

## ADJUSTABLE LOW DROPOUT VOLTAGE REGULATOR

### ■ GENERAL DESCRIPTION

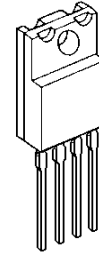
The NJM2397 is adjustable low dropout voltage regulator. The output current is up to 1.5A and dropout voltage is 0.2V typ. at  $I_o=0.5A$ .

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

### ■ FEATURE

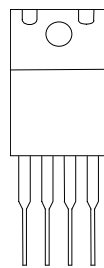
- Low Dropout Voltage       $\Delta V_{I-O}=0.2V$  typ. at  $I_o=0.5A$
- Output Current             $I_o(max.)=1.5A$
- Reference Voltage         $V_{ref}=1.29V$  typ.
- Internal Short Circuit Current Limit
- Internal Thermal Overload Protection
- Bipolar Technology
- Package Outline            TO-220F(4pin)

### ■ PACKAGE OUTLINE



NJM2397F

### ■ PIN CONFIGURATION



1 2 3 4  
NJM2397F

### PIN FUNCTION

1. IN
2. OUT
3. GND
4. ADJ

### ■ ABSOLUTE MAXIMUM RATINGS

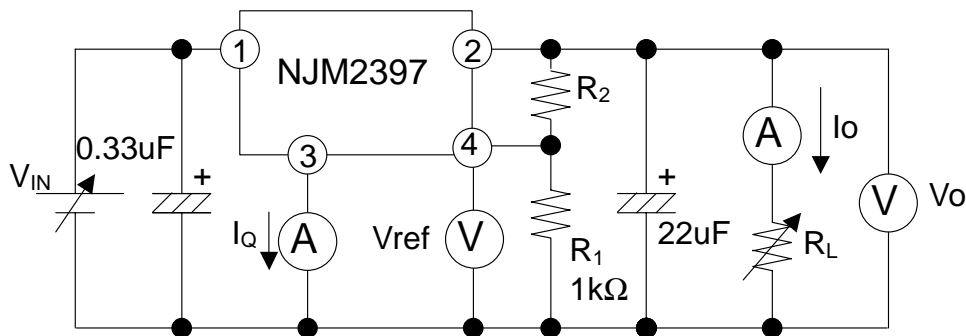
( $T_a=25^\circ C$ )

| PARAMETER                            | SYMBOL    | RATINGS                  | UNIT       |
|--------------------------------------|-----------|--------------------------|------------|
| Input Voltage                        | $V_{IN}$  | +35                      | V          |
| Adjust terminal Voltage              | $V_{ADJ}$ | +7                       | V          |
| Output Current                       | $I_o$     | 1.5                      | A          |
| Power Dissipation                    | $P_D$     | 18( $T_c < 50^\circ C$ ) | W          |
| Operating Junction Temperature Range | $T_j$     | -40 to +150              | $^\circ C$ |
| Operating Temperature Range          | $T_{opr}$ | -40 to 85                | $^\circ C$ |
| Storage Temperature Range            | $T_{stg}$ | -50 to 150               | $^\circ C$ |

■ ELECTRICAL CHARACTERISTICS ( $V_{IN}=15V$ ,  $V_o=10V$ ,  $I_o=0.5A$ ,  $R_1=1k\Omega$ ,  $C_{IN}=0.33\mu F$ ,  $C_o=22\mu F$ ,  $T_j=25^\circ C$ )  
 Measurement is to be conducted is pulse testing.

| PARAMETER   | SYMBOL                  | CONDITIONS   | MIN.  | TYP.       | MAX.  | UNIT |
|---|-------------------------|--|-------|------------|-------|------|
| 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                                   | $\Delta V_o - V_{IN}$   | $V_{IN}=V_o+1V \sim V_o+17V$                         | -     | 0.04       | 0.16  | %/V  |
| Load Regulation                                   | $\Delta V_o - I_o$      | $V_{IN}=V_o+2V$ , $I_o=0A \sim 1.5A$                 | -     | 0.2        | 1.4   | %/A  |
| Average Temperature Coefficient of Output Voltage | $\Delta V_o / \Delta T$ | $T_j=0 \sim 125^\circ C$                             | -     | $\pm 0.02$ | -     | %/°C |
| Quiescent Current                                 | $I_Q$                   | $I_o=0A$   | -     | -          | 5     | mA   |
| Dropout Voltage                                   | $\Delta V_{I-O}$        | $I_o=0.5A$   | -     | 0.2        | 0.5   | V    |
| Ripple Rejection                                  | RR                      | $V_{in}=V_o+2V$ ,<br>$e_{in}=0.5V_{rms}$ , $f=120Hz$ | 45    | 55         | -     | dB   |

■ TEST CIRCUIT



[CAUTION]

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