# DESC APPROVED LOW DROPOUT NEGATIVE




## Three Terminal, Fixed Voltage, Low Dropout Negative Voltage Regulator In Hermetic Packages



## FEATURES

- Approved To DESC Standardized Military Drawings
- Low Dropout Voltage, 0.6 V @ $I_O$ = 1 A
- Output Current in Excess of 1 A [LCC 20 (N2) package limited to 0.3A]
- Reverse Battery Protection
- Internal Short Circuit Protection
- Isolated and Non-Isolated Hermetic Package Types
- Output Voltages: - 5V, -5.2V, -12V, & -15V

## DESCRIPTION

The OM2990 series of fixed voltage regulators are designed to provide up to 1.5A with high efficiency. It has the ability to source 1A of output current with a typical dropout voltage of 0.6V and a maximum of 1V over the entire operating temperature range. It is supplied in hermetic packages and is ideally suited for all applications where small size and high reliability are required.

## ABSOLUTE MAXIMUM RATINGS, $T_C$ = 25°C

Input Voltage . . . . . -26 V to +0.3V
Output Voltage . . . . . -5V, -5.2 V, -12 V, -15 V dc
Operating Junction Temperature Range . . . . . - 55°C to + 125°C
Storage Temperature Range . . . . . - 65°C to + 150°C
Lead Temperature (Soldering 10 seconds) . . . . . 300°C
Thermal Resistance: Junction to Case
  Case 2, LCC20 . . . . . 15.5°C/W
  Case U&M, TO-257 (isolated) & SMD-3 . . . . . 3.8°C/W
  Case T&N, TO-257 (non-isolated) & SMD-1. . . . . 3.0°C/W
  Case Y, TO-3. . . . . 2.7°C/W
Maximum Output Current
  Case 2 . . . . . 0.3A
  Case U&M. . . . . 1.2A
  Case T, N & Y. . . . . 1.5A

| APPROVED DESC DRAWING | OMNIREL P/N |
|---|---|
| 5962-9571101MUA | OM2990 - 5 STM |
| 5962-9571002MUA | OM2990 - 5.2 STM |
| 5962-9571001MUA | OM2990 - 12 STM |

## ELECTRICAL CHARACTERISTICS, OM2990-5NK, NM, NT (-5 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -10 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0 A | 1 | -5.10 | -4.90 | V |
| | | | 2 | -5.25 | -4.75 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 5 | mA |
| | | | 2 | | 12 | |
| | | $I_O$ = 1.0A , $V_{IN}$ = -5 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -6 V $V_{IN}$ -26 V, $I_{OUT}$ = 5 mA | 1 | | ±40 | mV |
| | | | 2 | | ±50 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±50 | mV |
| | | | 2 | | ±100 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A $DV_O$ 100 mV | 1 | | 3 | V |
| | | | 2 | | | |
| | | $I_O$ = 1.0 A $DV_O$ 100 mV | 1 | | 1 | |
| | | | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, 10 Hz - 100 kHz | 3 | | 750 | µV |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | 1.5 | | A |
| | | | 2 | 1.3 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.5 | | A |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ $I_{OUT}$ = 5 mA, f = 1 kHz | 1 | 50 | | dB |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested

## ELECTRICAL CHARACTERISTICS, OM2990-12NK, NM, NT (-12 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -17 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0A | 1 | -12.24 | -11.76 | V |
| | | | 2 | -12.60 | -11.40 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 5 | mA |
| | | | 2 | | 12 | |
| | | $I_O$ = 1A, $V_{IN}$ = -12 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -13 V $V_{IN}$ -26 V $I_{OUT}$ = 5 mA | 1 | | ±65 | mV |
| | | | 2 | | ±80 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±80 | mV |
| | | | 2 | | ±120 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A $DV_O$ 100 mV | 1 | | 3 | V |
| | | | 2 | | | |
| | | $I_O$ = 1 A $DV_O$ 100 mV | 1 | | 1 | |
| | | | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, 10 Hz - 100 kHz | 3 | | 1500 | µV |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | .90 | | A |
| | | | 2 | .75 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.4 | | A |
| | | | 4 | | | |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ $I_{OUT}$ = 5 mA, f = 1 kHz | 1 | 42 | | dB |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested
4. The short circuit current is less than the maximum output current due to internal foldback current limiting. The -5V and -5.2V versions do not reach the foldback current limit and therefore conducts a higher short

