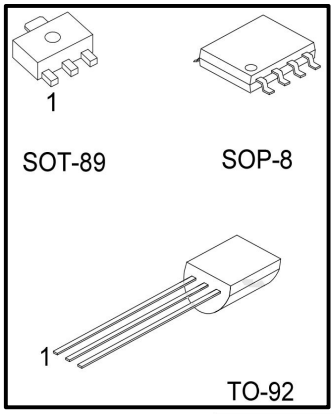
MK79LXX 3-TERMINAL 0.1A NEGATIVE VOLTAGE REGULATOR

DESCRIPTION

The MK 79LXX family is monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply current up to 100mA.



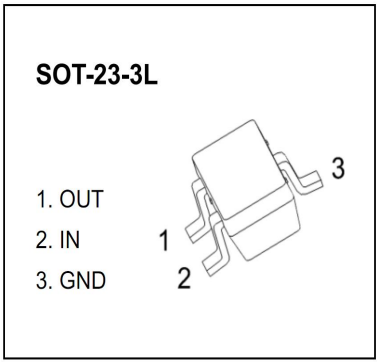
FEATURES:

※ Output current up to 100mA.

※ Thermal overload shutdown protection.

※ Short circuit current limiting.

※ Fixed output voltage of -5V, -6V, -8V, -9V, -10V,-12V, -15V, -18V and -24V available.



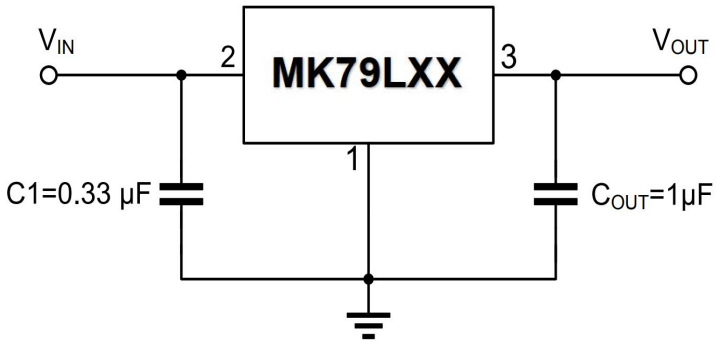
MARKING:

Absolute Maximum ratings

Parameter		Symbol	Value	Unit
Input Voltage	V_{OUT}= -5V~-9V	Vin	-30	V
	V_{OUT}= -12V~-15V		-35	V
Output Current		IO	0.1	A
Power Dissipation @ TA=25°C	SOT-89	PD	350	mW
	SOP-8		300	mW
	TO-92		625	mW
Operating Junction Temperature Range		TOPR	-40~+125	℃
Storage Temperature Range		TSTG	-40~+125	℃

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

APPLICATION CIRCUIT :



■ ELECTRICAL CHARACTERISTICS

79L05 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -10V, I_{OUT}=40mA	- 4.8	-5.0	-5.2	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -7~ -10V, IOUT=40mA		15	150	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -10V, IOUT=1~100mA		7	60	mV
Quiescent Current	**Iq**	V_{IN}= -10V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -8~-18V, IOUT=40mA eIN=1V_{P-P},f=120HZ	41	71		dB
Output Voltage Noise	**eN**	VIN= -12V, IOUT=40mA BW=10HZ~100KH		120		μV

79L06 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -12V, I_{OUT}=40mA	- 5.76	-6.0	-6.24	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -8.5~ -20V, IOUT=40mA		15	150	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -12V, IOUT=1~100mA		7	60	mV
Quiescent Current	**Iq**	V_{IN}= -12V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -9~-19V, IOUT=40mA eIN=1V_{P-P},f=120HZ	41	71		dB
Output Voltage Noise	**eN**	VIN= -12V, IOUT=40mA BW=10HZ~100KH		120		μV

