SK7915AU_SK7915U

3-Terminal 1.5A Negative Voltage Regulator

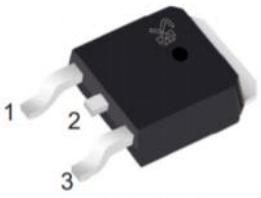
Features

- Output current in excess of 1.5A
- -15V output voltages available
- Internal Thermal overload protection
- Short circuit protection
- Output transistor SOA protection

Pin Configuration(TO-220&TO-252)		
Pin NO.	Pin Name	Function
1	GND	GND pin
2	VIN	Input voltage pin
3	VOUT	Output voltage pin

TO-220

TO-252



Description

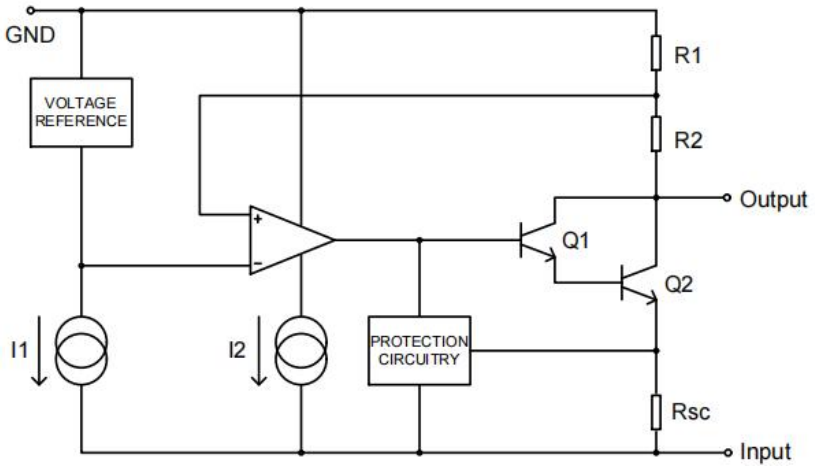
The SK7915AU/SK7915U series of three-terminal negative regulators are available in TO-220/TO-252 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shut-down and safe operating area protection, making it essentially indestructible.

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_I	-35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	℃/W
Thermal resistance junction-cases	$R_{\theta JC}$	5	℃/W
Operating Temperature	T_{opr}	0~125	℃
Storage Temperature Range	T_{STG}	-65~150	℃

Note: 1. Thermal resistance test board Size: 76.2mmX114.3mmX1.6mm(1S0P);
JEDEC standard: JESD51-3, JESD51-7.
2. Assume no ambient airflow

Block Diagram



Ordering Information

Part No.	Marking	Package
SK7915AU	7915AU	TO-220
SK7915U	7915U	TO-252

SK7915AU/SK7915U Electrical Characteristics

(Refer to test circuits,-40<T_J<125℃,I_O=500mA,V_I=-23V,C_I=0.33μF, C_O=0.1μF, unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Output Voltage	V_O	T_J=25℃	-14.4	-15	-15.6	V
		5mA<I_O<1A, V_I=-17V to -30V	-14.25	-15	-15.75	V
Line Regulation(1)	ΔV_{LINE}	T_J=25℃,V_I=-17.5V to -30V		12	300	mV
		T_J=25℃,V_I=-20V to -26V		6	150	mV
Load Regulation(1)	ΔV_{LOAD}	T_J=25℃,I_O=5mA to 1.5A		12	300	mV
		T_J=25℃,I_O=250mA to 750mA		4	150	mV
Quiescent Current	I_Q	T_J=25℃		3	6	mA
Quiescent Current Change	ΔI_Q	I_O=5mA to 1A		0.05	0.5	mA
		V_I=-17.5V to -30V		0.1	1	mA
Temperature Coefficient of V_D	$\Delta V_O/\Delta T$	I_O=5mA		1.5		mV/℃
Output Noise Voltage	V_N	f=10Hz to 100kHz,T_J=25℃		250		μV
Ripple Rejection	PSRR	f=120Hz,ΔV_I=10V	54	60		dB
Dropout voltage	V_D	I_O=1A,T_J=25℃		2		V
Short Circuit Current	I_{SC}			1.5		A

