

UTC 79LXX LINEAR INTEGRATED CIRCUIT

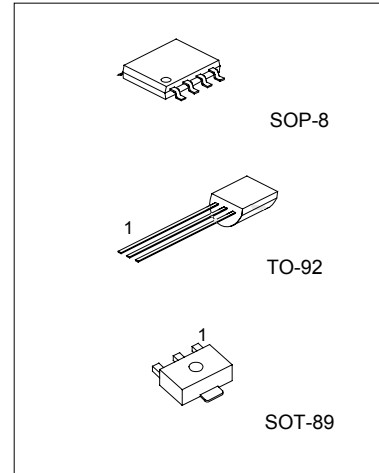
3-TERMINAL 0.1A NEGATIVE VOLTAGE REGULATOR

DESCRIPTION

The UTC 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
- *Fixed output voltage of -5V, -6V, -8V, -9V, -12V, -15V, -18V and -24V available
- *Thermal overload shutdown protection
- *Short circuit current limiting



SOP-8 : 1. Vout ; 2,3,6,7 Vin ; 5. GND; 4,8 NC

TO-92 : 1: GND 2: Input 3: Output

SOT-89: 1: GND 2: Input 3: Output

*Pb-free plating product number: 79LXXL

ORDERING INFORMATION

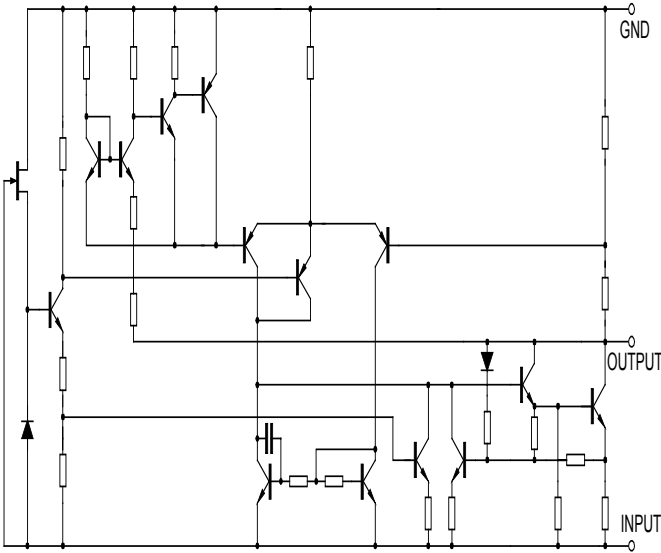
Order Number		Package	Packing
Normal	Lead free		
79Lxx-S08-R	79LxxL-S08-R	SOP-8	Tape Reel
79Lxx-S08-T	79LxxL-S08-T	SOP-8	Tube
79Lxx-AB3-R	79LxxL-AB3-R	SOT-89	Tape Reel
79Lxx-T92-B	79LxxL-T92-B	TO-92	Tape Box
79Lxx-T92-K	79LxxL-T92-K	TO-92	Bulk

Note:1. xx: Output Voltage, refer to Marking Information.

UTC 79LXX

LINEAR INTEGRATED CIRCUIT

TEST CIRCUIT



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Input voltage(for $V_o=-5\sim-9V$)	V_i	-30	V
	V_i	-35	V
	V_i	-35	V
Power Dissipation	P_D	350 (SOT-89)	mW
		300 (SOP-8)	
		625 (TO-92)	
Operating Junction Temperature Range	T_{OPR}	-30 ~ +125	°C
Storage Temperature Range	T_{STG}	-40 ~ +125	°C

UTC

UNISONIC TECHNOLOGIES CO., LTD.