## ELECTRICAL CHARACTERISTICS, OM2990-15NK, NM, NT (-15 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -20 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0 A | 1 | -15.30 | -14.70 | V |
| | | | 2 | -15.75 | -14.25 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 15 | mA |
| | | | 2 | | 20 | |
| | | $I_O$ = 1.0A , $V_{IN}$ = -15 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -16 V $V_{IN}$ -26 V, $I_{OUT}$ = 5 mA | 1 | | ±75 | mV |
| | | | 2 | | ±120 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±120 | mV |
| | | | 2 | | ±190 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A $DV_O$ 100 mV | 1 | | 3 | V |
| | | | 2 | | | |
| | | $I_O$ = 1.0 A $DV_O$ 100 mV | 1 | | 1 | |
| | | | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, 10 Hz - 100 kHz | 3 | | 1800 | µV |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | .75 | | A |
| | | | 2 | .62 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.4 | | A |
| | | | 4 | | | |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ $I_{OUT}$ = 5 mA, f = 1 kHz | 1 | 42 | | dB |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested
4. The short circuit current is less than the maximum output current due to internal foldback current limiting. The -5V and -5.2V versions do not reach the foldback current limit and therefore conducts a higher short circuit level.

## ELECTRICAL CHARACTERISTICS, OM2990-5SM, ST (-5 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -10 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0 A | 1 | -5.10 | -4.90 | V |
| | | | 2 | -5.25 | -4.75 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 5 | mA |
| | | | 2 | | 12 | |
| | | $I_O$ = 1.0A , $V_{IN}$ = -5 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -6 V $V_{IN}$ -26 V, | 1 | | ±45 | mV |
| | | $I_{OUT}$ = 5 mA | 2 | | ±55 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±70 | mV |
| | | | 2 | | ±110 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 1.0 A | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 750 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1,2 | 1.27 | | A |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.27 | | A |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 50 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested

## ELECTRICAL CHARACTERISTICS, OM2990-12SM, ST (-12 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -17 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0A | 1 | -12.24 | -11.76 | V |
| | | | 2 | -12.60 | -11.40 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 5 | mA |
| | | | 2 | | 12 | |
| | | $I_O$ = 1A, $V_{IN}$ = -12 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -13 V $V_{IN}$ -26 V | 1 | | ±65 | mV |
| | | $I_{OUT}$ = 5 mA | 2 | | ±80 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±80 | mV |
| | | | 2 | | ±120 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 1 A | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 1500 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1,2 | .75 | | A |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.18 | | A |
| | | | 4 | | | |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 42 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested
4. The short circuit current is less than the maximum output current due to internal foldback current limiting. The -5V and -5.2V versions do not reach the foldback current limit and therefore conducts a higher short circuit level.

## ELECTRICAL CHARACTERISTICS, OM2990-15SM, ST (-15 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -20 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0 A | 1 | -15.30 | -14.70 | V |
| | | | 2 | -15.75 | -14.25 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 15 | mA |
| | | | 2 | | 20 | |
| | | $I_O$ = 1.0A , $V_{IN}$ = -15 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -16 V $V_{IN}$ -26 V, | 1 | | ±75 | mV |
| | | $I_{OUT}$ = 5 mA | 2 | | ±120 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±120 | mV |
| | | | 2 | | ±190 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 1.0 A | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 1800 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | .60 | | A |
| | | | 2 | .50 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.4 | | A |
| | | | 4 | | | |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 42 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested
4. The short circuit current is less than the maximum output current due to internal foldback current limiting. The -5V and -5.2V versions do not reach the foldback current limit and therefore conducts a higher short circuit level.

