SN79xxx

3 Terminal 1A Negative Voltage Regulator

KODENSHI AUK

Semiconductor

http:// www.auk.co.kr

TO-252-3L

TO-220F-3L

Description

The SN79xxx series are three-terminal Negative regulators providing over 1A output current with internal current limiting, thermal shutdown and safe area protection. These regulators are useful in a wide range of applications. Although they are just fixed voltage regulators, the SN79xxx series can be used with external components to obtain adjustable voltages and Currents.

Application

◈ Consumer and personal electronics

◈ SMPS post-regulator / dc-to-dc modules

◈ High-efficiency linear power supplies

Features and Benefits

◈ Output Current up to 1.0A

◈ Output Voltage : -5, -6, -8, -9, -10, -12, -15, -18, -24V

◈ Built in OVP, CLP circuit.

◈ Built in TSD Protection.

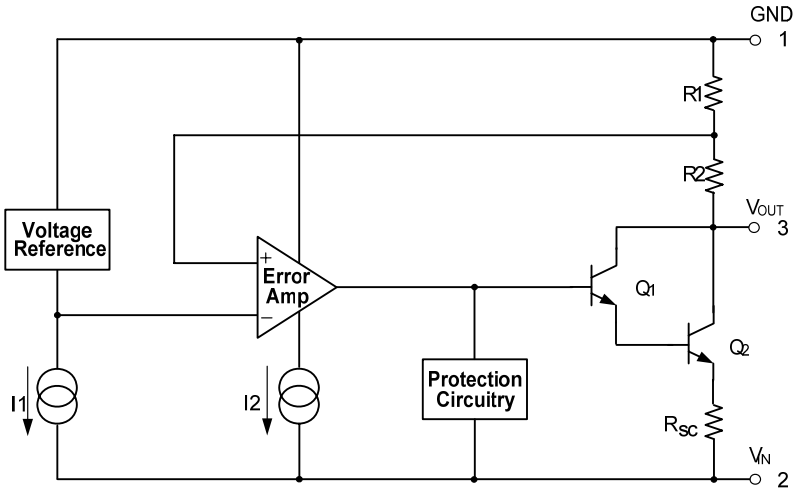
◈ Output Transistor Safe Area Protection.

◈ Ultra High level of ESD [Built in ESD Protection Cell]

ORDERING INFORMATION

Product	Marking	Package
SN79xxD	SN79xxD	TO-252-3L
SN79xxPI	SN79xxPI	TO-220F-3L

Equivalent Circuit



▲ **Marking Detail Information**

[TO-220F-3L & TO-253-3L PKG Marking]

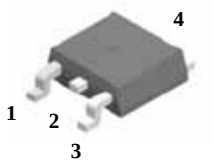
AUK(①)
G△YWW (②)
SN79xxx (③)

