

**MNLM120-12-K REV 0BL**

 Original Creation Date: 07/06/95  
 Last Update Date: 12/10/96  
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**THREE TERMINAL NEGATIVE REGULATOR**
**Industry Part Number**

LM120K-12

**NS Part Numbers**

LM120K-12/883

**Prime Die**

LMJ120EG-12

**Processing**

MIL-STD-883, Method 5004

**Quality Conformance Inspection**

MIL-STD-883, Method 5005

| Subgrp | Description         | Temp ( °C) |
|--------|---------------------|------------|
| 1      | Static tests at     | +25        |
| 2      | Static tests at     | +125       |
| 3      | Static tests at     | -55        |
| 4      | Dynamic tests at    | +25        |
| 5      | Dynamic tests at    | +125       |
| 6      | Dynamic tests at    | -55        |
| 7      | Functional tests at | +25        |
| 8A     | Functional tests at | +125       |
| 8B     | Functional tests at | -55        |
| 9      | Switching tests at  | +25        |
| 10     | Switching tests at  | +125       |
| 11     | Switching tests at  | -55        |

## Electrical Characteristics

### DC PARAMETERS

(The following conditions apply to all the following parameters, unless otherwise specified.)

DC:  $I_L = 5\text{mA}$

| SYMBOL               | PARAMETER                | CONDITIONS                                                   | NOTES | PIN-NAME | MIN   | MAX   | UNIT | SUB-GROUPS |
|----------------------|--------------------------|--------------------------------------------------------------|-------|----------|-------|-------|------|------------|
| I <sub>q</sub>       | Quiescent Current        | V <sub>in</sub> = -14V                                       | 3     |          |       | 4     | mA   | 1, 2, 3    |
|                      |                          | V <sub>in</sub> = -32V                                       | 3     |          |       | 4     | mA   | 1, 2, 3    |
| Delta I <sub>q</sub> | Quiescent Current Change | V <sub>in</sub> = -17V, $5\text{mA} \leq I_L \leq 1\text{A}$ | 3     |          |       | 0.4   | mA   | 1          |
|                      |                          | V <sub>in</sub> = -17V, $5\text{mA} \leq I_L \leq 1\text{A}$ | 3     |          |       | 0.5   | mA   | 2, 3       |
|                      |                          | -32V $\leq$ V <sub>in</sub> $\leq$ -14V                      | 3     |          |       | 0.4   | mA   | 1          |
|                      |                          | -32V $\leq$ V <sub>in</sub> $\leq$ -14V                      | 3     |          |       | 0.5   | mA   | 2, 3       |
| R <sub>load</sub>    | Load Regulation          | V <sub>in</sub> = -17V, $5\text{mA} \leq I_L \leq 1\text{A}$ | 3     |          | -80   | 80    | mV   | 1, 2, 3    |
| R <sub>line</sub>    | Line Regulation          | -32V $\leq$ V <sub>in</sub> $\leq$ -14V                      | 3     |          | -10   | 10    | mV   | 1          |
|                      |                          | -32V $\leq$ V <sub>in</sub> $\leq$ -14V                      | 3     |          | -20   | 20    | mV   | 2, 3       |
| I <sub>os</sub>      | Short Circuit Current    | V <sub>in</sub> = -32V                                       | 1, 3  |          | 0.4   | 3     | A    | 1          |
| V <sub>out</sub>     | Output Voltage           | V <sub>in</sub> = -17V                                       | 3     |          | -12.3 | -11.7 | V    | 1          |
|                      |                          | V <sub>in</sub> = -32V                                       | 3     |          | -12.5 | -11.5 | V    | 1, 2, 3    |
|                      |                          | V <sub>in</sub> = -32V, $I_L = 1\text{A}$                    | 3     |          | -12.5 | -11.5 | V    | 1, 2, 3    |
|                      |                          | V <sub>in</sub> = -14.5V                                     | 3     |          | -12.5 | -11.5 | V    | 1, 2, 3    |
|                      |                          | V <sub>in</sub> = -14.5V, $I_L = 1\text{A}$                  | 3     |          | -12.5 | -11.5 | V    | 1, 2, 3    |
| R <sub>r</sub>       | Ripple Rejection         | f = 120Hz                                                    | 2, 3  |          | 56    |       | dB   | 4          |

### DC PARAMETERS: DRIFT VALUES

(The following conditions apply to all the following parameters, unless otherwise specified.)

DC:  $I_L = 5\text{mA}$ . "Deltas not required on B-Level product. Deltas required for S-Level product ONLY as specified on Internal Processing Instructions (IPI)."

|                  |                   |                          |   |  |       |      |    |   |
|------------------|-------------------|--------------------------|---|--|-------|------|----|---|
| I <sub>q</sub>   | Quiescent Current | V <sub>in</sub> = -14V   | 3 |  | -0.4  | 0.4  | mA | 1 |
| V <sub>out</sub> | Output Voltage    | V <sub>in</sub> = -14.5V | 3 |  | -0.12 | 0.12 | V  | 1 |

Note 1: Datalog will have negative readings.

Note 2: Bench test, use 70256656.

Note 3: Pre Burn-In Stress Test per (SG)RPI-3-371.

## Graphics and Diagrams

| GRAPHICS# | DESCRIPTION |
|-----------|-------------|
| 09107HR   | (blank)     |
| K02CRB    | (blank)     |

See attached graphics following this page.