

LOW DROPOUT VOLTAGE REGULATOR WITH ON/OFF CONTROL

■ GENERAL DESCRIPTION

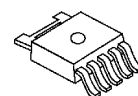
The NJM2386A is a general purpose low dropout voltage regulators with ON/OFF control.

The output current is up to 1.0A and dropout voltage is up 0.2V typical at 500mA load.

It features high maximum input voltage of 30V for a wide application range including TV, home appliance and power modules.

Compared with the NJM2386, Off control quiescent current is significantly reduces for current sensitive applications.

■ PACKAGE OUTLINE

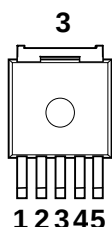


NJM2386ADL3

■ FEATURES

- High Maximum Input Voltage Up to 30V
- Low Dropout Voltage 0.2V typ. at $I_o=0.5A$
- Output Current $I_o(max.)=1.0A$
- ON/OFF Control (Active High)
- OFF Control Quiescent Current
- Internal Short Circuit Current Limit
- Internal Overvoltage Protection
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-252-5

■ PIN CONFIGURATION

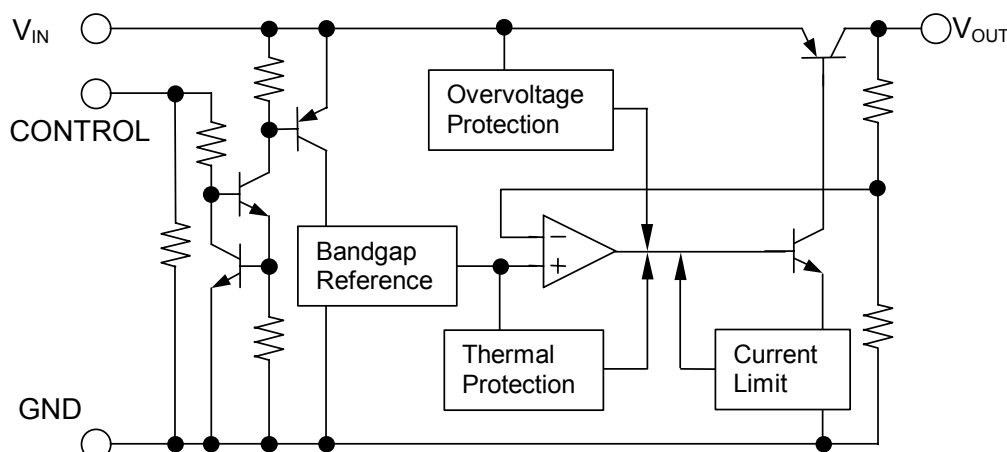


NJM2386ADL3

PIN FUNCTION

1. V_{IN}
2. ON/OFF CONTROL
3. V_{OUT}
4. N.C.
5. GND

■ EQUIVALENT CIRCUIT



NJM2386A

■ OUTPUT VOLTAGE RANK LIST

Device Name	V _{OUT}	Device Name	V _{OUT}
NJM2386ADL3-33	3.3V	NJM2386ADL3-10	10.0V
NJM2386ADL3-05	5.0V	NJM2386ADL3-12	12.0V
NJM2386ADL3-06	6.0V		
NJM2386ADL3-08	8.0V		
NJM2386ADL3-09	9.0V		

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V _{IN}	+35	V
Control Voltage	V _{CONT}	+35(*1)	V
Output Current	I _O	1.0	A
Power Dissipation	P _D	10(Tc≤25°C) / 1(Ta≤25°C)	W
Operating Junction Temperature Range	T _j	-40 ~ +150	°C
Operating Temperature Range	Topr	-40 ~ +85	°C
Storage Temperature Range	Tstg	-50 ~ +150	°C

(*1): When input voltage is less than +35V, the absolute maximum control voltage is equal to the input voltage.

■ ELECTRICAL CHARACTERISTICS (V_{IN}=V_O+1V, I_O=0.5A, C_{IN}=0.33μF, C_O=22μF, T_j=25°C)

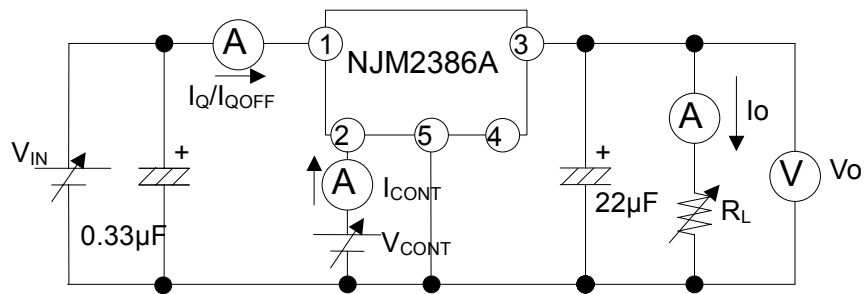
Measurement is conducted by pulse testing.