① AUK Logo

② Grade & M Code & Year & Week Code

③ Device Code

◈ Pin Configuration



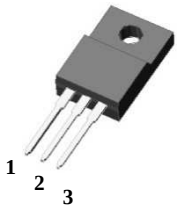
TO-252-3L

1: GND

2: V_{IN}

3: V_{OUT}

4: V_{IN}



TO-220F-3L

1: GND

2: V_{IN}

3: V_{OUT}

◈ Product Line-up

Product Name	V_{OUT}	Operating Temperature	Package
SN7905D	-5.0V	-40~125℃	TO-252-3L
SN7906D	-6.0V	-40~125℃	TO-252-3L
SN7908D	-8.0V	-40~125℃	TO-252-3L
SN7909D	-9.0V	-40~125℃	TO-252-3L
SN7910D	-10V	-40~125℃	TO-252-3L
SN7912D	-12V	-40~125℃	TO-252-3L
SN7915D	-15V	-40~125℃	TO-252-3L
SN7918D	-18V	-40~125℃	TO-252-3L
SN7924D	-24V	-40~125℃	TO-252-3L
SN7905PI	-5.0V	-40~125℃	TO-220F-3L
SN7906PI	-6.0V	-40~125℃	TO-220F-3L
SN7908PI	-8.0V	-40~125℃	TO-220F-3L
SN7909PI	-9.0V	-40~125℃	TO-220F-3L
SN7910PI	-10V	-40~125℃	TO-220F-3L
SN7912PI	-12V	-40~125℃	TO-220F-3L
SN7915PI	-15V	-40~125℃	TO-220F-3L
SN7918PI	-18V	-40~125℃	TO-220F-3L
SN7924PI	-24V	-40~125℃	TO-220F-3L

◈ Absolute Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Limits		Unit
		TO-220F-3L	TO-252-3L	
Input Voltage	V_{IN}	-40.0 (V_O=24V)		V
		-35.0 (V_O=5 to 18V)		
Power Dissipation	P_d	2.0	1.3	W
Thermal Resistance Junction to Case	$R_{\Theta JC}$	5	5	°C/W
Thermal Resistance Junction to Air	$R_{\Theta JA}$	65	92	°C/W
Junction Temperature	T_J	150		°C
Operate Temperature Range	T_{opr}	-40 ~ +125		°C
Storage Temperature Range	T_{stg}	-55 ~ +150		°C

Absolute maximum ratings indicate limits beyond which damage to the component may occur. Electrical specifications do not apply when operating the device outside of its operating ratings. The maximum allowable power dissipation is a function of the maximum junction temperature, $T_{J(max)}$, the junction-to-ambient thermal resistance, θ_{JA}, and the ambient temperature, TA.
The maximum allowable power dissipation at any ambient temperature is calculated using:
$PD(max) = (T_{J(max)} - T_A) \div \theta_{JA}$. Exceeding the maximum allowable power dissipation will result in excessive die temperature, and the regulator will go into thermal shutdown.