Note: Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Typical Application

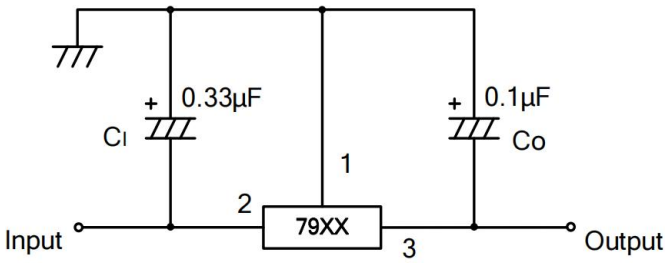


Fig.1 Negative fixed output regulator

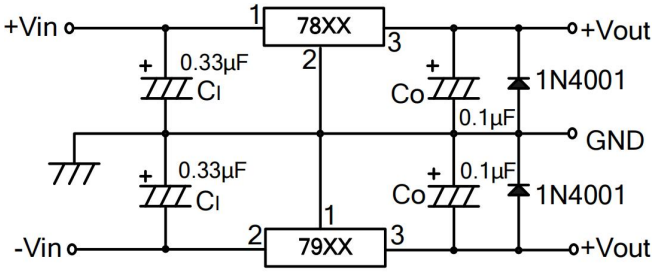
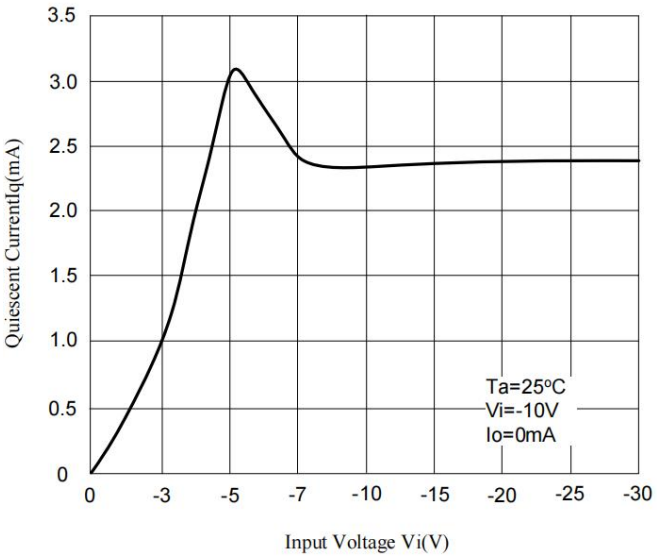