■ ELECTRICAL CHARACTERISTICS

79L08 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -14V, I_{OUT}=40mA	- 7.68	-8.0	-8.32	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -10.5~ -23V, IOUT=40mA		24	175	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -14V, IOUT=1~100mA		10	80	mV
Quiescent Current	**Iq**	V_{IN}= -14V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -11~-21V, IOUT=40mA eIN=1V_{P-P},f=140HZ	39	68		dB
Output Voltage Noise	**eN**	VIN= -14V, IOUT=40mA BW=10HZ~100KH		190		μV

79L09 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -15V, I_{OUT}=40mA	- 8.64	-9.0	-9.36	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -12.5~ -24V, IOUT=40mA		27	200	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -15V, IOUT=1~100mA		12	90	mV
Quiescent Current	**Iq**	V_{IN}= -15V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -12~-22V, IOUT=40mA eIN=1V_{P-P},f=150HZ	37	64		dB
Output Voltage Noise	**eN**	VIN= -15V, IOUT=40mA BW=10HZ~100KH		210		μV

■ ELECTRICAL CHARACTERISTICS

79L10 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -16V, I_{OUT}=40mA	- 9.6	-10.0	-10.4	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -13~ -24V, IOUT=40mA		30	220	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -16V, IOUT=1~100mA		15	95	mV
Quiescent Current	**Iq**	V_{IN}= -16V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -13~-23V, IOUT=40mA eIN=1V_{P-P},f=150HZ	37	64		dB
Output Voltage Noise	**eN**	VIN= -16V, IOUT=40mA BW=10HZ~100KH		210		μV

79L12 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -19V, I_{OUT}=40mA	- 11.52	-12.0	-12.48	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -14.5~ -27V, IOUT=40mA		36	250	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -19V, IOUT=1~100mA		16	100	mV
Quiescent Current	**Iq**	V_{IN}= -19V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -15~-25V, IOUT=40mA eIN=1V_{P-P},f=190HZ	37	64		dB
Output Voltage Noise	**eN**	VIN= -19V, IOUT=40mA BW=10HZ~100KH		210		μV

■ ELECTRICAL CHARACTERISTICS

79L15 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -23V, I_{OUT}=40mA	- 14.4	-15.0	-15.6	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -17.5~ -30V, IOUT=40mA		45	300	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -23V, IOUT=1~100mA		20	150	mV
Quiescent Current	**Iq**	V_{IN}= -23V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -18.5~-28.5V, IOUT=40mA eIN=1V_{P-P},f=230HZ	34	63		dB
Output Voltage Noise	**eN**	VIN= -23V, IOUT=40mA BW=10HZ~100KH		340		μV

79L18 (TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -27V, I_{OUT}=40mA	- 17.28	-18.0	-18.72	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -20.5~ -33V, IOUT=40mA		54	300	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -27V, IOUT=1~100mA		23	170	mV
Quiescent Current	**Iq**	V_{IN}= -19V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -23~-33V, IOUT=40mA eIN=1V_{P-P},f=270HZ	33	60		dB
Output Voltage Noise	**eN**	VIN= -27V, IOUT=40mA BW=10HZ~100KH		410		μV

■ ELECTRICAL CHARACTERISTICS

79L24 **(TJ=25°C, C1=0.33μF, COUT=1μF, unless otherwise specified)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output voltage	**VOUT**	V_{IN}= -33V, I_{OUT}=40mA	- 23.04	-24.0	-24.96	V
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	VIN= -27~ -38V, IOUT=40mA		72	350	mV
Load Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT} \times V_{OUT}}$	VIN= -33V, IOUT=1~100mA		30	200	mV
Quiescent Current	**Iq**	V_{IN}= -33V, I_{OUT}=40mA		3.5	6.0	mA
Ripple Rejection	**RR**	VIN= -29~-35V, IOUT=40mA eIN=1V_{P-P},f=330HZ	31	55		dB
Output Voltage Noise	**eN**	VIN= -33V, IOUT=40mA BW=10HZ~100KH		550		μV