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Input Voltage	V _{IN}		-	-	30	V
Output Voltage	V _O	V _{IN} =V _O +1V	-2%	-	+2%	V
Line Regulation	ΔV _O /ΔV _{IN}	V _{IN} =V _O +1V ~ V _O +17V	-	0.04	0.16	%/V
Load Regulation	ΔV _O /ΔI _O	V _{IN} =V _O +2V, I _O =0A ~ 1.0A	-	0.2	1.4	%/A
Average Temperature Coefficient of Output Voltage	ΔV _O /ΔT	T _j =0 ~ +125°C	-	± 0.02	-	%/°C
Quiescent Current	I _Q	I _O =0A, V _{CONT} =2.7V Except I _{CONT}	-	-	5	mA
OFF Control Quiescent Current	I _{Q(OFF)}	V _{CONT} =0V	-	-	1	μA
Dropout Voltage	ΔV _{I-O}	I _O =0.5A	-	0.2	0.5	V
Ripple Rejection	NJM2386ADL3-33	RR V _{IN} =V _O +2V, e _{in} =0.5Vrms, f=120Hz	54	67	-	dB
	NJM2386ADL3-05		54	67	-	
	NJM2386ADL3-06		54	67	-	
	NJM2386ADL3-08		52	65	-	
	NJM2386ADL3-09		52	65	-	
	NJM2386ADL3-10		50	63	-	
	NJM2386ADL3-12		50	63	-	
ON Control Voltage	V _{CONT(ON)}		2.0(*2)			
OFF Control Voltage	V _{CONT(OFF)}		-	-	0.4	V
ON Control Current	I _{CONT(ON)}	V _C =2.7V	10	30	50	μA
OFF Control Current	I _{CONT(OFF)}	V _C =0.4V	1	3	5	μA

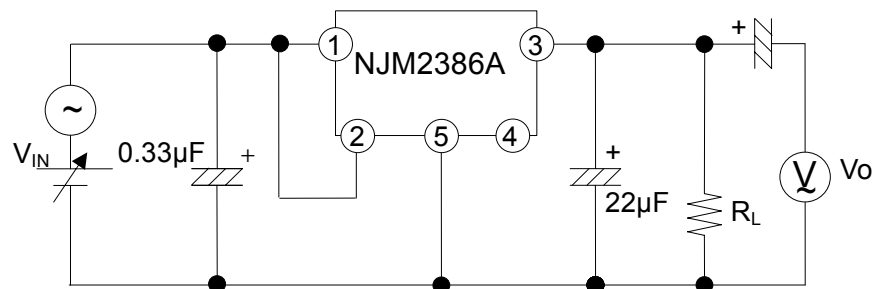
(*2): When ON/OFF CONTROL Terminal is open, Output Voltage is OFF.