◈ Electrical characteristics

(V_{IN}=-10V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7905x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-4.80	-5.0	-5.20	V
		-7.0V ≤ V_{IN} ≤ -20.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-4.75	-5.0	-5.25	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-7.0V ≤ V_{IN} ≤ -25.0V	T_J =25℃	-	35	100	mV
		-8.0V ≤ V_{IN} ≤ -12.0V		-	8	50	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	10	100	mV
		250mA ≤ I_O ≤ 750mA		-	3.0	50	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-8.0V ≤ V_{IN} ≤ -25V		-	0.1	1.3	mA
		5.0mA ≤ I_O ≤ 1.0A			0.05	0.5	
Ripple Rejection	RR	-8.0V ≤ V_{IN} ≤ -18.0V, I_O=500 mA f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	100	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-0.4	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-11V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7906x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-5.75	-6.0	-6.2	V
		-9.0V ≤ V_{IN} ≤ -21V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-5.70	-6.0	-6.3	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-8.0V ≤ V_{IN} ≤ -25.0V	T_J =25℃	-	10	120	mV
		-9.0V ≤ V_{IN} ≤ -13.0V		-	5	60	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	10	120	mV
		250mA ≤ I_O ≤ 750mA		-	3.0	60	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-8.0V ≤ V_{IN} ≤ -25.0V		-	0.1	1.3	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-9.0V ≤ V_{IN} ≤ -19.0V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	130	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-0.5	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-14V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7908x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-7.7	-8.0	-8.3	V
		-10.5V ≤ V_{IN} ≤- 23.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-7.6	-8.0	-8.4	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-10.5V ≤ V_{IN} ≤ -25.0V	T_J =25℃	-	10	160	mV
		-11V ≤ V_{IN} ≤ -17V		-	5.0	80	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	12	160	mV
		250mA ≤ I_O ≤ 750mA		-	4.0	80	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-10.5V ≤ V_{IN} ≤ -25.0V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-11.5V ≤ V_{IN} ≤ -21.5V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	175	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-0.6	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-15V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7909x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-8.70	-9.0	-9.30	V
		-11.5V ≤ V_{IN} ≤ -24.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-8.60	-9.0	-9.40	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-11.5V ≤ V_{IN} ≤ -26.0V	T_J =25℃	-	10	180	mV
		-12.0V ≤ V_{IN} ≤ -18.0V		-	5.0	90	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	12	180	mV
		250mA ≤ I_O ≤ 750mA		-	4.0	90	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-11.5V ≤ V_{IN} ≤ -26.0V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-13.0V ≤ V_{IN} ≤ -23.0V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	175	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-0.6	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-16V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7910x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-9.6	-10.0	-10.4	V
		-12.0V ≤ V_{IN} ≤ -28.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-9.5	-10.0	-10.5	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-12.5V ≤ V_{IN} ≤ -28.0V	T_J =25℃	-	12.0	200	mV
		-14.0V ≤ V_{IN} ≤ -20.0V		-	6.0	100	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	12.0	200	mV
		250mA ≤ I_O ≤ 750mA		-	4.0	100	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-12.5V ≤ V_{IN} ≤ -28V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-13.0V ≤ V_{IN} ≤ -23.0V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	58	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-1.0	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-19V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7812x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-11.5	-12.0	-12.5	V
		-15.5V ≤ V_{IN} ≤ -27.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-11.4	-12.0	-12.6	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-14.5V ≤ V_{IN} ≤ -30.0V	T_J =25℃	-	12.0	240	mV
		-16.0V ≤ V_{IN} ≤ -22.0V		-	6.0	120	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	12.0	240	mV
		250mA ≤ I_O ≤ 750mA		-	4.0	120	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-14.5V ≤ V_{IN} ≤ -30.0V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-15.0V ≤ V_{IN} ≤ -25.0V f=120Hz		54	64	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	200	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-0.8	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-23V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7915x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-14.4	-15.0	-15.6	V
		-18.0V ≤ V_{IN} ≤ -30.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-14.25	-15.0	-15.75	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-17.5V ≤ V_{IN} ≤ -30.0V	T_J =25℃	-	12.0	300	mV
		-20.0V ≤ V_{IN} ≤ -26.0V		-	6.0	150	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	12.0	300	mV
		250mA ≤ I_O ≤ 750mA		-	4.0	150	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-17.5V ≤ V_{IN} ≤ -30.0V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-18.5V ≤ V_{IN} ≤ -28.5V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	250	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-0.9	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-27V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

Characteristic	Symbol	Test Condition*		SN7918x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-17.3	-18.0	-18.7	V
		-22.5V ≤ V_{IN} ≤ -33.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-17.1	-18.0	-18.9	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-21.0V ≤ V_{IN} ≤ -33.0V	T_J =25℃	-	15.0	360	mV
		-24.0V ≤ V_{IN} ≤ -30.0V		-	8.0	180	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	15.0	360	mV
		250mA ≤ I_O ≤ 750mA		-	5.0	180	
Quiescent Current	I_{QC}	T_J =25℃		-	5.2	8.0	mA
Quiescent Current Change	ΔI_{QC}	-21.0V ≤ V_{IN} ≤ -33.0V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	-22.0V ≤ V_{IN} ≤ -32.0V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	300	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-1.0	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

◈ Electrical characteristics

(V_{IN}=-33V, C_{IN} = 2.2uF, C_{OUT} = 1.0uF, I_{OUT} = 500mA, T_J=0℃~125℃ ; unless otherwise specified)