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QW-R101-003,E

UTC79LXX LINEAR INTEGRATED CIRCUIT

UTC79L05 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-10V, Io=40mA	-4.8	-5.0	-5.2	V
Line Regulation	Vo-VIN	VIN=-7~-20V, Io=40mA		15	150	mV
Load Regulation	Vo-Io	VIN=-10V, Io=1~100mA		7	60	mV
Quiescent current	Iq	VIN=-10V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-8~-18V, Io=40mA, Ein=1Vp-p, f=120Hz	41	71		dB
Output Noise Voltage	VNO	VIN=-10V, BW=10Hz~100kHz, Io=40mA		120		μV

UTC79L06 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-12V, Io=40mA	-5.76	-6.0	-6.24	V
Line Regulation	Vo-VIN	VIN=-8.5~-20V, Io=40mA		15	150	mV
Load Regulation	Vo-Io	VIN=-12V, Io=1~100mA		7	60	mV
Quiescent current	Iq	VIN=-12V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-9~-19V, Io=40mA, Ein=1Vp-p, f=120Hz	41	71		dB
Output Noise Voltage	VNO	VIN=-12V, BW=10Hz~100kHz, Io=40mA		120		μV

UTC79L08 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	Test conditions	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-14V, Io=40mA	-7.68	-8.0	-8.32	V
Line Regulation	Vo-VIN	VIN=-10.5~-23V, Io=40mA		24	175	mV
Load Regulation	Vo-Io	VIN=-14V, Io=1~100mA		10	80	mV
Quiescent current	Iq	VIN=-14V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-11~-21V, Io=40mA, Ein=1Vp-p, f=140Hz	39	68		dB
Output Noise Voltage	VNO	VIN=-14V, BW=10Hz~100kHz, Io=40mA		190		μV

UTC79L09 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-15V, Io=40mA	-8.64	-9.0	-9.36	V
Line Regulation	Vo-VIN	VIN=-12.5~-24V, Io=40mA		27	200	mV
Load Regulation	Vo-Io	VIN=-15V, Io=1~100mA		12	90	mV
Quiescent current	Iq	VIN=-15V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-12~-22V, Io=40mA, Ein=1Vp-p, f=150Hz	37	64		dB
Output Noise Voltage	VNO	VIN=-15V, BW=10Hz~100kHz, Io=40mA		210		μV

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UTC79L12 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-19V, Io=40mA	-11.52	-12.0	-12.48	V
Line Regulation	Vo-VIN	VIN=-14.5~-27V, Io=40mA		36	250	mV
Load Regulation	Vo-Io	VIN=-19V, Io=1~100mA		16	100	mV
Quiescent current	Iq	VIN=-19V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-15~-25V, Io=40mA, Ein=1Vp-p, f=190Hz	37	64		dB
Output Noise Voltage	VNO	VIN=-19V, BW=10Hz~100kHz, Io=40mA		210		μV

UTC79L15 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-23V, Io=40mA	-14.4	-15.0	-15.6	V
Line Regulation	Vo-VIN	VIN=-17.5~-30V, Io=40mA		45	300	mV
Load Regulation	Vo-Io	VIN=-23V, Io=1~100mA		20	150	mV
Quiescent current	Iq	VIN=-23V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-18.5~-28.5V, Io=40mA, Ein=1Vp-p, f=230Hz	34	63		dB
Output Noise Voltage	VNO	VIN=-23V, BW=10Hz~100kHz, Io=40mA		340		μV

UTC79L18 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-27V, Io=40mA	-17.28	-18.0	-18.72	V
Line Regulation	Vo-VIN	VIN=-20.5~-33V, Io=40mA		54	300	mV
Load Regulation	Vo-Io	VIN=-27V, Io=1~100mA		23	170	mV
Quiescent current	Iq	VIN=-27V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-23~-33V, Io=40mA, Ein=1Vp-p, f=270Hz	33	60		dB
Output Noise Voltage	VNO	VIN=-27V, BW=10Hz~100kHz, Io=40mA		410		μV