■ TEST CIRCUIT

● Standard Test Circuit



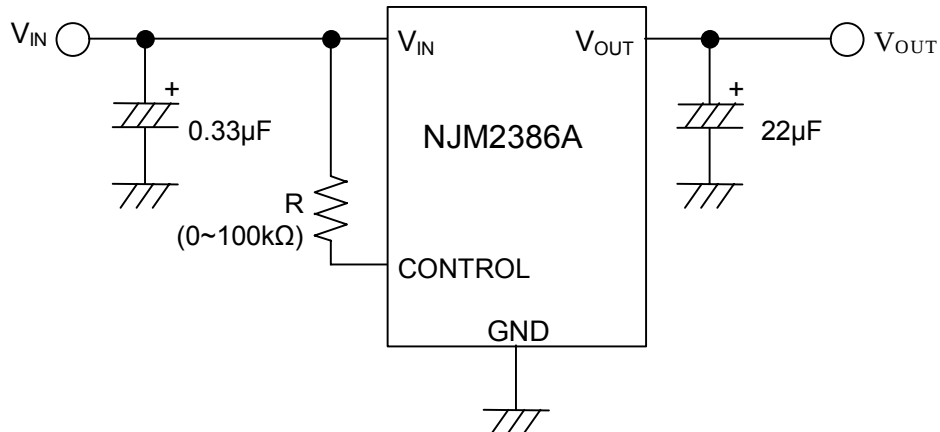
● Ripple Rejection Test Circuit



NJM2386A

■ TYPICAL APPLICATION

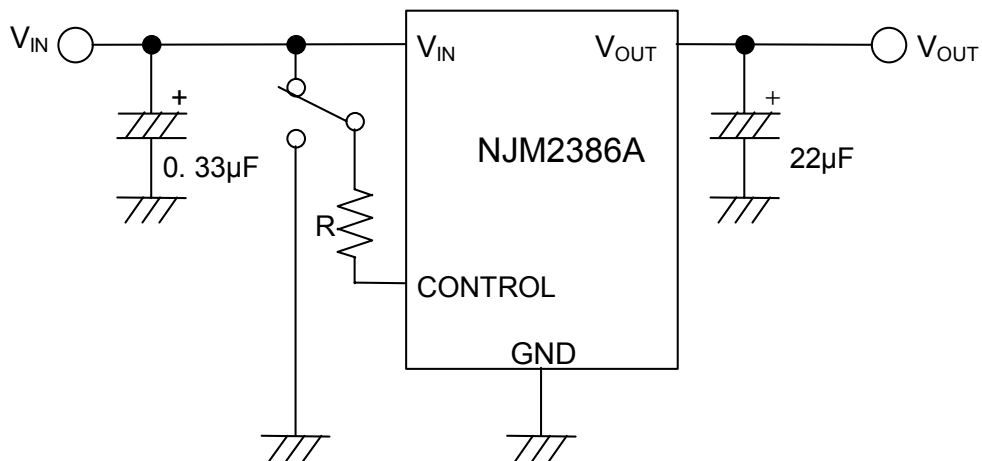
① In the case where ON/OFF Control is not required:



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”.

