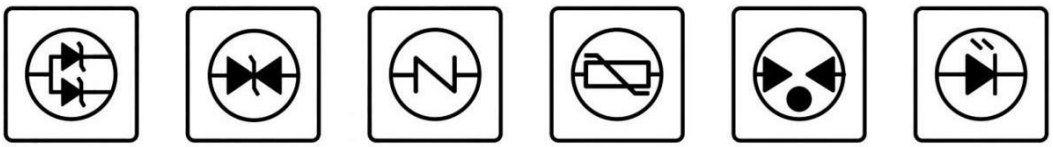
MSKSEMI 美森科
SEMICONDUCTOR



MSLM79Lxx

Product specification

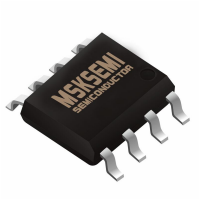
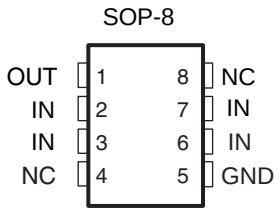
FEATURES

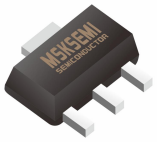
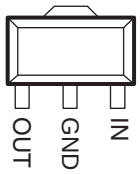
- Some kinds output voltage series
- Superior ripple rejection ratio for audio frequency
- Over current and over temperature protection

APPLICATIONS

- Three-terminal Negative Fixed Voltage Regulators

Reference News

Type No	SOP-8	PIN DESCRIPTION	MARKING
MSLM79LxxACMX/NOPB			

Type No	SOT-89	PIN DESCRIPTION	MARKING
MSLM79LxxF			

ORDER INFORMATION

P/N	PKG	QTY
MSLM79L05ACMX/NOPB	SOP8	2500PCS
MSLM79L06ACMX/NOPB	SOP8	2500PCS
MSLM79L08ACMX/NOPB	SOP8	2500PCS
MSLM79L09ACMX/NOPB	SOP8	2500PCS
MSLM79L12ACMX/NOPB	SOP8	2500PCS
MSLM79L15ACMX/NOPB	SOP8	2500PCS

P/N	PKG	QTY
MSLM79L05F	SOT-89	1000
MSLM79L06F	SOT-89	1000
MSLM79L08F	SOT-89	1000
MSLM79L09F	SOT-89	1000
MSLM79L12F	SOT-89	1000
MSLM79L15F	SOT-89	1000

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value		Units
V_I	Input voltage	-35		V
P_D	Power dissipation	SOP8	750	mW
		SOT89-3	500	
Topr	Operating ambient temperature	-20 to +85		℃
T_j,T_{stg}	Junction and Storage Temperature	-65 to +150		℃

ELECTRICAL CHARACTERISTICS

(V_{IN}=-10V,I_O=40mA,0℃<T_j<125℃,C_{IN}=0.33μF,C_L=0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions	MSLM79L05			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-10V ,1.0 mA ≤I_O≤70mA	-4.8 -4.75	-5.0	-5.2 -5.25	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		20 10	60 30	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -20V≤V_i≤-7V T_j=25℃, -20V≤V_i≤-8V		15 12	150 100	mV
Bias current		T_j=25℃		3.8	6.0	mA
Bial current change		T_j=25℃, -20V≤V_i≤-8V 1.0mA≤I_O≤40mA			1.5 0.1	mA
Output noise voltage		T_j=25℃ f=10Hz-100Hz		40		μV
Output short circuit current	I_{OS}	T_j=25℃		300		mA

ELECTRICAL CHARACTERISTICS

(V_{IN} = –11 V, I_{OUT} = 40 mA, 0°C ≤ Tj ≤ 125°C, C $_{IN}$ = 0.33μF, C_L = 0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions	MSLM79L06			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-10V ,1.0 mA ≤I_O≤70mA	-5.75 -5.7	-6.0	-6.25 -6.3	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		21 11	80 40	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -20V≤V_i≤-8V T_j=25℃, -20V≤V_i≤-9V		20 12	170 100	mV
Bias current		T_j=25℃		3.8	6.0	mA
Bial current change		T_j=25℃, -20V≤V_i≤-9V 1.0mA≤I_O≤40mA			1.5 0.1	mA
Output noise voltage		T_j=25℃ f=10Hz-100Hz		44		μV
Output short circuit current	I_{OS}	T_j=25℃		300		mA