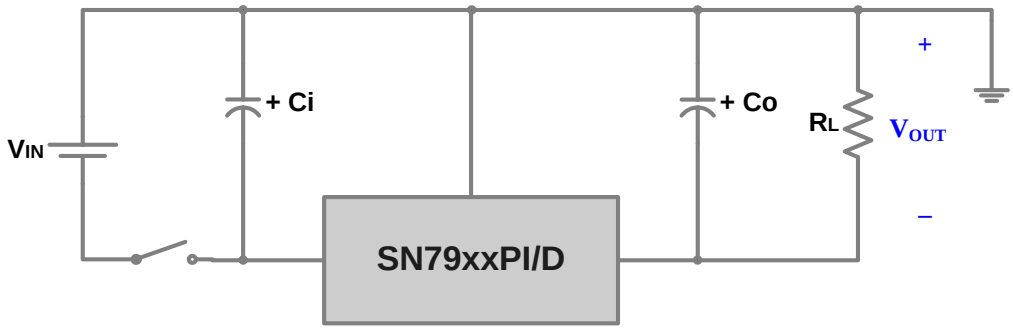
Characteristic	Symbol	Test Condition*		SN7924x			Unit
				Min.	Typ.	Max.	
Output Voltage**	V_O	T_J =25℃		-23.0	-24.0	-25.0	V
		-27.0V ≤ V_{IN} ≤ -38.0V 5.0mA ≤ I_O ≤ 1.0A, P_D ≤ 15W		-22.8	-24.0	-25.2	
Line Regulation	$\triangle V_{O(\triangle VI)}$	-27.0V ≤ V_{IN} ≤ -38.0V	T_J =25℃	-	15.0	480	mV
		-30.0V ≤ V_{IN} ≤ -36.0V		-	8.0	180	
Load Regulation	$\triangle V_{O(\triangle IL)}$	5.0mA ≤ I_O ≤ 1.5A	T_J =25℃	-	15.0	480	mV
		250mA ≤ I_O ≤ 750mA		-	5.0	240	
Quiescent Current	I_{QC}	T_J =25℃		-	3.0	6.0	mA
Quiescent Current Change	ΔI_{QC}	-27.0V ≤ V_{IN} ≤ -38.0V		-	0.1	1.0	mA
		5.0mA ≤ I_O ≤ 1.0A		-	0.05	0.5	
Ripple Rejection	RR	28.0V ≤ V_{IN} ≤ 38.0V f=120Hz		54	60	-	dB
Dropout Voltage	V_{DROP}	I_O=1.0A	T_J =25℃	-	2.0	-	V
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz	T_A =25℃	-	400	-	uV/ V_O
Short Circuit Current	I_{SC}	V_I=-35V,	T_A =25℃	-	300	-	mA
Peak Output Current	I_{PK}	T_J =25℃		-	2.2	-	A
Temperature coefficient of Output voltage	$\triangle V_O$/ $\triangle$Temp	I_O=5.0mA		-	-1.0	-	mV/°C

* Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into separately.

** This specification applies only for dc power dissipation permitted by absolute maximum ratings.

Typical Application

Negative Fixed Output Regulator



1) C_{IN} should be required if regulators are located far from power supply filter
2) C_O improves output stability and transient response
3) To specify an output voltage, substitute voltage value for “xx”

Split Power Supply / OP-AMP Supply (±12V / 1.0A)