## ELECTRICAL CHARACTERISTICS, OM2990- 5N2 (-5 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -10 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 300 mA | 1 | -5.10 | -4.90 | V |
| | | | 2 | -5.25 | -4.75 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 300 mA | 1 | | 7 | mA |
| | | | 2 | | 14 | |
| | | $I_O$ = 300 mA , $V_{IN}$ = -5 V | 1,2 | | 55 | |
| Line Regulation | $V_{RLN}$ | -6 V $V_{IN}$ -26 V, | 1 | | ±45 | mV |
| | | $I_{OUT}$ = 5 mA | 2 | | ±60 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 300 mA | 1 | | ±80 | mV |
| | | | 2 | | ±120 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 100 mA | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 300 mA | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 800 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | 300 | | mA |
| | | | 2 | 250 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 300 | | mA |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 50 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested

## ELECTRICAL CHARACTERISTICS, OM2990-12N2 (-12 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -17 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 300 mA | 1 | -12.24 | -11.76 | V |
| | | | 2 | -12.60 | -11.40 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 300 mA | 1 | | 7 | mA |
| | | | 2 | | 14 | |
| | | $I_O$ = 300 mA, $V_{IN}$ = -12 V | 1,2 | | 60 | |
| Line Regulation | $V_{RLN}$ | -13 V $V_{IN}$ -26 V | 1 | | ±75 | mV |
| | | $I_{OUT}$ = 5 mA | 2 | | ±110 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 300 mA | 1 | | ±120 | mV |
| | | | 2 | | ±190 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 100 mA | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 300 mA | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 1650 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | 200 | | mA |
| | | | 2 | 175 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 280 | | mA |
| | | | 4 | | | |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 42 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested
4. The short circuit current is less than the maximum output current due to internal foldback current limiting. The -5V and -5.2V versions do not reach the foldback current limit and therefore conducts a higher short

## ELECTRICAL CHARACTERISTICS, OM2990-15 N2 (-15 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -20 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 300 mA | 1 | -15.30 | -14.70 | V |
| | | | 2 | -15.75 | -14.25 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 300 mA | 1 | | 20 | mA |
| | | | 2 | | 25 | |
| | | $I_O$ = 300 mA , $V_{IN}$ = -15 V | 1,2 | | 60 | |
| Line Regulation | $V_{RLN}$ | -16 V $V_{IN}$ -26 V, | 1 | | ±85 | mV |
| | | $I_{OUT}$ = 5 mA | 2 | | ±130 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 300 mA | 1 | | ±135 | mV |
| | | | 2 | | ±205 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 100 mA | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 300 mA | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 1900 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | 150 | | mA |
| | | | 2 | 140 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 280 | | mA |
| | | | 4 | | | |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 42 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested
4. The short circuit current is less than the maximum output current due to internal foldback current limiting. The -5V and -5.2V versions do not reach the foldback current limit and therefore conducts a higher short circuit level.

## ELECTRICAL CHARACTERISTICS, OM2990-5.2NK, NM, NT (-5.2 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -10.2 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0 A | 1 | -5.30 | -5.10 | V |
| | | | 2 | -5.46 | -4.94 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 5 | m A |
| | | | 2 | | 12 | |
| | | $I_O$ = 1.0A , $V_{IN}$ = -5.2 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -6.2 V $V_{IN}$ -26 V, | 1 | | ±40 | m V |
| | | $I_{OUT}$ = 5 mA | 2 | | ±50 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±50 | m V |
| | | | 2 | | ±100 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 1.0 A | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 750 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | 1.5 | | A |
| | | | 2 | 1.3 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.5 | | A |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 50 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested

## ELECTRICAL CHARACTERISTICS, OM2990-5.2SM, ST (-5.2 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -10.2 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 1.0 A | 1 | -5.30 | -5.10 | V |
| | | | 2 | -5.46 | -4.94 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 1.0A | 1 | | 5 | m A |
| | | | 2 | | 12 | |
| | | $I_O$ = 1.0A , $V_{IN}$ = -5.2 V | 1,2 | | 50 | |
| Line Regulation | $V_{RLN}$ | -6.2 V $V_{IN}$ -26 V, | 1 | | ±45 | m V |
| | | $I_{OUT}$ = 5 mA | 2 | | ±55 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 1.0 A | 1 | | ±70 | m V |
| | | | 2 | | ±110 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 0.1 A | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 1.0 A | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 750 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1,2 | 1.27 | | A |
| Maximum Output Current | $I_{MAX}$ | | 1 | 1.27 | | A |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 50 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

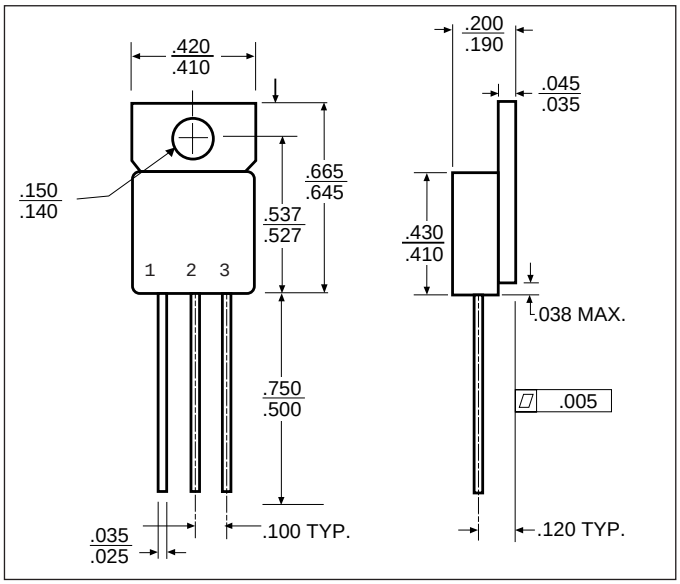
Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested

## ELECTRICAL CHARACTERISTICS, OM2990-5.2N2 (-5.2 VOLTS)

Test Conditions are -55°C $T_A$ 125°C, $V_{IN}$ = -10.2 V, $C_{OUT}$ = 47 µF (unless otherwise specified).

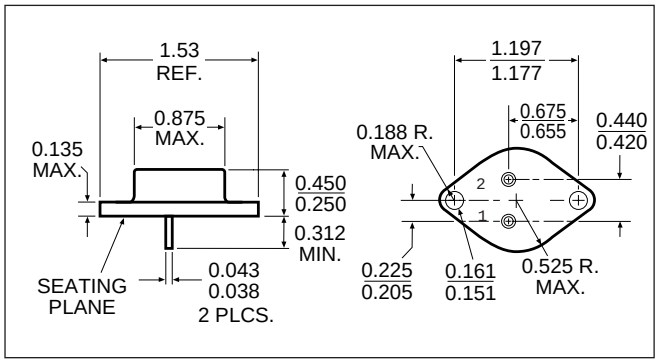
| Parameter | Symbol | Test Conditions | Notes | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | 5 mA ≤ $I_O$ ≤ 300 mA | 1 | -5.30 | -5.10 | V |
| | | | 2 | -5.46 | -4.94 | |
| Quiescent Current | $I_Q$ | $I_O$ ≤ 300 mA | 1 | | 7 | m A |
| | | | 2 | | 14 | |
| | | $I_O$ = 300 mA , $V_{IN}$ = -5.2 V | 1,2 | | 55 | |
| Line Regulation | $V_{RLN}$ | -6.2 V $V_{IN}$ -26 V, | 1 | | ±45 | m V |
| | | $I_{OUT}$ = 5 mA | 2 | | ±60 | |
| Load Regulation | $V_{RLD}$ | 50 mA $I_{OUT}$ 300 mA | 1 | | ±80 | m V |
| | | | 2 | | ±120 | |
| Dropout Voltage | $V_{DO}$ | $I_O$ = 100 mA | 1 | | 3 | V |
| | | $DV_O$ 100 mV | 2 | | | |
| | | $I_O$ = 300 mA | 1 | | 1 | |
| | | $DV_O$ 100 mV | 2 | | | |
| Output Noise Voltage | $V_{ON}$ | $I_O$ = 5 mA, | 3 | | 800 | µV |
| | | 10 Hz - 100 kHz | | | | |
| Short Circuit Current | $I_{OS}$ | $R_L$ = 1 | 1 | 300 | | m A |
| | | | 2 | 250 | | |
| Maximum Output Current | $I_{MAX}$ | | 1 | 300 | | m A |
| Ripple Rejection | $R_R$ | $V_{ripple}$ = 1 $V_{ms}$ | 1 | 50 | | dB |
| | | $I_{OUT}$ = 5 mA, f = 1 kHz | | | | |