ELECTRICAL CHARACTERISTICS

(V_{IN} = –14 V, I_{OUT} = 40 mA, 0°C ≤ Tj ≤ 125°C, C_{IN} = 0.33μF, C_L = 0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions	MSLM79L08			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-10V ,1.0 mA ≤I_O≤70mA	-7.7 -7.6	-8.0	-8.3 -6.4	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		30 15	100 50	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -23V≤V_i≤-10.5V T_j=25℃, -23V≤V_i≤-11V		42 36	200 150	mV
Bias current		T_j=25℃			6.0	mA
Bial current change		T_j=25℃, -20V≤V_i≤-11V 1.0mA≤I_O≤40mA			1.5 0.1	mA
Output noise voltage		T_j=25℃ f=10Hz-100Hz		54		μV
Output short circuit current	I_{OS}	T_j=25℃		300		mA

ELECTRICAL CHARACTERISTICS

(V_{IN} = –15 V, I_{OUT} = 40 mA, 0°C ≤ Tj ≤ 125°C, C_{IN} = 0.33μF, C_L = 0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions	MSLM79L09			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-15V ,1.0 mA ≤I_O≤70mA	-8.64 -8.55	-9.0	-9.36 -9.45	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		30 15	100 50	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -24V≤V_i≤-12V T_j=25℃, -24V≤V_i≤-13V		45 40	170 125	mV
Bias current		T_j=25℃			6.2	mA
Bial current change		T_j=25℃, -20V≤V_i≤-13V 1.0mA≤I_O≤40mA			1.5 0.1	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		270		mA

ELECTRICAL CHARACTERISTICS

(V_{IN} = –19 V, I_{OUT} = 40 mA, 0°C ≤ Tj ≤ 125°C, C_{IN} = 0.33μF, C_L = 0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions	MSLM79L12			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-19V ,1.0 mA ≤I_O≤70mA	-11.52 -11.40	-12	-12.48 -12.60	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		24 15	100 50	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -27V≤V_i≤-14V T_j=25℃, -27V≤V_i≤-16V		50 40	250 200	mV
Bias current		T_j=25℃			-6.5	mA
Bial current change		T_j=25℃, -27V≤V_i≤-16V 1.0mA≤I_O≤40mA			1.5 0.1	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		250		mA

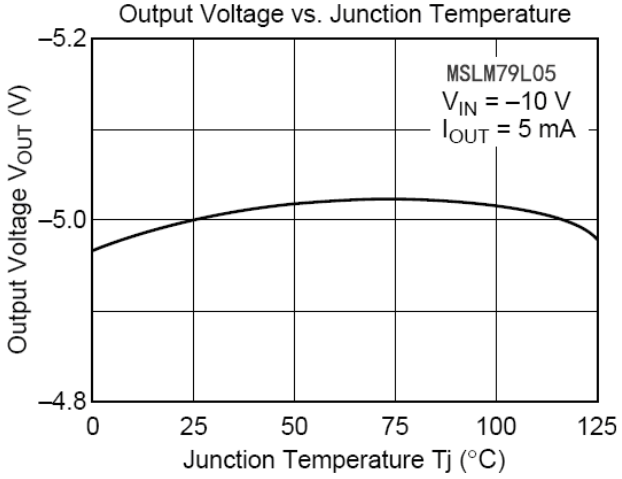
ELECTRICAL CHARACTERISTICS

(V_{IN} = –23 V, I_{OUT} = 40 mA, 0°C ≤ Tj ≤ 125°C, C_{IN} = 0.33μF, C_L = 0.1μF,unless otherwise specified)

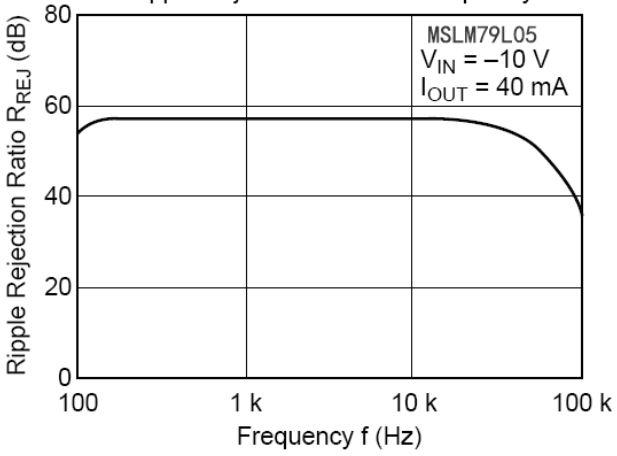
Parameter	Symbol	Test conditions	MSLM79L15			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-23V ,1.0 mA ≤I_O≤70mA	-14.4 -14.25	-15	-15.6 -15.75	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		25 15	150 75	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -30V≤V_i≤-17.5V T_j=25℃, -30V≤V_i≤-19V		65 50	300 250	mV
Bias current		T_j=25℃			-6.5	mA
Bial current change		T_j=25℃, -30V≤V_i≤-19V 1.0mA≤I_O≤40mA			1.5 0.1	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		240		mA

