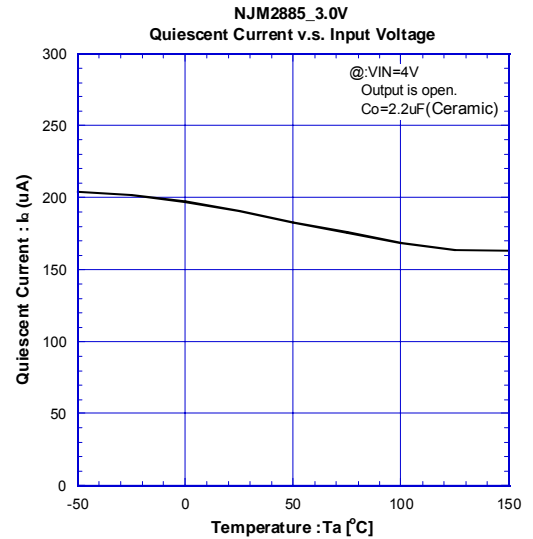
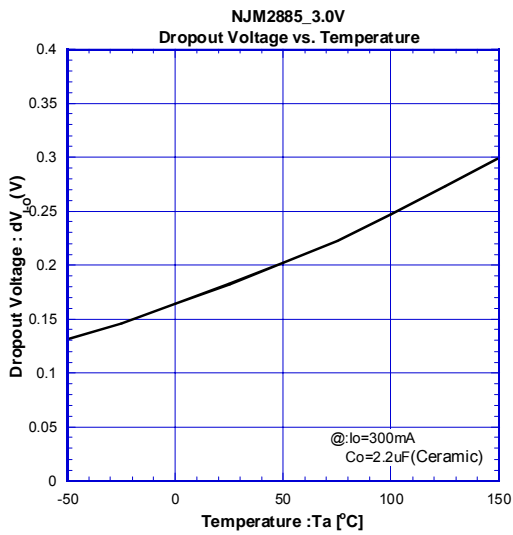
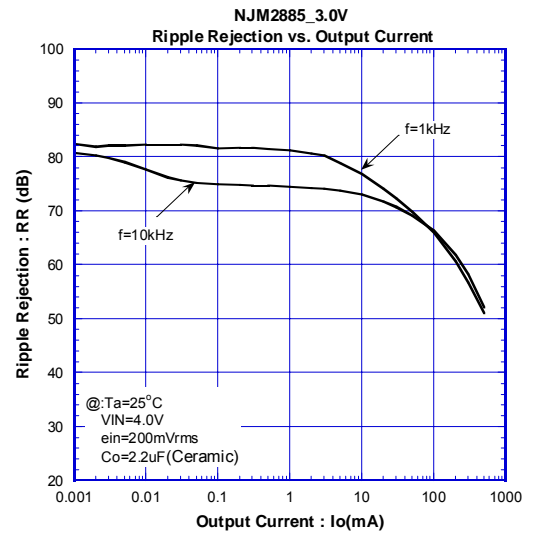
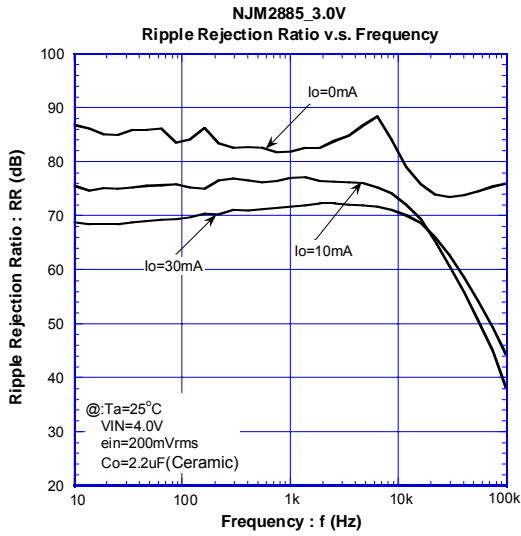
■ POWER DISSIPATION VS. AMBIENT TEMPERATURE



■ ELECTRICAL CHARACTERISTICS



■ ELECTRICAL CHARACTERISTICS



[CAUTION]

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