
Designated client product

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New Japan Radio Co.,Ltd.

www.njr.com

ADJUSTABLE LOW DROPOUT VOLTAGE REGULATOR

■ GENERAL DESCRIPTION

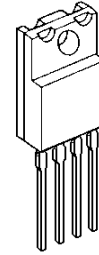
The NJM2397 is adjustable low dropout voltage regulator. The output current is up to 1.5A and dropout voltage is 0.2Vtyp. at $I_o=0.5A$.

The NJM2397 is suitable for power module, TV, Display, car stereo and low power applications.

■ FEATURE

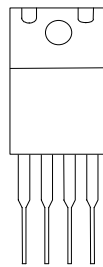
- Low Dropout Voltage $\Delta V_{I-O}=0.2V$ typ. at $I_o=0.5A$
- Output Current $I_o(max.)=1.5A$
- Reference Voltage $V_{ref}=1.29V$ typ.
- Internal Short Circuit Current Limit
- Internal Overvoltage Protection
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline TO-220F(4pin)

■ PACKAGE OUTLINE



NJM2397F

■ PIN CONFIGURATION



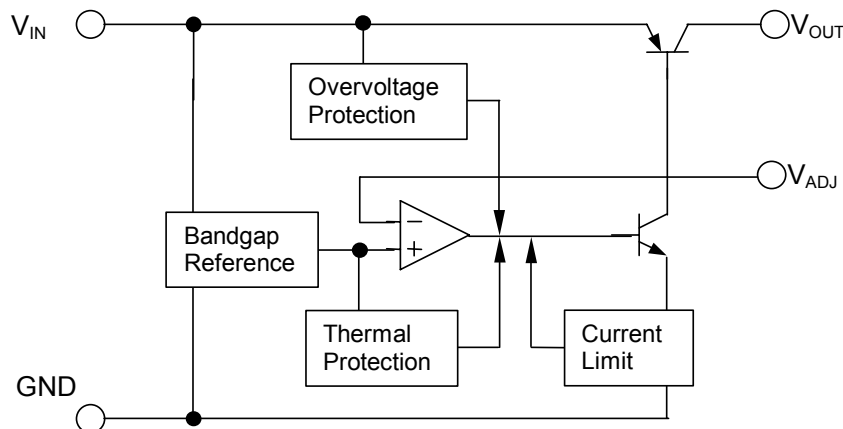
1 2 3 4

NJM2397F

PIN FUNCTION

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

■ EQUIVALENT CIRCUIT



NJM2397

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

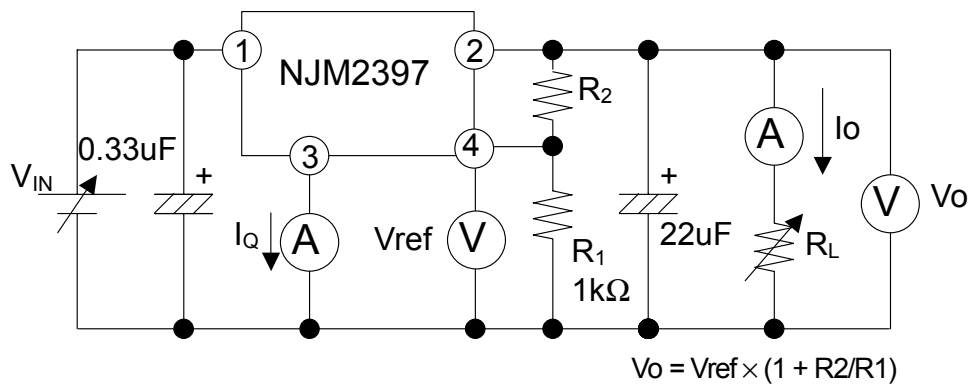
| PARAMETER | SYMBOL | RATINGS | UNIT |
|--------------------------------------|------------------|-------------|------|
| Input Voltage | V _{IN} | +35 | V |
| Adjust terminal Voltage | V _{ADJ} | +6 | V |
| Output Current | I _o | 1.5 | A |
| Power Dissipation | P _D | 18(Tc<50°C) | W |
| Operating Junction Temperature Range | T _j | -40 to +150 | °C |
| Operating Temperature Range | Topr | -40 to 85 | °C |
| Storage Temperature Range | Tstg | -50 to 150 | °C |

■ ELECTRICAL CHARACTERISTICS (V_{IN}=15V, V_o=10V, I_o=0.5A, R₁=1kΩ, C_{IN}=0.33uF, C_o=22uF, T_j=25°C)

