

LOW DROPOUT VOLTAGE REGULATOR WITH ON/OFF CONTROL

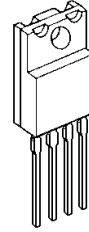
■ GENERAL DESCRIPTION

The NJM2388 is low dropout voltage regulator with ON/OFF control.

The output current is up to 1.0A and dropout voltage is 0.2V typ. at $I_o=0.5A$.

The NJM2388 is suitable for power module, TV, Display, car stereo and low power applications.

■ PACKAGE OUTLINE

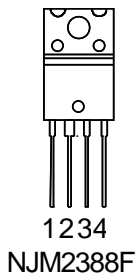


NJM2388F

■ FEATURE

- Low Dropout Voltage $\Delta V_{I-O}=0.2V$ typ. at $I_o=0.5A$
- Output Current $I_o(max.)=1.0A$
- With ON/OFF Control
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-220F-4

■ PIN CONFIGURATION



PIN FUNCTION

1. V_{IN}
2. V_{OUT}
3. GND
4. ON/OFF CONTROL
"H" or OPEN : ON
"L" : OFF

■ OUTPUT VOLTAGE RANK LIST

Device Name	V_{OUT}
NJM2388F33	3.3V
NJM2388F05	5.0V
NJM2388F63	6.3V
NJM2388F08	8.0V
NJM2388F09	9.0V
NJM2388F12	12.0V

NJM2388

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{IN}	+35	V
Control Voltage	V_{CONT}	+35(*note 1)	V
Output Current	I_o	1.0	A
Power Dissipation	P_D	18(Tc<50°C)	W
Operating Junction Temperature Range	T_j	-40 ~ +150	°C
Operating Temperature Range	T_{opr}	-40 ~ +85	°C
Storage Temperature Range	T_{stg}	-50 ~ +150	°C

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

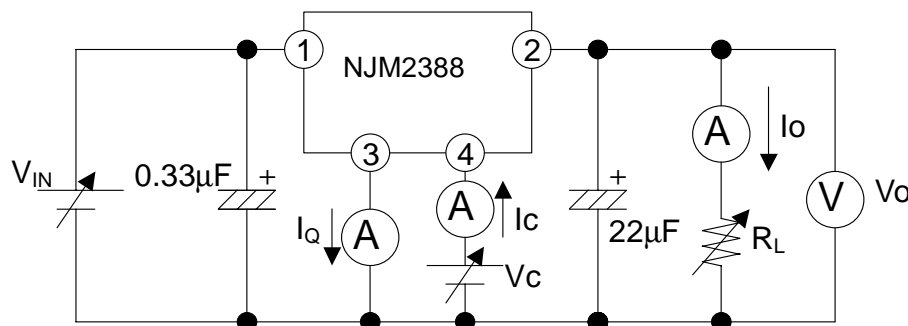
■ ELECTRICAL CHARACTERISTICS ($V_{IN}=V_O+1V$, $I_o=0.5A$, $C_{IN}=0.33\mu F$, $C_o=22\mu F$, $T_j=25^\circ C$)

Measurement is to be conducted is pulse testing.

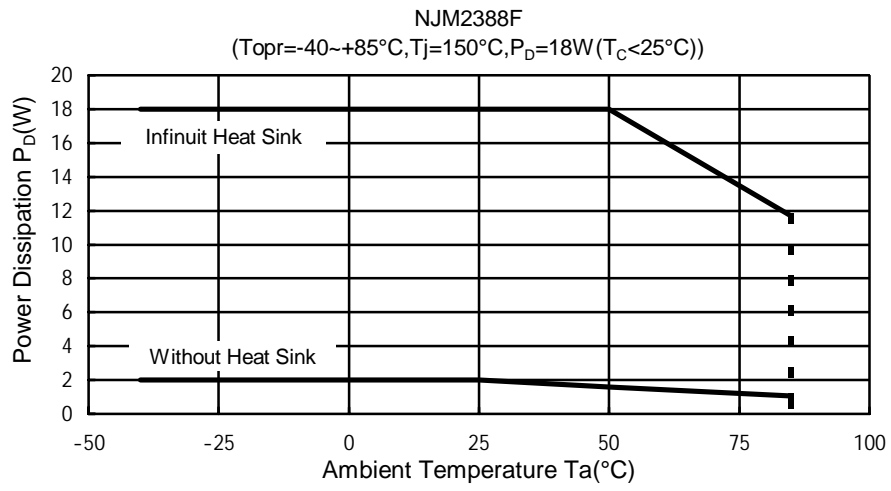
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_o	$V_{IN}=V_O+1V$	-2%	-	+2%	V
Line Regulation	ΔV_o-V_{IN}	$V_{IN}=V_O+1V \sim V_O+17V$	-	0.04	0.16	%/V
Load Regulation	ΔV_o-I_o	$V_{IN}=V_O+2V, I_o=0A \sim 1.0A$	-	0.2	1.4	%/A
Average Temperature Coefficient of Output Voltage	$\Delta V_o/\Delta T$	$T_j=0 \sim +125^\circ C$	-	± 0.02	-	%/°C
Quiescent Current	I_Q	$I_o=0A$	-	-	5	mA
Dropout Voltage	ΔV_{L-O}	$I_o=0.5A$	-	0.2	0.5	V
Ripple Rejection	NJM2388F33	RR $V_{IN}=V_O+2V$ $e_{in}=0.5V_{rms}, f=120Hz$	54	67	-	dB
	NJM2388F05		54	67	-	
	NJM2388F63		54	67	-	
	NJM2388F08		52	65	-	
	NJM2388F09		52	65	-	
	NJM2388F12		50	63	-	
ON Control Voltage(*note 2)	$V_{CONT(ON)}$		2.0	-	-	V
OFF Control Voltage	$V_{CONT(OFF)}$		-	-	0.4	V
ON Control Current	$I_{CONT(ON)}$	$V_C=2.7V$	-	-	20	μA
OFF Control Current	$I_{CONT(OFF)}$	$V_C=0.4V$	-	-	-20	μA

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

■ TEST CIRCUIT



POWER DISSIPATION vs. AMBIENT TEMPERATURE



[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.