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

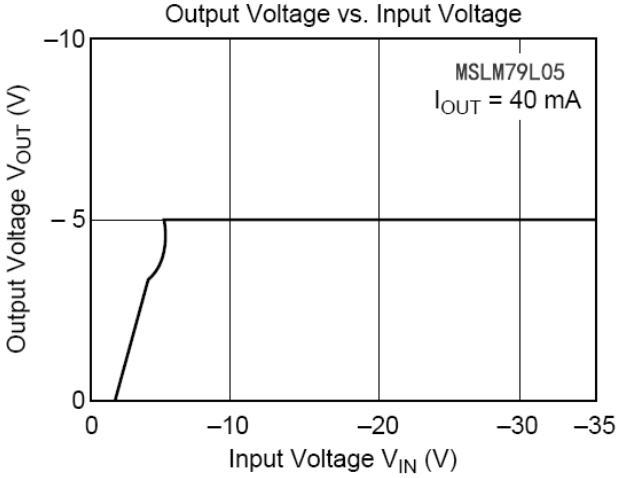
Output Voltage vs. Junction Temperature



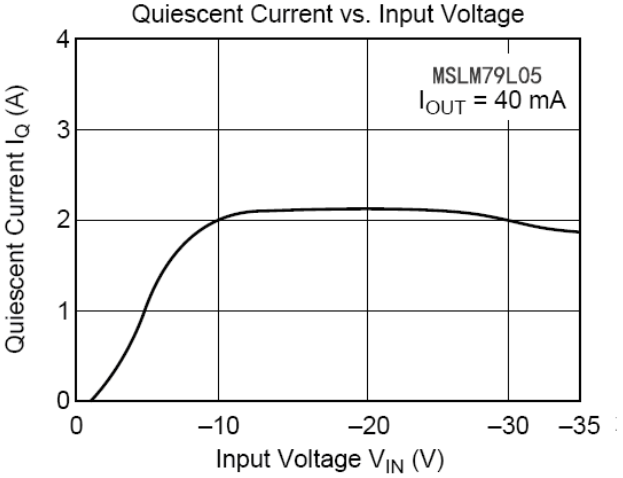
Ripple Rejection Ratio vs. Frequency



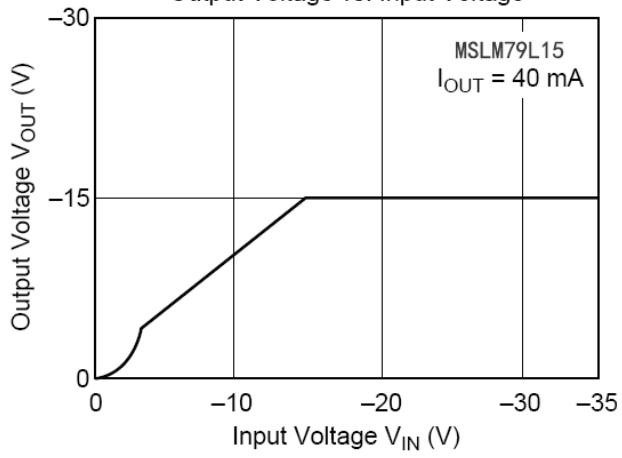
Output Voltage vs. Input Voltage



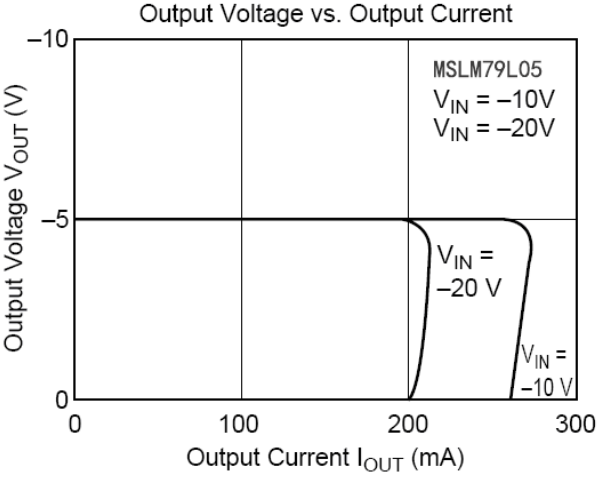
Quiescent Current vs. Input Voltage



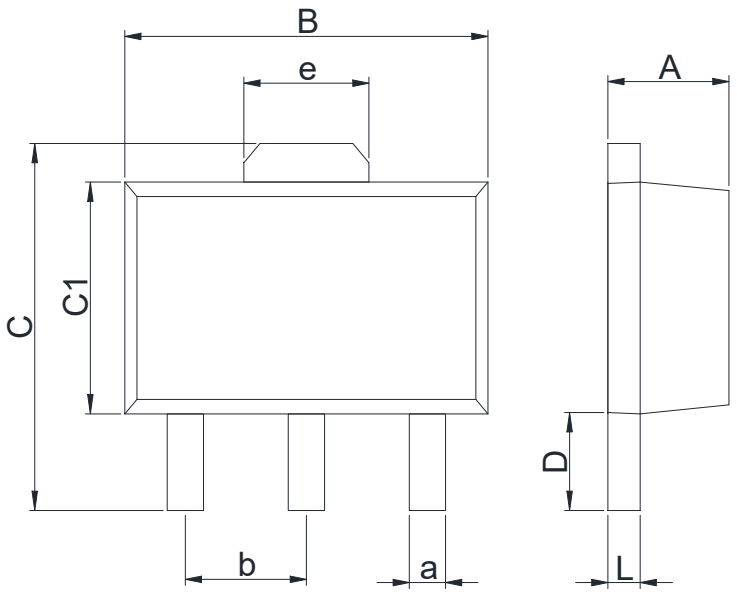
Output Voltage vs. Input Voltage



Output Voltage vs. Output Current



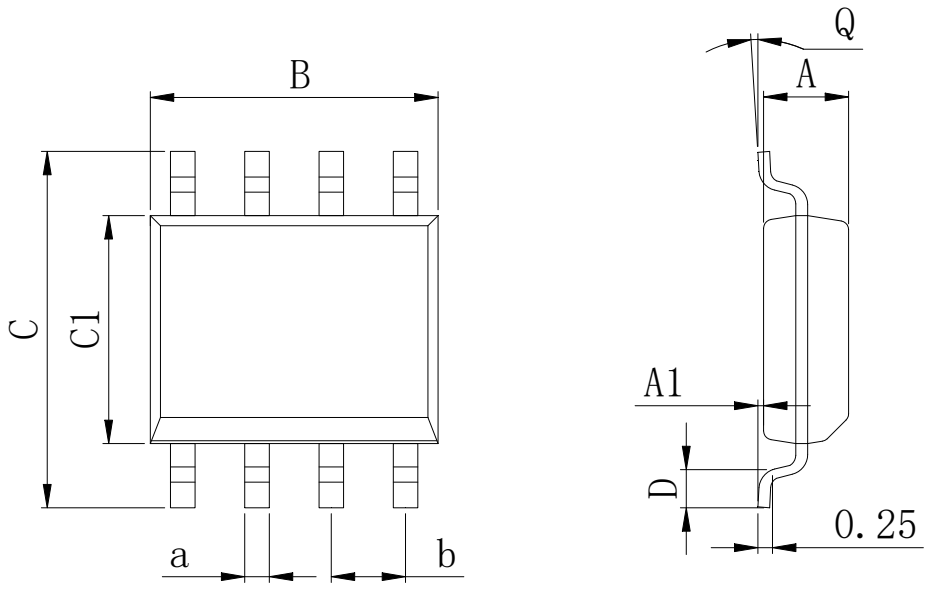
SOT89-3



Dimensions In Millimeters(SOT-89-3)									
Symbol:	A	B	C	C1	D	L	a	b	e
Min:	1.40	4.40	3.94	2.30	0.90	0.35	0.40	1.50	1.55
Max:	1.60	4.60	4.25	2.60	1.20	0.44	0.50	BSC	BSC

Physical Dimensions

SOP-8



Dimensions In Millimeters(SOP-8)									
Symbol:	A	A1	B	C	C1	D	Q	a	b
Min:	1.35	0.05	4.90	5.80	3.80	0.40	0°	0.35	1.27 BSC
Max:	1.55	0.20	5.10	6.20	4.00	0.80	8°	0.45	

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specificationsof any andall MSKSEMI Semiconductor products described orcontained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer'sproducts orequipment.

■ MSKSEMI Semiconductor. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with someprobability. It is possiblethat these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits anderror prevention circuitsfor safedesign, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from theauthorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringementsof intellectual property rights or other rightsof third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. Whendesigning equipment, referto the "Delivery Specification" for the MSKSEMI Semiconductor productthat you intend to use.