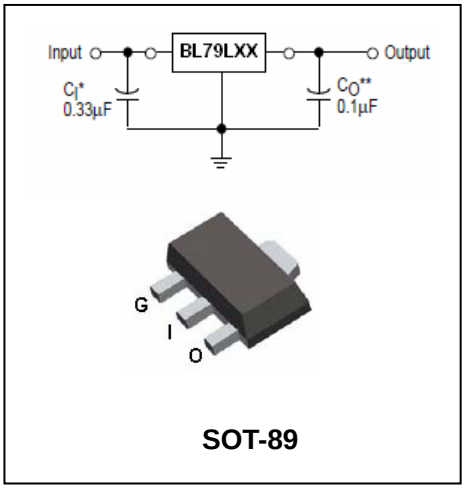
Three-terminal voltage regulator BL79LXX

FEATURES

Lead-free

- Some kinds output voltage series
- Superior ripple rejection ratio for audio frequency
- Large maximum power dissipation: 800 mW
- Over current and over temperature protection



SOT-89

APPLICATIONS

- Three-terminal Negative Fixed Voltage Regulators

ORDERING INFORMATION

Type No.	Marking	Package Code
BL79LXX	79LXX	SOT-89

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_I	Input voltage	-35	V
P_D	Power dissipation NOTE1	800 NOTE2	mW
Topr	Operating ambient temperature	-20to +85	℃
T_j, T_{stg}	Junction and Storage Temperature	-55to +150	℃

Notes: 1. $T_a \leq 25°C$, If $T_a > 25°C$, derate by 6.4 mW/℃

2. 15 mm ∗ 25 mm ∗0.7 mm glass epoxy board, Ta ≤ 25℃

Three-terminal voltage regulator BL79LXX

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	BL79L05			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} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 40 mA		16 11 5.0	 60 30	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -20V≤V_i≤-7V T_j=25℃, -20V≤V_i≤-8V		55 45	150 100	mV
Quiescent current	I_Q	T_j=25℃		-2.0	-4.0	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -20V≤V_i≤-8V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		300		mA

Three-terminal voltage regulator BL79LXX

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	BL79L06			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-10V ,1.0 mA ≤I_O≤70mA	-5.76 -5.70	-6.0	-6.24 -6.30	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA		17.5 12 5.5	 70 35	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -21V≤V_i≤-8.1V T_j=25℃, -21V≤V_i≤-9.0V		50 45	150 110	mV
Quiescent current	I_Q	T_j=25℃		-2.0	-4.0	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -21V≤V_i≤-9.0V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3	_	V
Output short circuit current	I_{OS}	T_j=25℃		300		mA

Three-terminal voltage regulator BL79LXX

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	BL79L08			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-14V ,1.0 mA ≤I_O≤70mA	-7.68 -7.60	-8.0	-8.32 -8.40	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA		22 15 7.0	 80 40	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -23V≤V_i≤-10.5V T_j=25℃, -23V≤V_i≤-11V		65 55	175 125	mV
Quiescent current	I_Q	T_j=25℃		-2.0	-4.0	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -23V≤V_i≤-11V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		270		mA

Three-terminal voltage regulator BL79LXX

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	BL79L09			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} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA		24.5 17 8.0	 90 45	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -24V≤V_i≤-11.4V T_j=25℃, -24V≤V_i≤-12V		80 70	200 160	mV
Quiescent current	I_Q	T_j=25℃		-2.6	4.6	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -24V≤V_i≤-12V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		270		mA

Three-terminal voltage regulator BL79LXX

ELECTRICAL CHARACTERISTICS

(V_{IN} = –16 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	BL79L10			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-16V ,1.0 mA ≤I_O≤70mA	-9.6 -9.50	-10	-10.4 -10.5	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA		26 18 8.5	 90 45	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -25V≤V_i≤-12.5V T_j=25℃, -25V≤V_i≤-13V		80 70	230 170	mV
Quiescent current	I_Q	T_j=25℃		-2.6	-4.6	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -25V≤V_i≤-13V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		260		mA

Three-terminal voltage regulator BL79LXX

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	BL79L12			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} ≤ 100 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 100 mA		28.5 20 10	 100 50	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -27V≤V_i≤-14.5V T_j=25℃, -27V≤V_i≤-16V		120 100	250 200	mV
Quiescent current	I_Q	T_j=25℃		-2.6	-4.6	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -27V≤V_i≤-16V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		250		mA