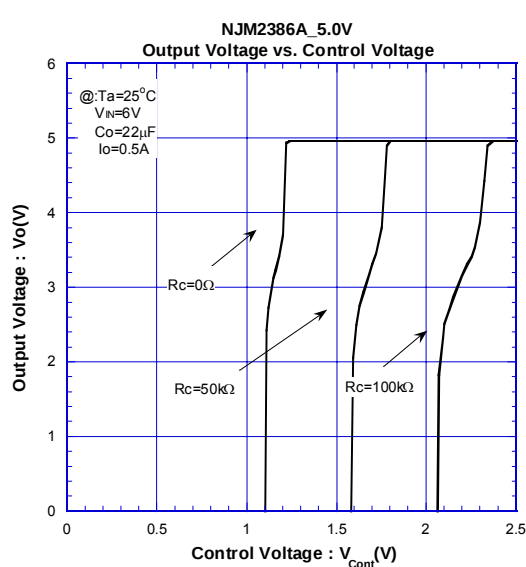
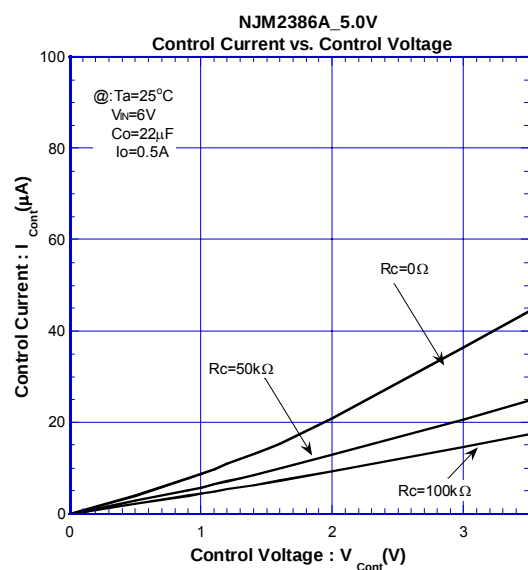
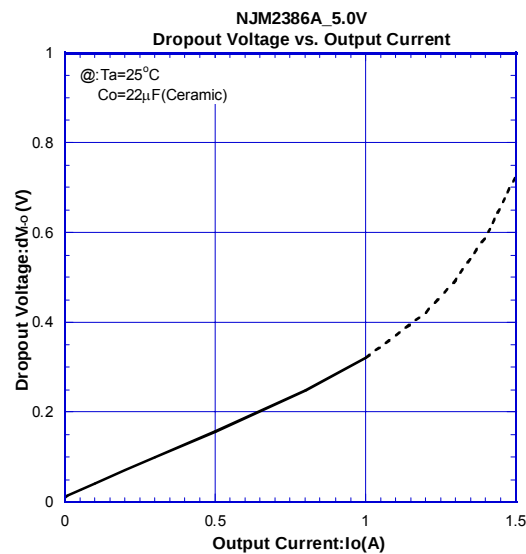
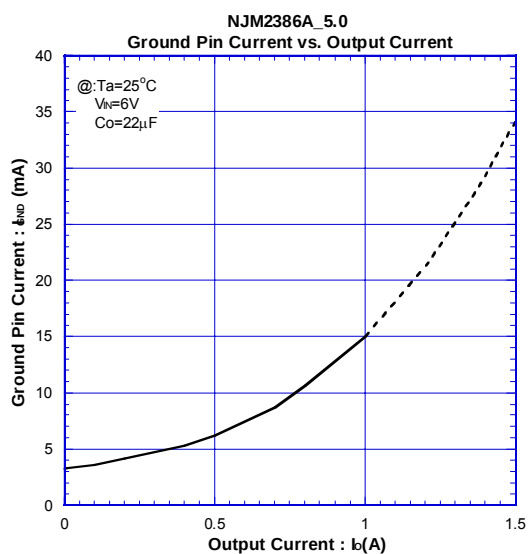
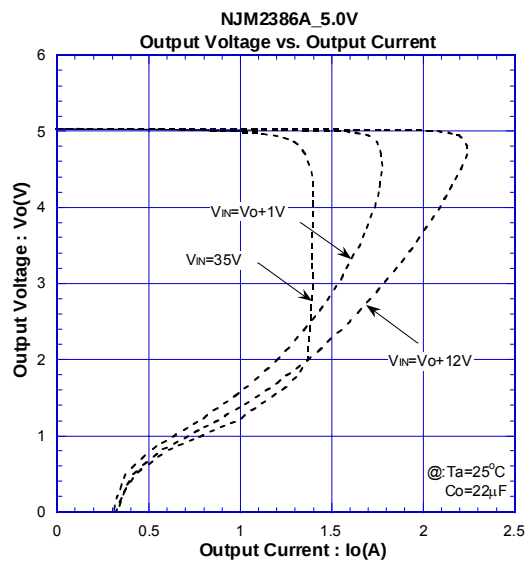
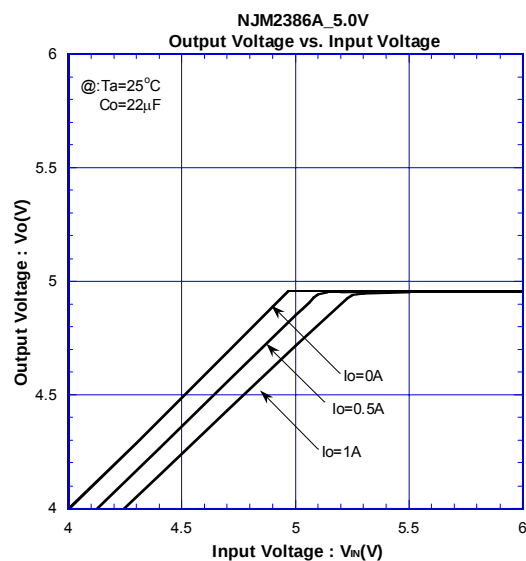
② In use of ON/OFF CONTROL:



State of control terminal:

