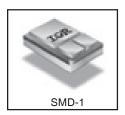
International Rectifier

Three Terminal, Adjustable Negative Voltage Regulator

OM1325NM 1.5A

Product Summary:

Part Number	Standard Military Drawing Number	V _{IN}	Adjustable V _{OUT}	Package	
OM1325NM	7703406N	-4.25V to -41.25V	-1.2V to -37V	SMD-1	



These three terminal negative voltage regulators are supplied in hermetically sealed packages. All protective features are designed into the circuit, including thermal shutdown, current-limiting, and safearea control. With heat sinking, these devices can deliver up to 1.5 amps of output current. The unit also features output voltages that can be fixed from -1.2 volts to -37 volts using external resistors.

Features:

- Similar to Industry Standard LM137A
- Approved to DSCC Standardized Military Drawing Number 7703406
- Built-in Thermal Overload Protection
- Short Circuit Current Limiting
- Maximum Output Voltage Tolerence is Guaranteed ±1%
- This part is also available in TO-257AA Package as OM1325ST(Isolated), TO-257AA Package as OM1325NT(Non-Isolated), SMD-3 Package as OM1325SM, TO-204 Package as OM1325NK

Absolute Maximum Ratings @ TC = 25°C

Parameter	Symbol	Value	Units	
Recommended Output Voltage Range	V _{OUT}	-1.2 to -37	VDC	
Recommended Input Voltage Range	V_{IN}	-4.25 to -41.25		
Output Current	I _{OUT}	1.5	Α	
Power Dissipation	P_{D}	20	W	
Input - Output Voltage Differential	V_{DIFF}	40	V	
Thermal Resistance, Junction to Case	R _{THJC}	3.5	°C/W	
Operating Temperature Range	TJ	-55 to +150		
Storage Temperature Range	T _S	-65 to +150	°C	
Lead Temperature (Soldering 10 seconds)	T _L	300		

$\textbf{Electrical Characteristics: -55°C} \leq \textbf{T}_{\textbf{A}} \leq \textbf{125°C}, \ \textbf{I}_{\textbf{L}} \textbf{= 8.0mA} \ (\textbf{Unless Otherwise Specified})$

Parameter	Test Conditions	Symbol	Min.	Max.	Units
	$V_{DIFF} = 3.0V, T_A = 25^{\circ}C$		-1.262	-1.238	V
Reference Voltage	V _{DIFF} = 3.0V ③	V _{REF}	-1.280	-1.220	
	V _{DIFF} = 40V ③		-1.280	-1.220	
Line Regulation ①	$3.0V \le V_{DIFF} \le 40V$, $T_A = 25^{\circ}C$	R _{LINE}	-4.5	4.5	
Ene riegulation ©	$3.0V \le V_{DIFF} \le 40V$ ③	LINE	-13.8	13.8	mV
	$8.0 \text{mA} \le I_{L} \le 1.5 \text{A}, V_{DIFF} = 5.0 \text{V}$ ③		-25	25	
Load Regulation ①	$8.0\text{mA} \le I_L \le 1.5\text{A}, \ V_{\text{DIFF}} = 12\text{V}, \ TA = 25^{\circ}\text{C}$	R _{LOAD}	-25	25	
Load Regulation ©	$8.0 \text{mA} \le I_L \le 200 \text{mA}, \ V_{DIFF} = 40 \text{V}, \ T_A = 25 ^{\circ} \text{C}$	LOAD	-25	25	
	$8.0 \text{mA} \le I_L \le 100 \text{mA}, \ V_{DIFF} = 40 \text{V}$ (3)		-50	50	
Thermal Regulation	V _{IN} = -14.6V, I _L = 1.5A	V _{RTH}	-5.0	5.0	
memai negulation	P _D = 20W, t = 10ms, T _A = 25°C	▼RTH	-5.0	5.0	
Ripple Rejection ②	f = 120Hz, V _{OUT} = V _{REF} ③	R _N	66	_	dB
Thippic Hejeotion 9	$C_{ADJ} = 10 \mu F$. 1//	00	-	uD.
Adjustment Pin Current	V _{DIFF} = 3.0 V ③	I _{ADJ}	-	100	μΑ
	V _{DIFF} = 40V ③	'ADJ	-	100	
Adjustment Pin Current Change	$3.0V \le V_{DIFF} \le 40V$ ③	I _{ADJ (line)}	-5.0	5.0	μΛ
Adjustinent i in odirent onange	$8.0 \text{mA} \le I_L \le 1.5 \text{A}, V_{DIFF} = 5.0 \text{V}$ ③	I _{ADJ (load)}	-5.0	5.0	
	V _{DIFF} = 3.0V, V _{OUT} = -1.4V(forced) ③		-	3.0	mA
Minimum Load Current	$V_{DIFF} = 10V$, $V_{OUT} = -1.4V$ (forced) ③	I _{Lmin}	-	3.0	
	V _{DIFF} = 40V, V _{OUT} = -1.4V (forced) ③		-	5.0	
Current Limit ②	V _{DIFF} = 5.0 V ③	I _{CL}	1.5	3.5	А
Journal Cilling	V _{DIFF} = 40V, T _A = 25°C	'CL	0.24	1.2	

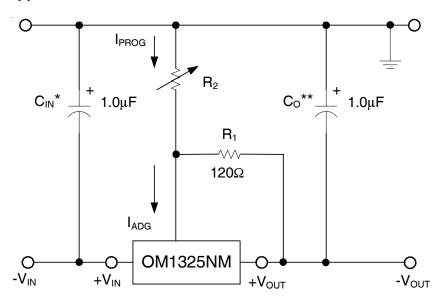
NOTES:

① Load and Line Regulation are specified at a constant junction temperature. Pulse testing with low duty cycle is used. Changes in output voltage due to heating effects must be taken into account separately.

② If not tested, shall be guaranteed to the specified limits.

³ Denotes the specifications which apply over the full operating temperature range.

Standard Application

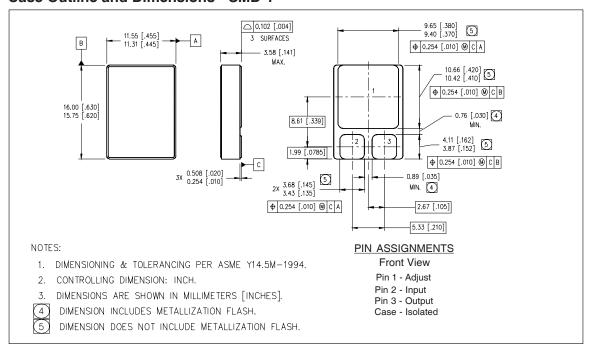


- * C_{in} is required if regulator is located more than 4 inches from power supply filter. A 1.0μF solid tantalum or 10μF aluminum electrolytic is recommended.
 ** C_o is necessary for stability. A 1.0μF solid tantalum or 10μF aluminum electrolytic is recommended.

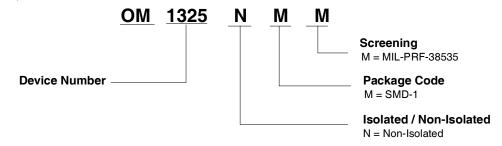
$$V_{OUT} = -1.25V (1 + R2/R1)$$

OM1325NM

Case Outline and Dimensions - SMD-1



Part Numbering Nomenclature





IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105 IR LEOMINSTER: 205 Crawford St., Leominster, Massachusetts 01453, USA Tel: (978) 534-5776 Data and specifications subject to change without notice. 10/2006