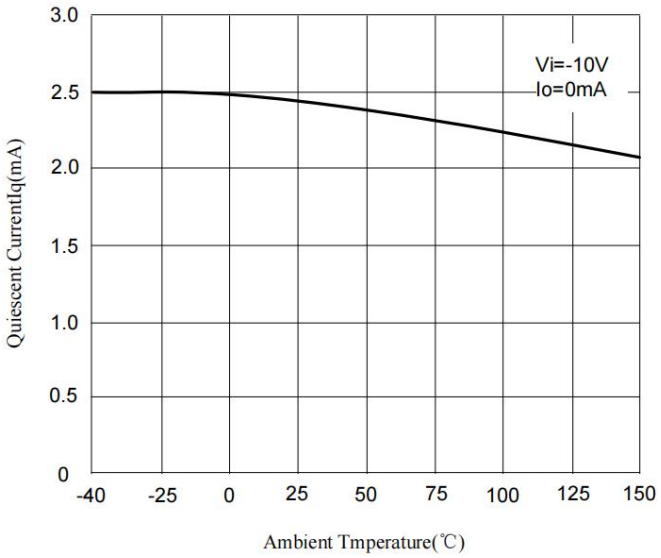
Fig.2 Split power supply

Typical Characteristics

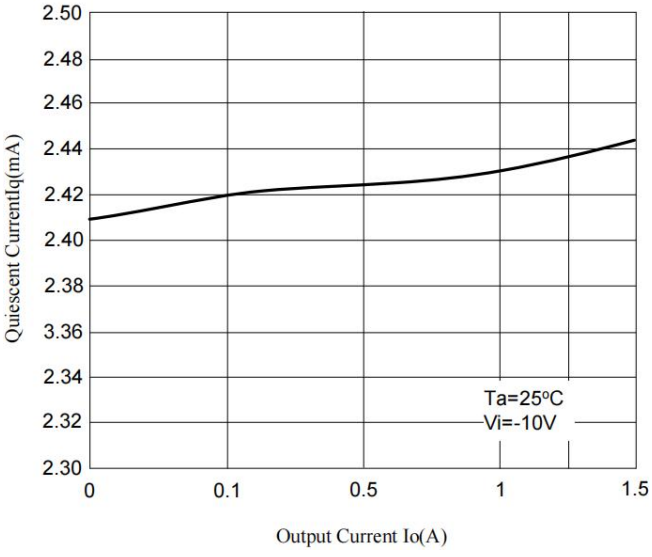
Quiescent Current vs. Input Voltage



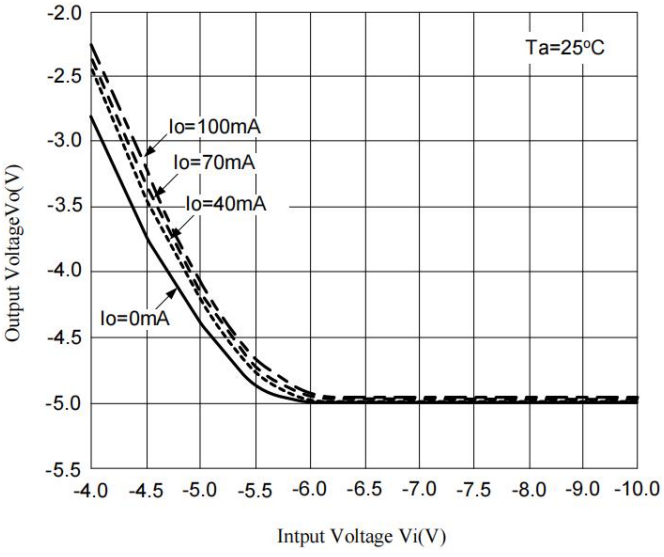
Quiescent Current vs. Ambient Temperature



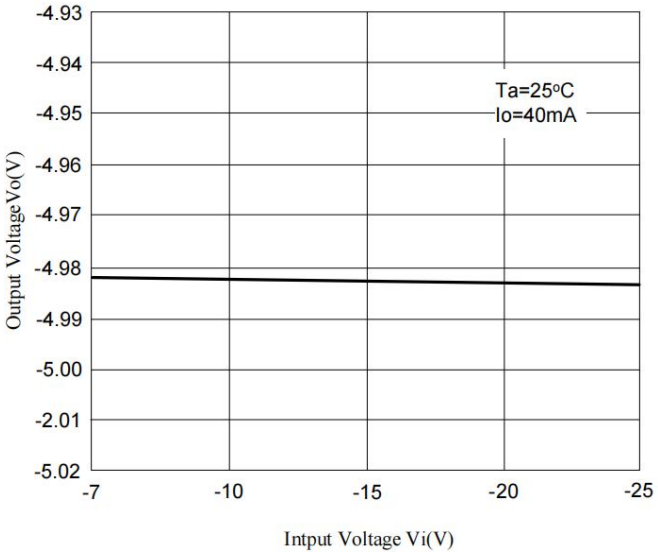
Quiescent Current vs. Output Current



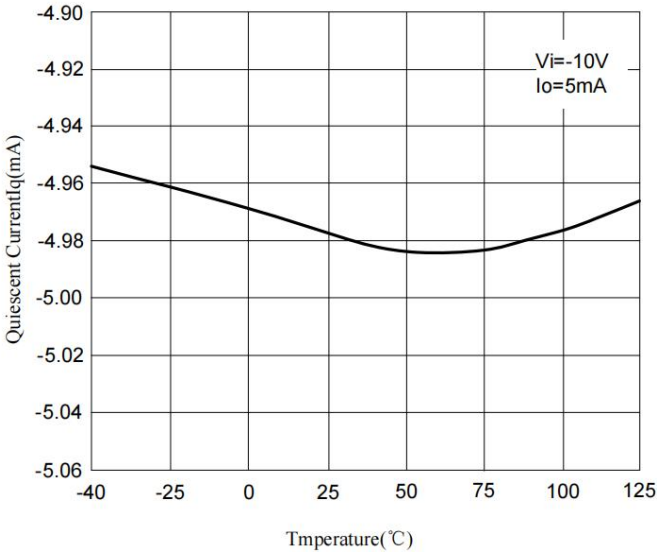
Input-Output Voltage Differential Characteristic