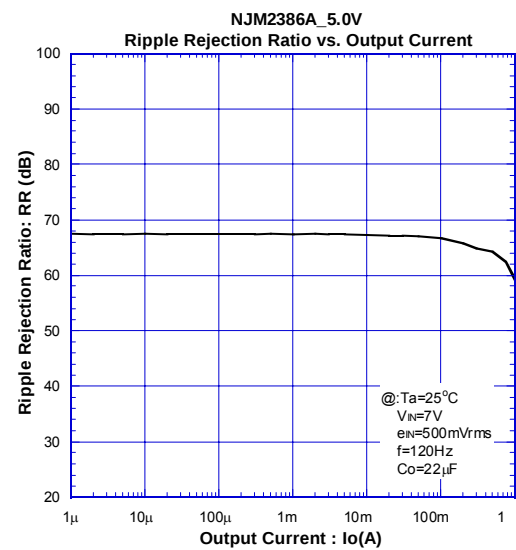
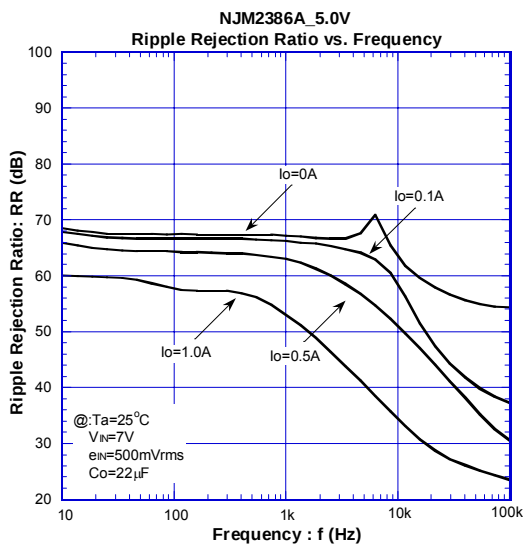
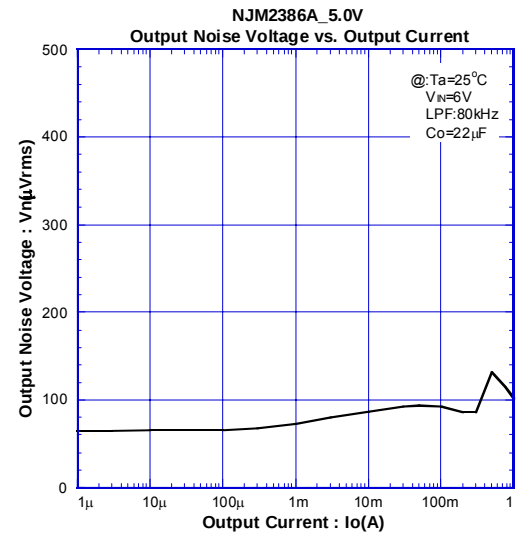
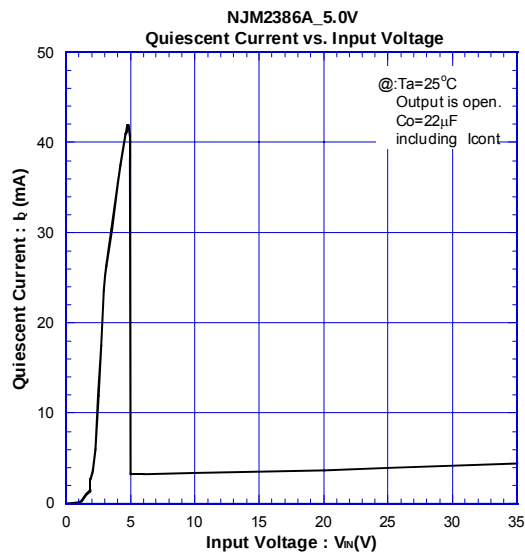
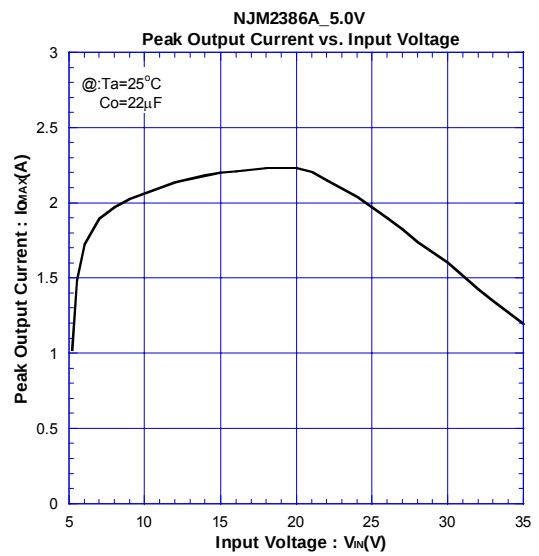
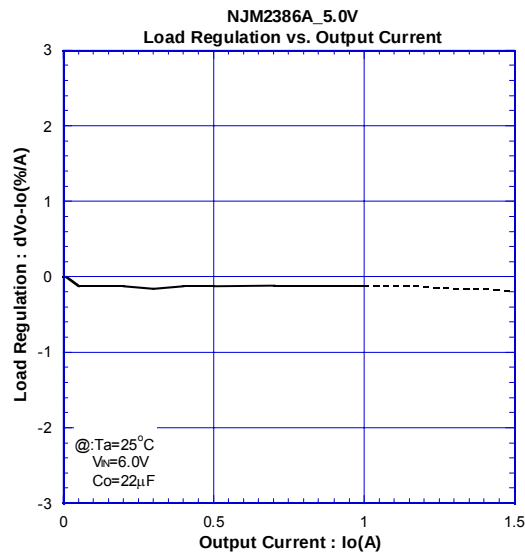
- “H” → output is enabled.
- “L” or “open” → output is disabled.

