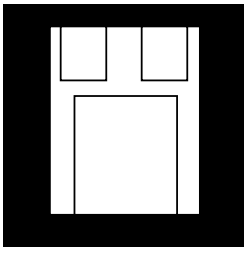
SURFACE MOUNT LOW DROPOUT POSITIVE ADJUSTABLE REGULATORS



Three Terminal Adjustable Low Dropout 7.5A, 5A, 3A, 1.5A Positive Voltage Regulators

FEATURES

- Surface Mount Hermetic Package
- Operates Down to 1V Dropout, 1.5V @ Max. Current
- .015% Typical Line Regulation
- .01% Typical Load Regulation
- 1% Reference Voltage
- Electrically Equivalent to LT1083, 84, 85 and 86
- Available Hi-Rel Screened

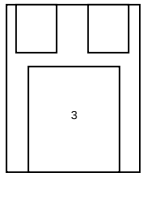
DESCRIPTION

These three terminal positive adjustable voltage regulators in surface mount package are designed to provide 7.5A, 5A, 3A, and 1.5A with higher efficiency than conventional voltage regulators. The devices are designed to operate to 1 Volt input to output differential and the dropout voltage is specified as a function of load current. These devices are ideally suited for Military applications where surface mount, small size, hermeticity and high reliability are required.

ABSOLUTE MAXIMUM RATINGS

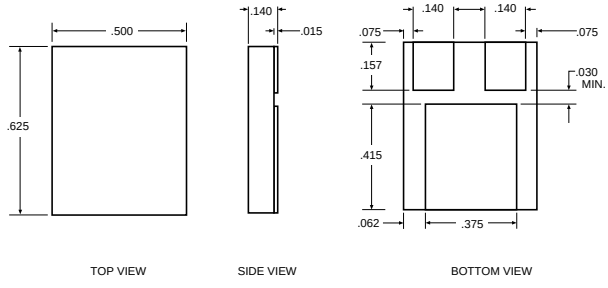
Input Voltage . . . . . 35 V
Operating Junction Temperature Range . . . . . - 55°C to + 150°C
Storage Temperature . . . . . - 55°C to + 150°C
Output Current - OM7621NM . . . . . 8.0 A
OM7622NM . . . . . 5.5 A
OM7623NM . . . . . 3.2 A
OM7624NM . . . . . 1.5 A

PIN CONNECTION



Pin 1: V_{IN}
Pin 2: Adjust
Pin 3: V_{OUT}

MECHANICAL OUTLINE



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ELECTRICAL CHARACTERISTICS T_J = -55°C to + 125°C

Parameter	Conditions		Min.	Typ.	Max.	Units
Reference Voltage	I_{OUT} = 10 mA, T_j = 25°C					
	$(V_{IN} - V_{OUT})$ = 3 V		1.238		1.262	V
	10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$					
	1.5 V ≤ $(V_{IN} - V_{OUT})$ ≤ 25 V (Note 3)	•	1.220		1.270	V
Line Regulation	I_{LOAD} = 10 mA, 1.5 V ≤ $(V_{IN} - V_{OUT})$ ≤ 15 V, T_j = 25°C				0.25	%
						%
	15 V ≤ $(V_{IN} - V_{OUT})$ ≤ 35 V (Notes 1 & 2)	•			0.55	%
Load Regulation	$(V_{IN} - V_{OUT})$ = 3 V					
	10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$					
	T_j = 25°C (Notes 1, 2, & 3)				0.9	%
		•			1.1	%
Dropout Voltage	ΔV_{REF} = 1%, I_{OUT} = $I_{FULL\ LOAD}$	•			1.5	V
Current Limit						
OM7621NM	$(V_{IN} - V_{OUT})$ = 5 V	•	8.0			A
	$(V_{IN} - V_{OUT})$ = 25 V	•	0.4			A
OM7622NM	$(V_{IN} - V_{OUT})$ = 5 V	•	5.5			A
	$(V_{IN} - V_{OUT})$ = 25 V	•	0.3			A
OM7623NM	$(V_{IN} - V_{OUT})$ = 5 V	•	3.2			A
	$(V_{IN} - V_{OUT})$ = 25 V	•	0.2			A
OM7624NM	$(V_{IN} - V_{OUT})$ = 5 V	•	1.5			A
	$(V_{IN} - V_{OUT})$ = 25 V	•	0.08			A
Minimum Load Current	$(V_{IN} - V_{OUT})$ = 25 V	•			20	mA
Thermal Regulation	T_A = 25°C, 30 ms pulse					
OM7621NM					0.01	%/W
OM7622NM					.015	%/W
OM7623NM					0.02	%/W
OM7624NM					0.05	%/W
Ripple Rejection	f = 120 Hz					
	C_{ADJ} = 25 µF Tantalum					
	I_{OUT} - $I_{FULL\ LOAD}$ $(V_{IN} - V_{OUT})$ = 3 V		60			dB
Adjust Pin Current	T_J = 25°C				80	µA
Adjust Pin Current Change	10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$					
	1.5 V ≤ $(V_{IN} - V_{OUT})$ ≤ 25 V	•			5	µA
Temperature Stability	-55°C ≤ T_J ≤ +150°C				1.5	%
Long Term Stability	T_A = 125°C, 1000 Hrs.				1	%
Thermal Resistance	Junction-to-Case OM7621NM				2.1	°C/W
	OM7622NM				3.1	°C/W
	OM7623NM				4.1	°C/W
	OM7624NM				5.3	°C/W
Lead Temperature	5 Seconds at Case			225	°C	

Note 1: Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
Note 2: Line and load regulation are guaranteed up to the maximum power dissipation (OM7621/60W, OM7622/45W, OM7623/30W, OM7624/15W). Power dissipation is determined by the input/output differential and the output current. Guaranteed maximum power dissipation will not be available over the full input/output voltage range.
Note 3: $I_{FULL\ LOAD}$ curve is defined as the minimum value of current limit as a function of input to output voltage. Note that power dissipation is only achievable over a limited range of input to output voltage.
Note 4: Dropout voltage is specified over the full output current range of the device.

The ● denotes the specifications which apply over the full operating temperature range.