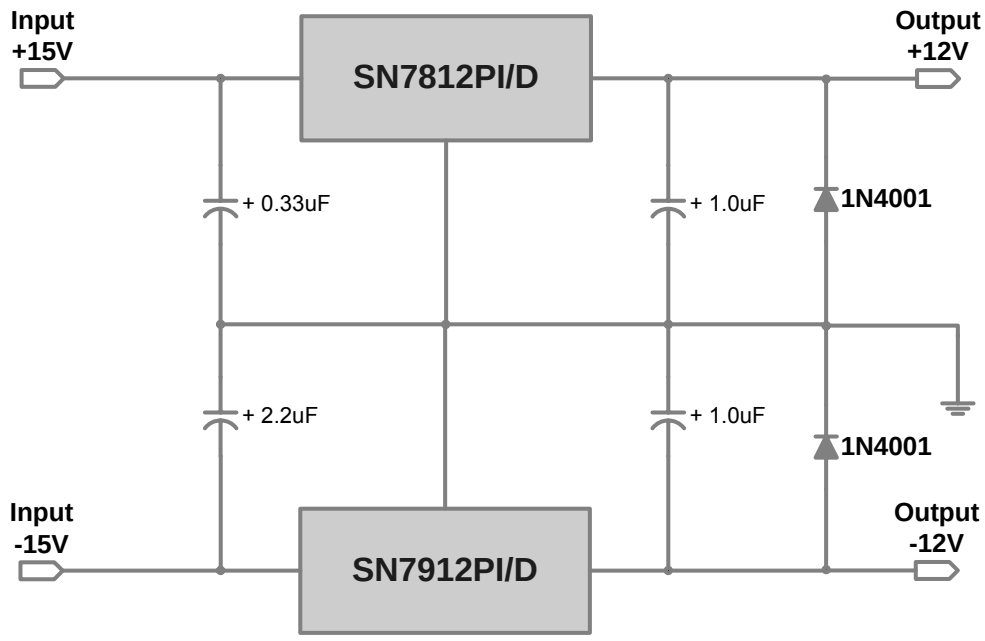


Fig.1 Quiescent Current vs. Junction Temperature

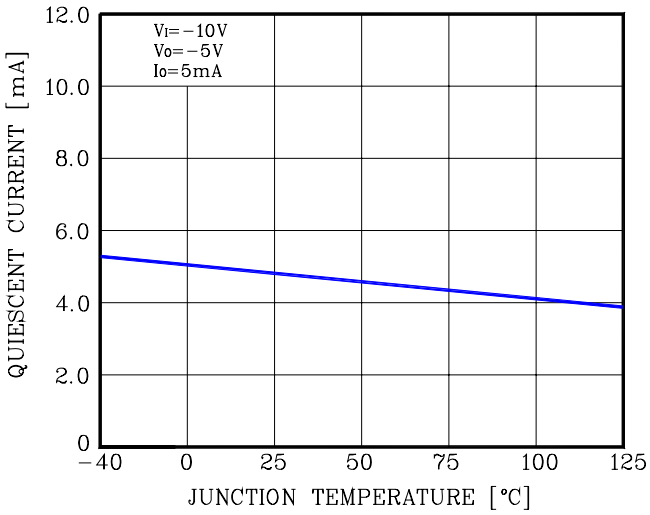


Fig.2 Output Peak Current vs. Input to Output Differential

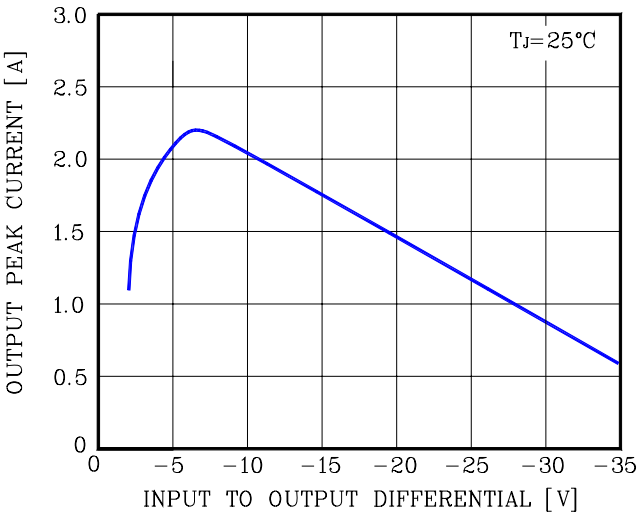