■ TYPICAL CHARACTERISTICS

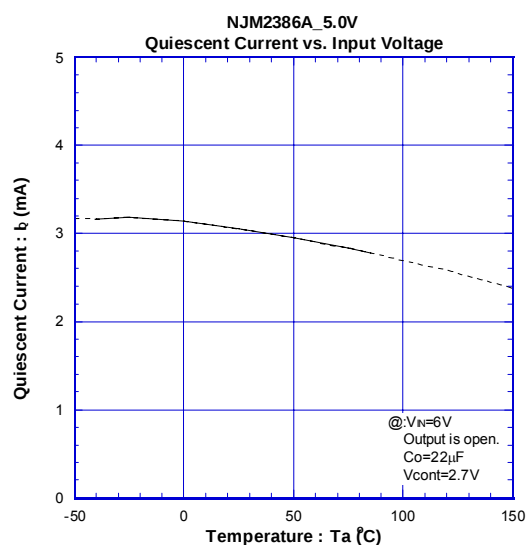
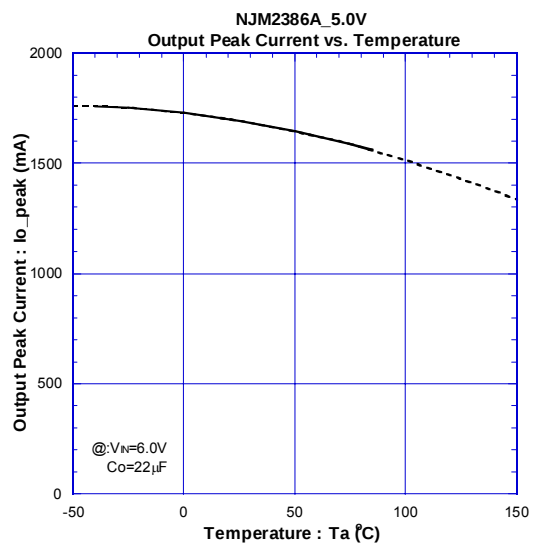
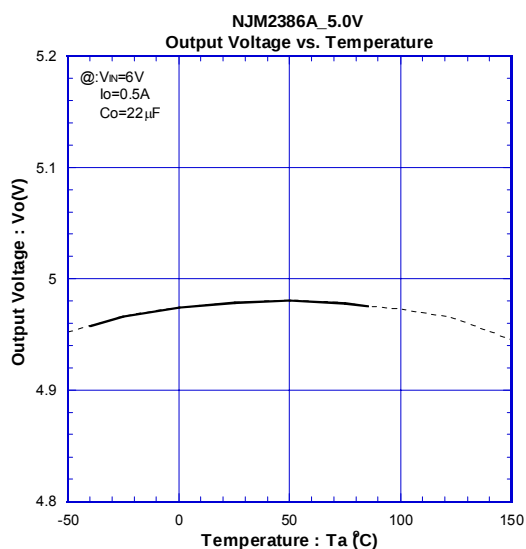
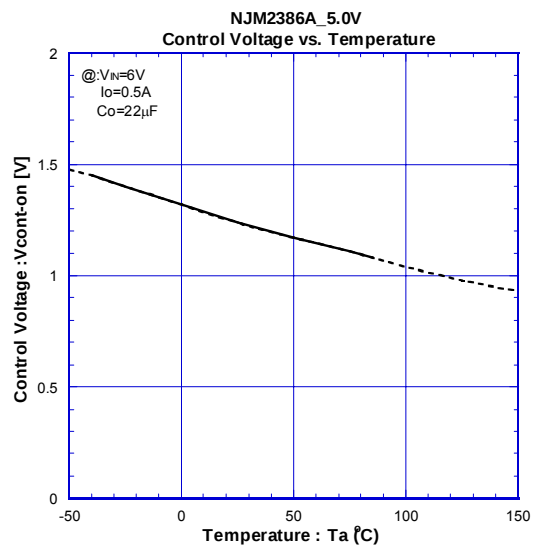
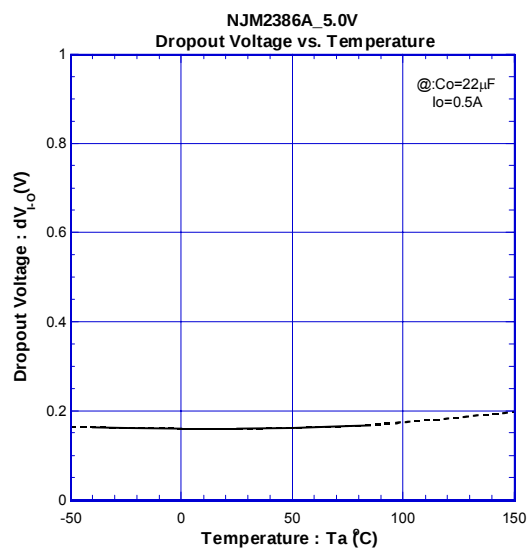


