National Semiconductor

MILITARY DATA SHEET

MNLM120-15-K REV 0BL

Original Creation Date: 07/06/95
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THREE TERMINAL NEGATIVE REGULATOR

Industry Part Number

LM120K-15

NS Part Numbers

LM120K-15/883

Prime Die

LMJ120EG-15

Processing

MIL-STD-883, Method 5004

Quality Conformance Inspection

MIL-STD-883, Method 5005

Subgrp	Description	Temp (^{o}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: Il = 5mA

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Iq	Quiescent Current	Vin = -17V	4			4	mA	1, 2, 3
		Vin = -35V	4			4	mA	1, 2, 3
Delta Iq	Quiescent Current Change	Vin = -17V, 5mA ≤ Il ≤ 1A	4			0.4	mA	1
		Vin = -17V, 5mA ≤ Il ≤ 1A	4			0.5	mA	2, 3
		-35V ≤ Vin ≤ -17V	4			0.4	mA	1
		-35V ≤ Vin ≤ -17V	4			0.5	mA	2, 3
Rload	Load Regulation	Vin = -20V, 5mA ≤ Il ≤ 1A	4		-80	80	mV	1, 2, 3
Rline	Line Regulation	-35V ≤ Vin ≤ -17V	4		-10	10	mV	1
		-35V ≤ Vin ≤ -17V	4		-20	20	mV	2, 3
Ios	Short Circuit Current	Vin = -35V	2, 4		0.4	3	A	1
Vout	Output Voltage	Vin = -20V	4		-15.3	-14.7	V	1
		Vin = -35V	4		-15.5	-14.5	V	1, 2, 3
		Vin = -35V, Il = 1A	4		-15.5	-14.5	V	1, 2, 3
		Vin = -17.5V	4		-15.5	-14.5	V	1, 2, 3
		Vin = -17.5V, Il = 1.5A	4		-15.5	-14.5	V	1, 2, 3
Delta Vout/Delta Time	Long Term Stability		1, 4			150	mV	1
Rr	Ripple Rejection	f = 120Hz	3, 4		56		dB	4
Theta JC	Thermal Resistance	Junction to Case	1, 4			3	C/W	
Theta JA	Thermal Resistance	Junction to Ambient	1, 4			35	C/W	

DC PARAMETERS: DRIFT VALUES

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: Il = 5mA. "Deltas not required on B-Level product. Deltas required for S-Level product ONLY as specified on Internal Processing Instructions (IPI)."

Iq	Quiescent Current	Vin = -17V	4		-0.4	0.4	mA	1
Vout	Output Voltage	Vin = -17.5V	4		-0.15	0.15	V	1

Note 1: Guaranteed parameter, not tested.
Note 2: Datalog will have negative readings.
Note 3: Bench test, use 70256656.
Note 4: 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.