National Semiconductor

MILITARY DATA SHEET

MNLM137A-H REV 0BL

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3 TERMINAL ADJUSTABLE NEGATIVE REGULATORS

Industry Part Number

LM137

NS Part Numbers

LM137AH/883

Prime Die

LM137

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: Vin=-4.25V, Il=8mA, Vout=Vref

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vref	Reference Voltage		3		-1.262	-1.238	V	1
			3		-1.28	-1.22	V	2, 3
		Vin=-42V	1, 3		-1.262	-1.238	V	1
			1, 3		-1.28	-1.22	V	2, 3
Iq	Minimum Load Current	Vout=-1.7V	3			3	mA	1, 2, 3
		Vout=-1.7V, Vin=-11.75V	3			3	mA	1, 2, 3
		Vout=-1.7V, Vin=-42V	1, 3			5	mA	1, 2, 3
Rline	Line Regulation	-42V ≤ Vin ≤ -4.25V	2, 3		-4.5	4.5	mV	1
		-42V ≤ Vin ≤ -4.25V	2, 3		-13.5	13.5	mV	2, 3
Rload	Load Regulation	5mA ≤ Il ≤ 500mA, Vin=-6.25V	3		-25	25	mV	1, 2, 3
		5mA ≤ Il ≤ 500mA, Vin=-14.5V	3		-25	25	mV	1
		5mA ≤ Il ≤ 150mA, Vin=-40V	3		-25	25	mV	1, 2, 3
Iadj	Adjustment Pin Current	Il=5mA	3			100	uA	1, 2, 3
		Vin=-42V, Il=5mA	1, 3			100	uA	1, 2, 3
Delta Iadj/(Line)	Change vs Line Voltage	-42V ≤ Vin ≤ -4.25V, Il=5mA	2, 3		-5	5	uA	1, 2, 3
Delta Iadj/(Load)	Change vs Load Current	5mA ≤ Il ≤ 500mA, Vin=-6.5V	3		-2	2	uA	1, 2, 3
Theta R	Thermal Regulation	Vin=-14.5V, Il=500mA, t=10mS	3		-5	5	mV	1
		Vin=-14.5V, Il= 5mA, t=10mS	3		-5	5	mV	1
Icl	Current Limit	Vin=-5V	3		-1.8	-0.5	A	1, 2, 3
		Vin=-40V	3		-0.65	-0.15	A	1, 2, 3
Vout	Output Voltage		3		-1.28	-1.22	V	1
			3		-1.3	-1.2	V	2, 3
Rr	Ripple Rejection Ratio	Vin=-6.25V, Il=125mA, Vout=Vref, ei=1Vrms, f=120Hz	3		66		db	4, 5, 6

Note 1: Vin=-41.3V at +125 C and -55C.

(Continued)

Note 2: -41.3V ≤ Vin ≤ -4.25V at +125 C and -55C.
Note 3: Pre Burn-In Stress Test per RPI-5-024.