Fig.3 Output Voltage vs. Junction Temperature

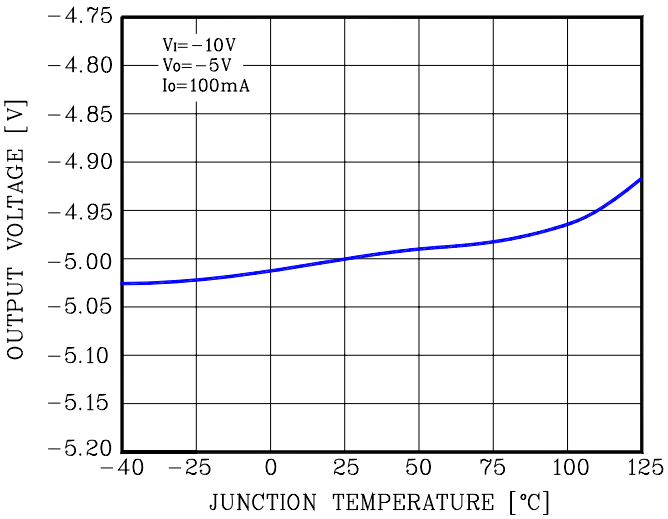


Fig.4 Dropout Voltage vs. Input Voltage

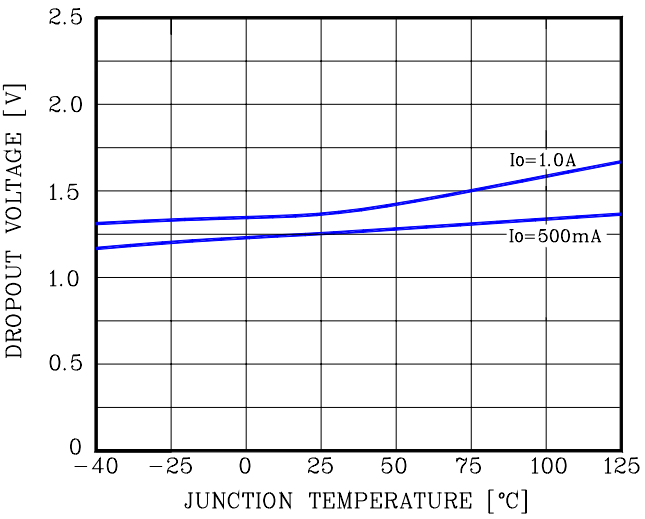


Fig.5 Line Transient Response