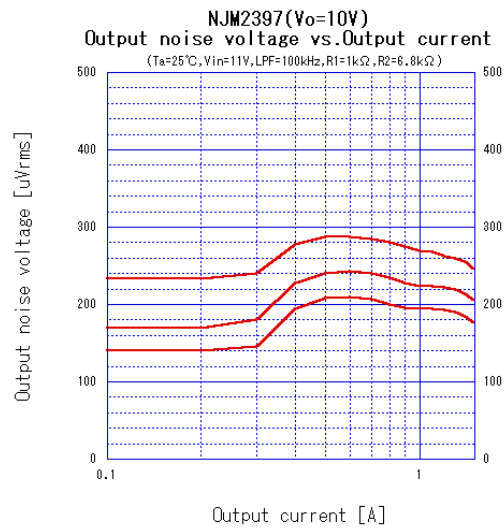
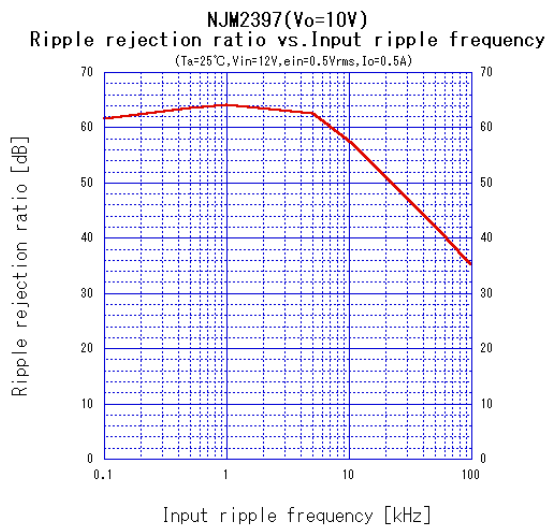
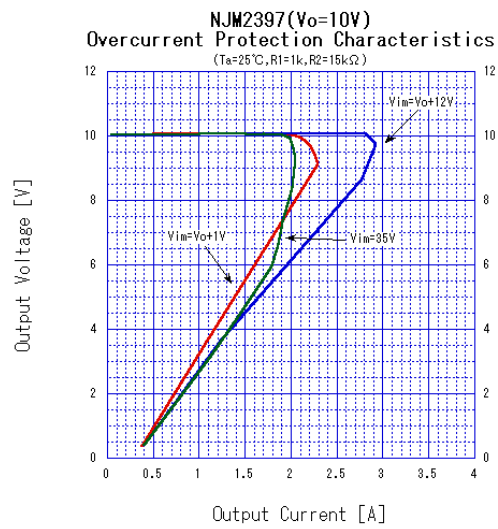
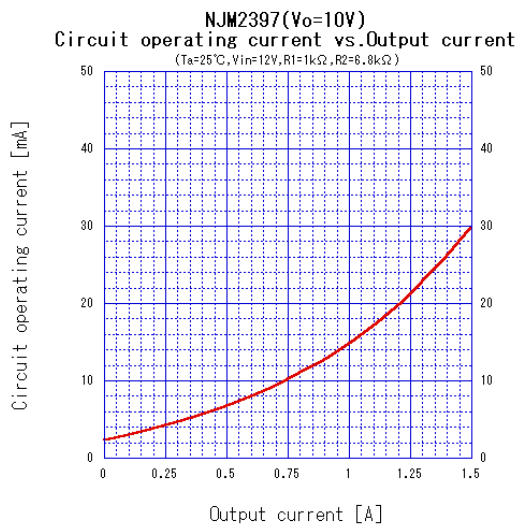
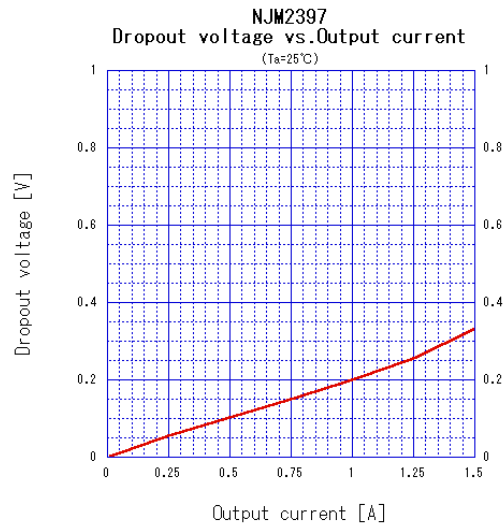
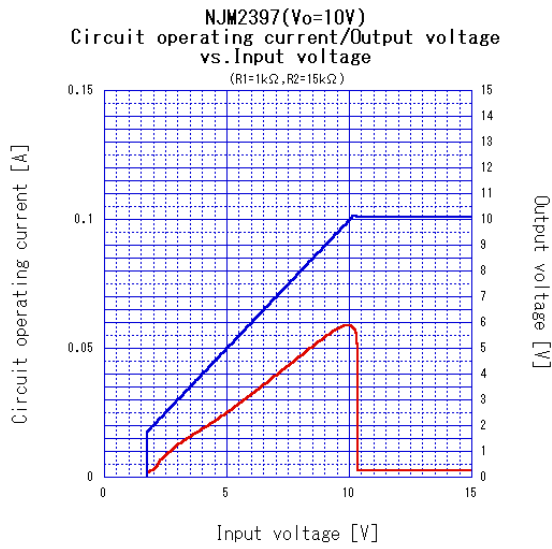
Measurement is to be conducted is pulse testing.