Three-terminal voltage regulator BL79LXX

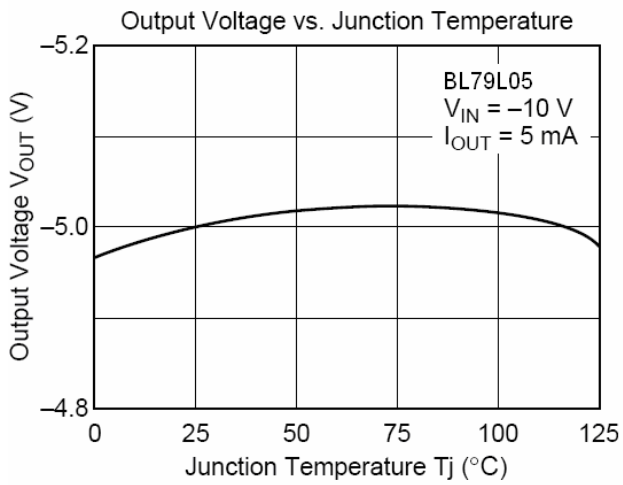
ELECTRICAL CHARACTERISTICS

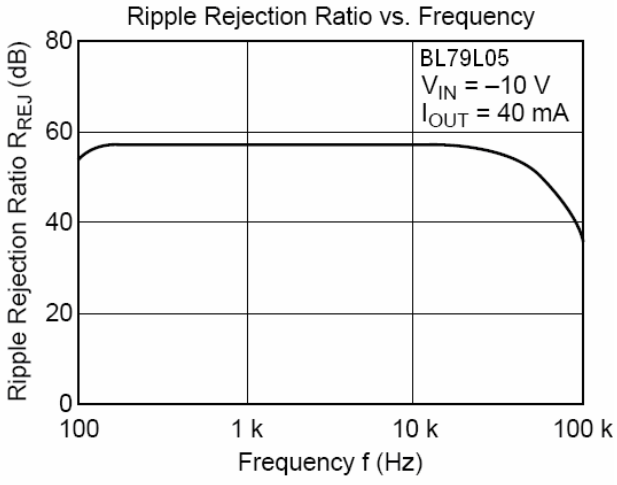
(V_{IN} = –23 V, I_{OUT} = 40 mA, 0°C ≤ Tj ≤ 125°C, C_{IN} = 0.33μF, C_L = 0.1μF,unless otherwise specified)

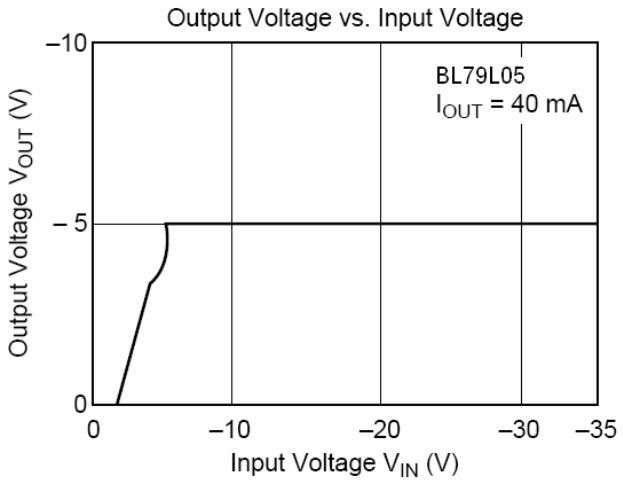
Parameter	Symbol	Test conditions	BL79L15			UNIT
			MIN	TYP	MAX	
Output voltage	V_O	T_j=25℃ V_{IN}=-23V ,1.0 mA ≤I_O≤70mA	-14.4 -14.25	-15	-15.6 -15.75	V
Load regulation	ΔV_{OLOAD}	T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA T_j=25℃, 1.0 mA ≤ I_{OUT} ≤ 150 mA		36 25 12	 150 75	mV
Line regulation	ΔV_{OLINE}	T_j=25℃, -30V≤V_i≤-17.5V T_j=25℃, -30V≤V_i≤-20V		130 110	300 250	mV
Quiescent current	I_Q	T_j=25℃		-2.6	-4.6	mA
Quiescent current change	$\triangle I_Q$	T_j=25℃, -30V≤V_i≤-20V 1.0mA≤I_O≤40mA			1.5 1.0	mA
Voltage drop	V_{DROP}	T_j=25℃		1.3		V
Output short circuit current	I_{OS}	T_j=25℃		240		mA