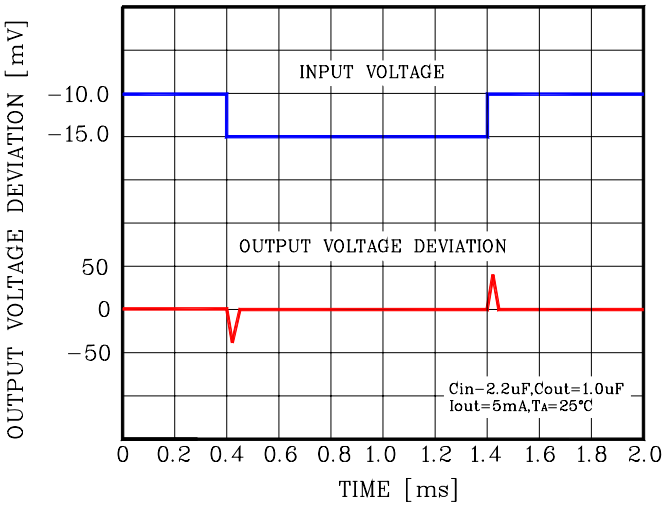
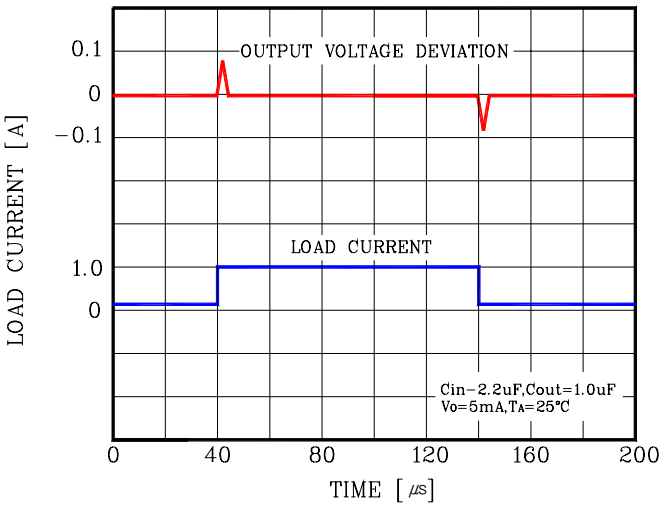
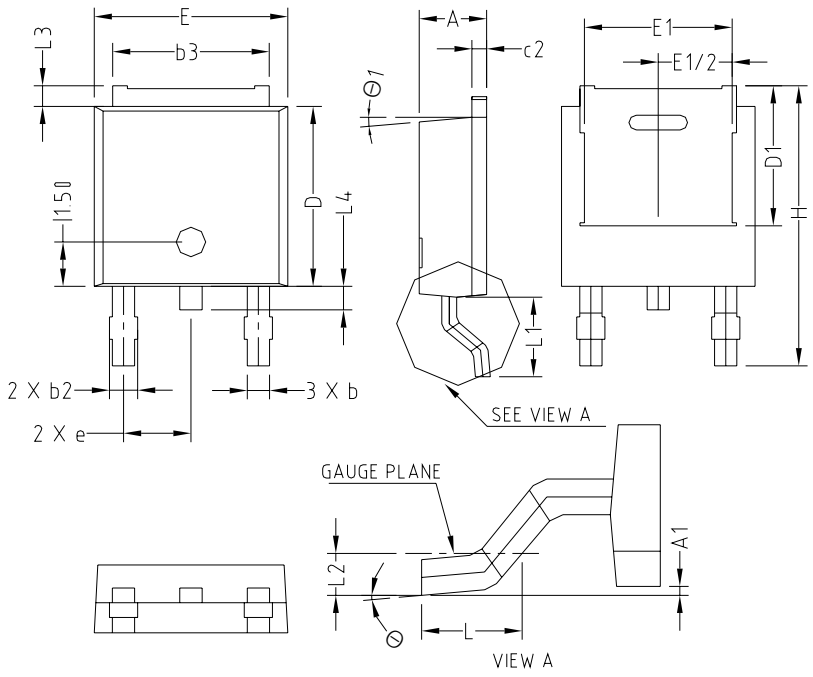


Fig.6 Load Transient Response

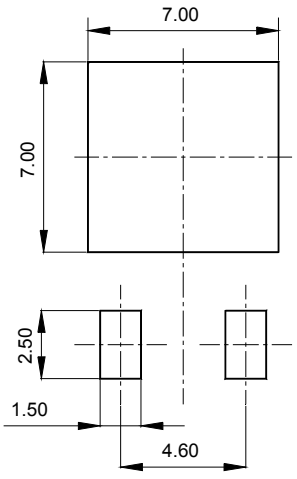


◈ TO-252-3L Outline Dimension (Unit : mm)