| PARAMETER | SYMBOL | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|------------------------------|--|-------|-------|-------|------|
| Input Voltage | V _{IN} | | 3.8 | - | 35 | V |
| Output Voltage | V _o | | 1.5 | - | 20 | V |
| Reference Voltage | V _{ref} | | 1.238 | 1.29 | 1.342 | V |
| Line Regulation | $\Delta V_o / \Delta V_{IN}$ | V _{IN} =V _o +1V~V _o +17V | - | 0.04 | 0.16 | %/V |
| Load Regulation | $\Delta V_o / \Delta I_o$ | V _{IN} =V _o +2V, I _o =0A~1.5A | - | 0.2 | 1.4 | %/A |
| Average Temperature Coefficient of Output Voltage | $\Delta V_o / \Delta T$ | T _j =0~125°C | - | ±0.02 | - | %/°C |
| Quiescent Current | I _Q | I _o =0A | - | - | 5 | mA |
| Dropout Voltage | ΔV_{I_o} | I _o =0.5A | - | 0.2 | 0.5 | V |
| Ripple Rejection | RR | V _{in} =V _o +2V, e _{in} =0.5Vrms, f=120Hz | 45 | 55 | - | dB |

■ TEST CIRCUIT

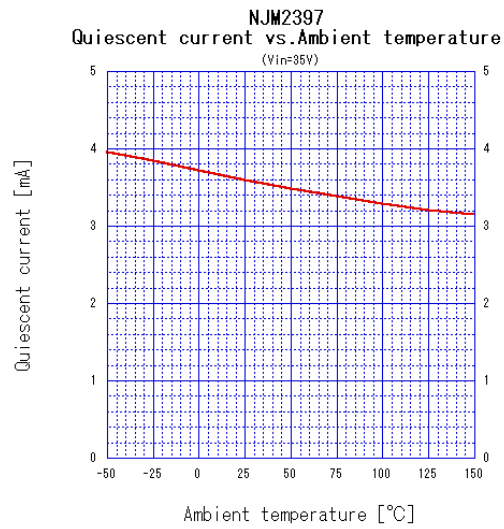
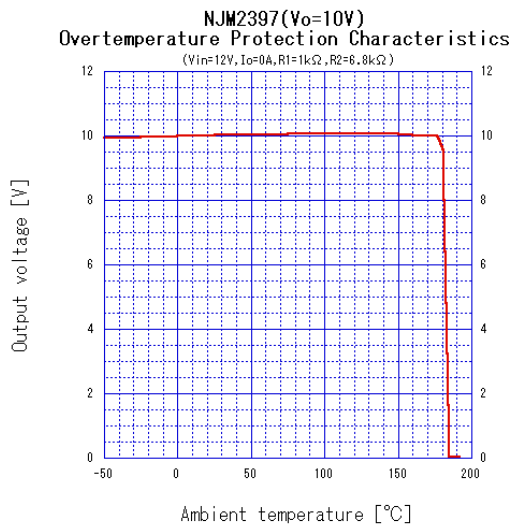
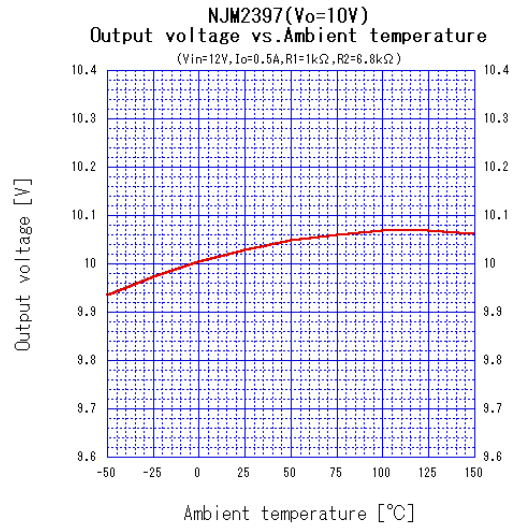
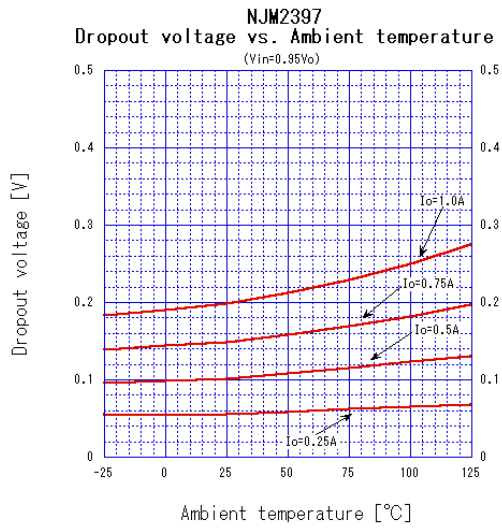


■ TYPICAL CHARACTERISTICS



NJM2397

■ TYPICAL CHARACTERISTICS



[CAUTION]

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