Notes: 1. $T_A$ = 25°C.
2. Over full operating temperature range.
3. Guaranteed, not tested



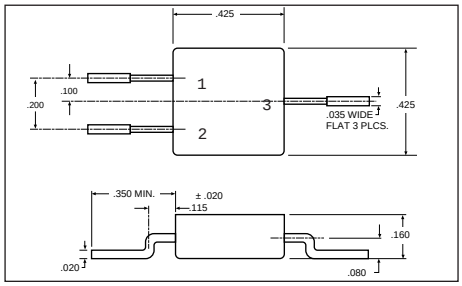

TO-257AA

| OM2990STM | OM2990NTM |
|---|---|
| Isolated | Non-Isolated |
| Front View | Front View |
| Pin 1 - Ground | Pin 1 - Ground |
| Pin 2 - Input | Pin 2 - Input |
| Pin 3 - Output | Pin 3 - Output |
| Tab - Isolated | Tab - Input |



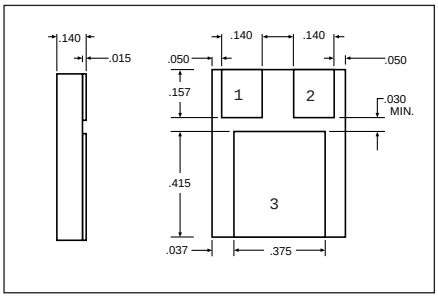

TO-204AA (TO-3)

OM2990NKM
Pin 1 - Ground
Pin 2 - Output



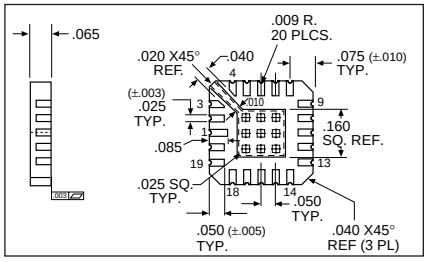

SMD-3

OM2990SMM
Front View
Pin 1 - Ground
Pin 2 - Output
Pin 3 - Input
Case - Isolated




SMD 1
"N" PACKAGE

OM2990NMM
Pin 1 - Ground
Pin 2 - Output
Pin 3 - Input




LCC 20

OM2990N2M

| | | | |
|---|---|---|---|
| Pin 1 | NC | Pin 11 | $V_{OUT}$ |
| Pin 2 | NC | Pin 12 | $V_{OUT}$ |
| Pin 3 | NC | Pin 13 | NC |
| Pin 4 | NC | Pin 14 | NC |
| Pin 5 | NC | Pin 15 | $V_{IN}$ |
| Pin 6 | Ground | Pin 16 | $V_{IN}$ |
| Pin 7 | NC | Pin 17 | $V_{IN}$ |
| Pin 8 | NC | Pin 18 | NC |
| Pin 9 | $V_{OUT}$(Sense) | Pin 19 | NC |

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
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http://moschip.ru/get-element

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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