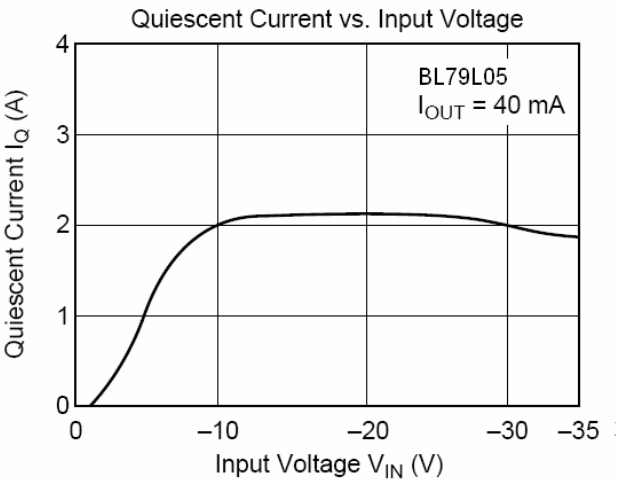
Three-terminal voltage regulator BL79LXX

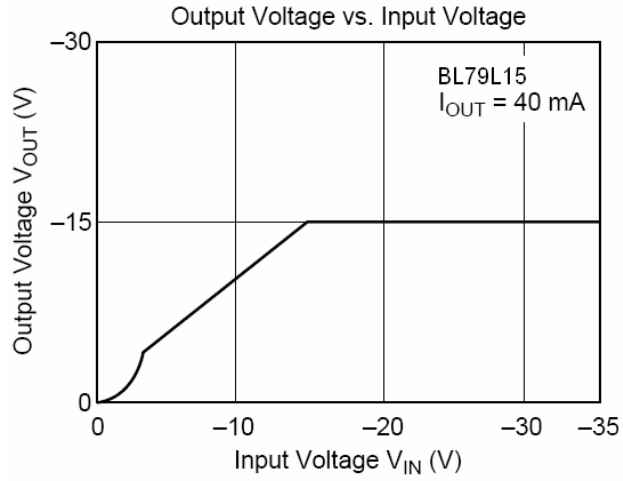
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

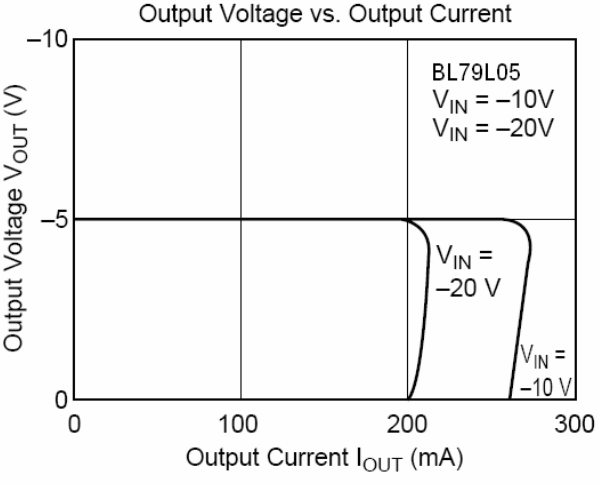








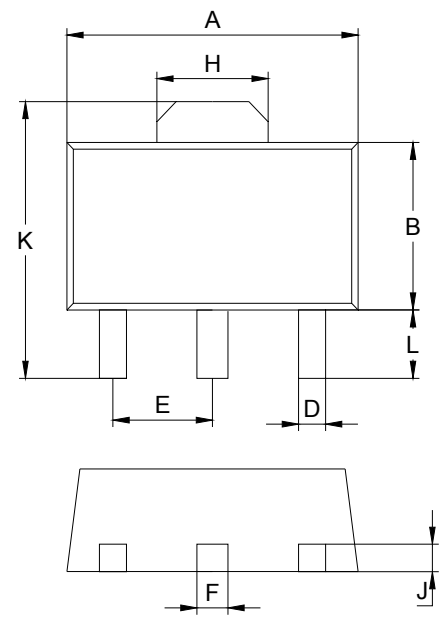




Three-terminal voltage regulator BL79LXX

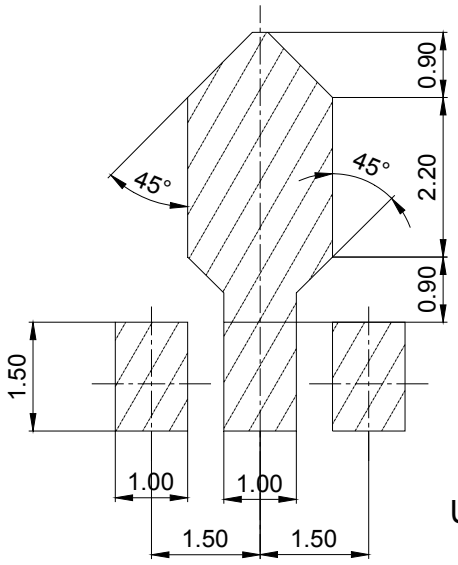
PACKAGE OUTLIN

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
BL79LXX	SOT-89	1000/Tape&Reel