NJM2386A

■ TYPICAL CHARACTERISTICS

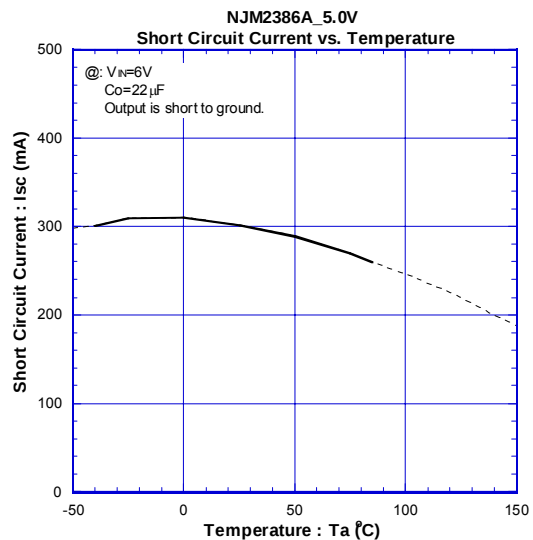
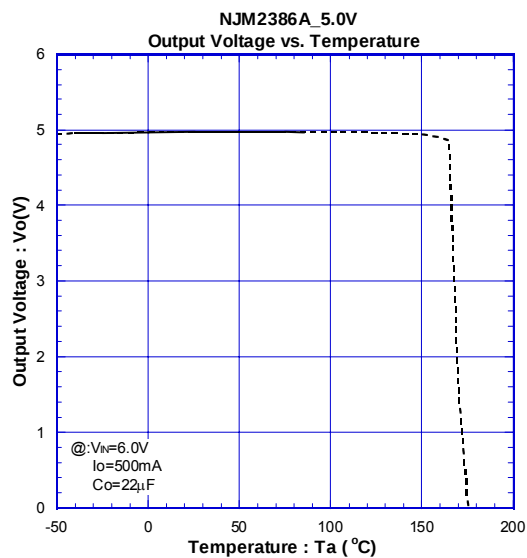
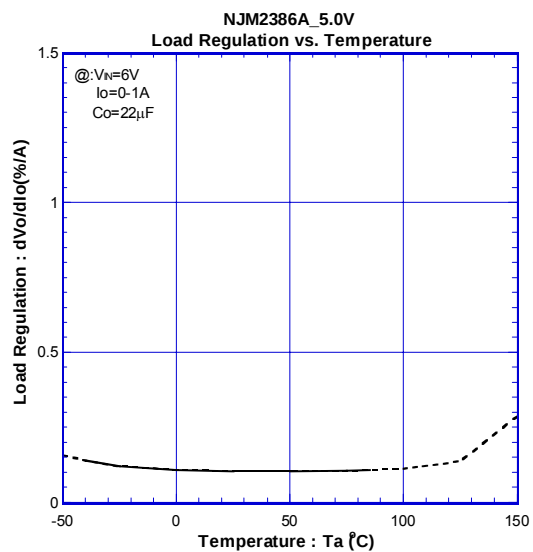
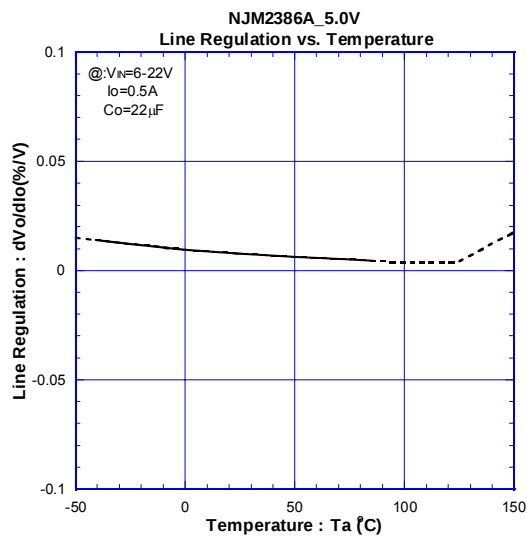