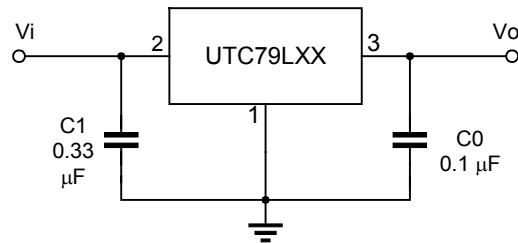
UTC79L24 ELECTRICAL CHARACTERISTICS

(Tj=25°C, C1=0.33μF, Co=0.1μF, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	Vo	VIN=-33V, Io=40mA	-23.04	-24.0	-24.96	V
Line Regulation	Vo-VIN	VIN=-27~-38V, Io=40mA		72	350	mV
Load Regulation	Vo-Io	VIN=-33V, Io=1~100mA		30	200	mV
Quiescent current	Iq	VIN=-33V, Io=40mA		3.5	6.0	mA
Ripple Rejection	RR	VIN=-29~-35V, Io=40mA, Ein=1Vp-p, f=330Hz	31	55		dB
Output Noise Voltage	VNO	VIN=-33V, BW=10Hz~100kHz, Io=40mA		550		μV

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APPLICATION CIRCUIT



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TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Power dissipation vs. ambient temperature

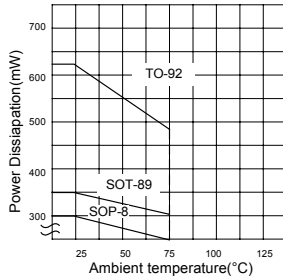


Fig.2 Input Voltage vs. Output Voltage

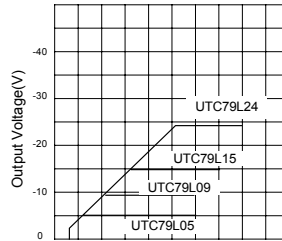


Fig.3 Load Characteristics (T_j=25°C)

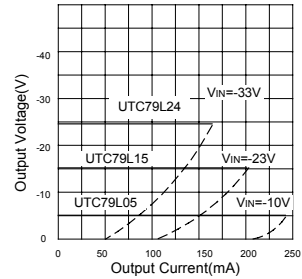


Fig.4 Short Circuit Current (T_j=25°C)

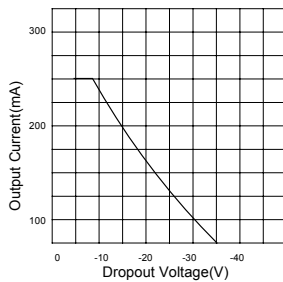


Fig.5 Output Voltage vs. Junction temperature

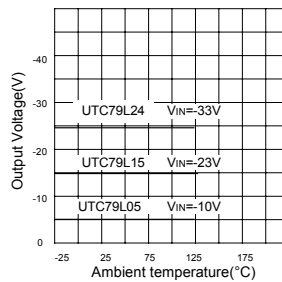


Fig.6 Output Voltage vs. ambient temperature

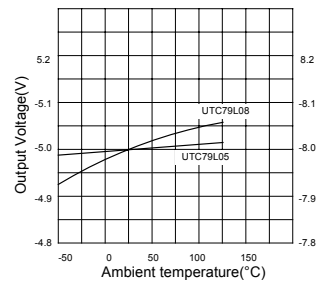


Fig.7 UTC79L05 Dropout Characteristics (T_j=25°C)

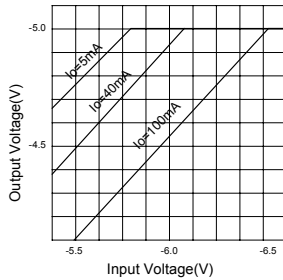


Fig.8 UTC79L08 Dropout Characteristics (T_j=25°C)

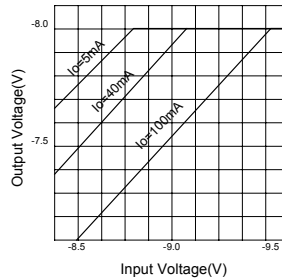
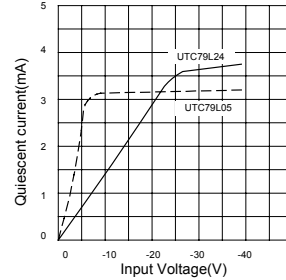


Fig.9 Current vs. Input Voltage (I_O=0mA, T_j=25°C)



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