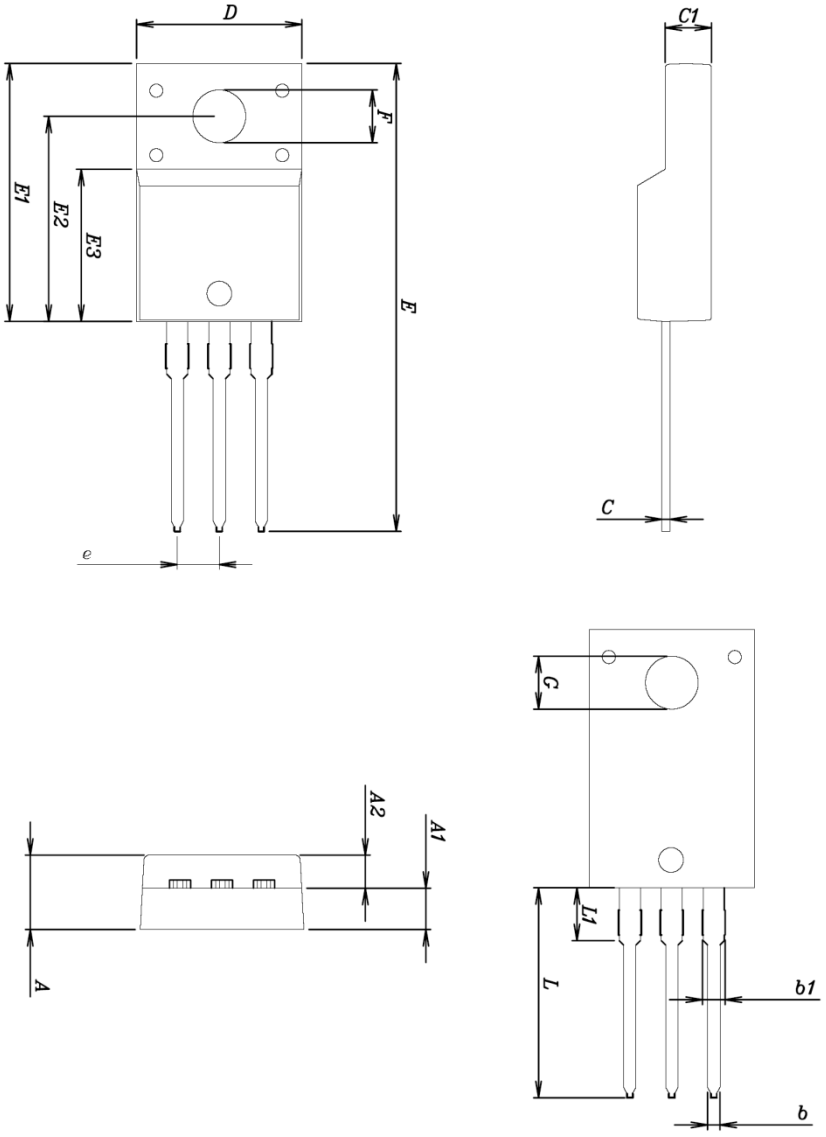


SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	2.20	2.30	2.40	
A1	0.00		0.127	
b	0.66	0.76	0.86	
b2	-	-	0.96	
b3	5.04	5.34	5.64	
c2	0.40	0.50	0.60	
D	5.90	6.10	6.30	
D1		4.75		
E	6.40	6.60	6.80	
E1		5.04		
e		2.30 BSC		
H	9.20	9.50	9.80	
L	1.27	1.47	1.67	
L1	2.50	2.70	2.90	
L2		0.508 BSC		
L3	0.50	0.70	0.90	
L4	0.60	0.80	1.00	
Θ	0°	-	10°	
Θ1		5°		

※ Recommend PCB solder land [Unit: mm]



◈ TO-220F-3L Outline Dimension (Unit : mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	–	–	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	–	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.10	3.20	3.30	
G	3.30	3.40	3.50	
e	2.54 BSC			
L	12.40	–	13.00	
L1	3.46 BSC			

The AUK Corp. products are intended for the use as components in general electronic equipment (Office and communication equipment, measuring equipment, home appliance, etc.).

Please make sure that you consult with us before you use these AUK Corp. products in equipments which require high quality and / or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, transportation, combustion control, all types of safety device, etc.). AUK Corp. cannot accept liability to any damage which may occur in case these AUK Corp. products were used in the mentioned equipments without prior consultation with AUK Corp..

Specifications mentioned in this publication are subject to change without notice.