TYPICAL CHARACTERISTICS

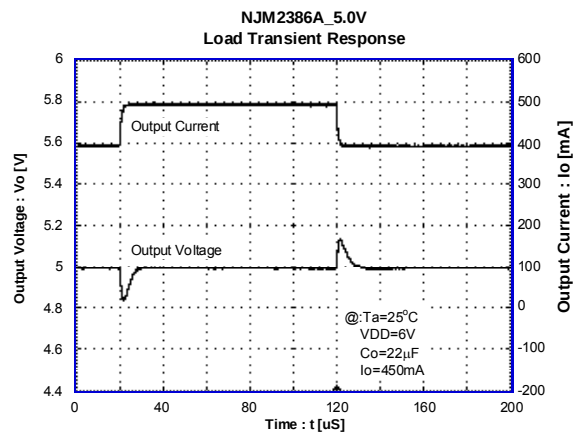
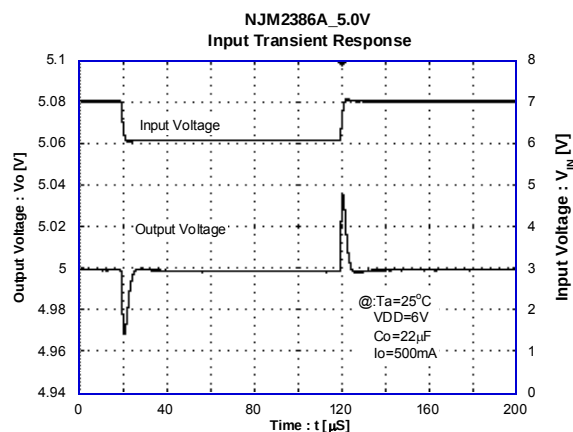
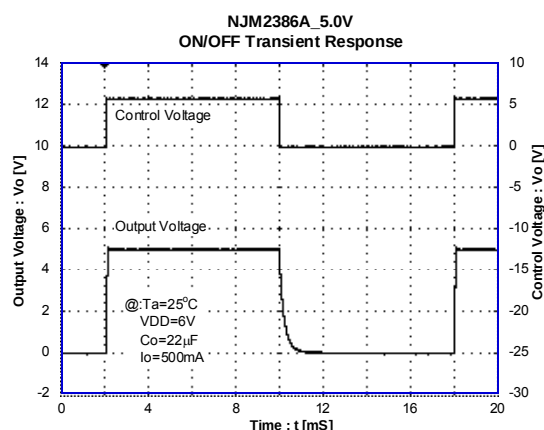
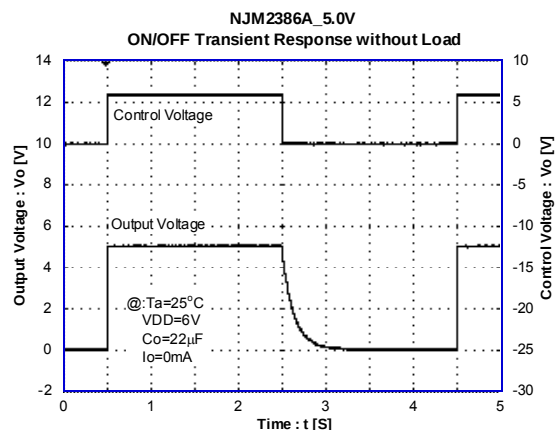


NJM2386A

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS



[CAUTION]
The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[NJR:](#)

[NJM2386ADL3-09-TE1](#) [NJM2386ADL3-05-TE1](#) [NJM2386ADL3-33-TE1](#) [NJM2386ADL3-08-TE1](#)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.