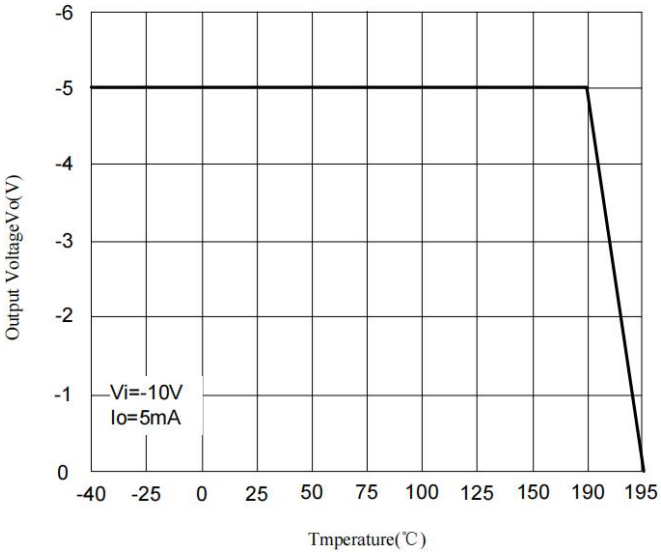
Output Voltage vs. Input Voltage



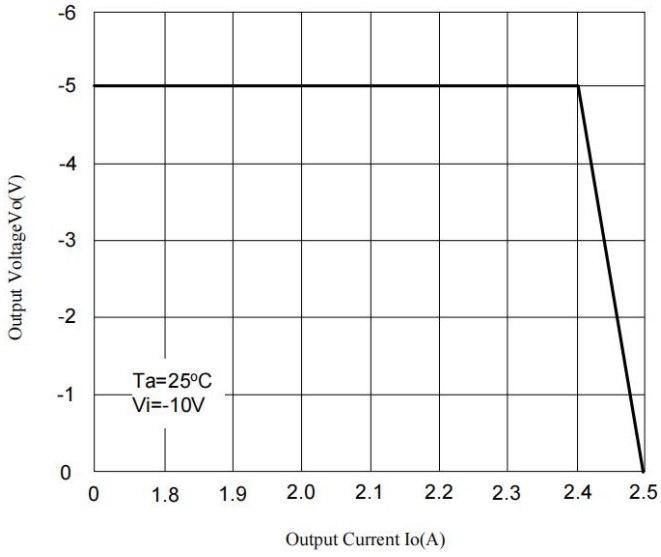
Drift Curve



Thermal Protection Curve



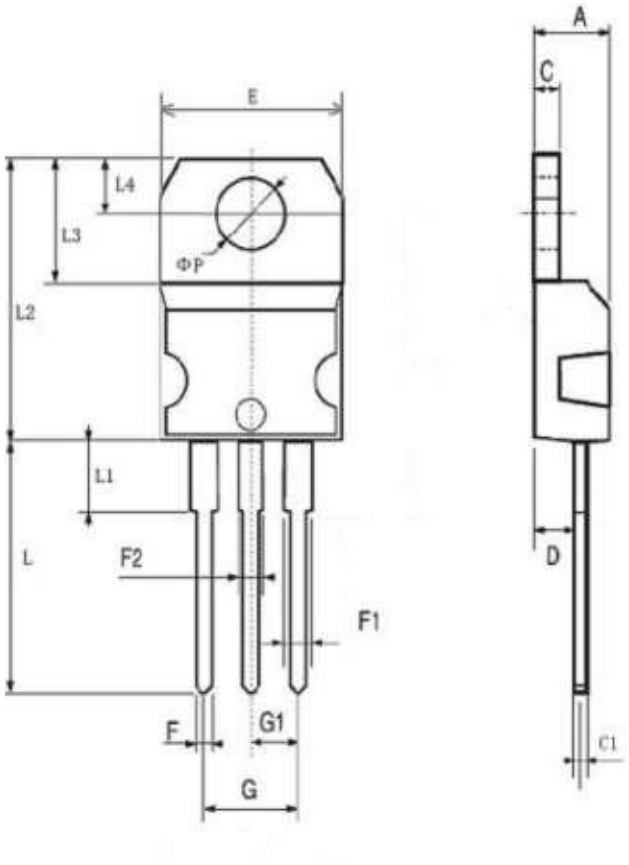
Overcurrent Protection



Package Information

TO-220

Dimensions in mm

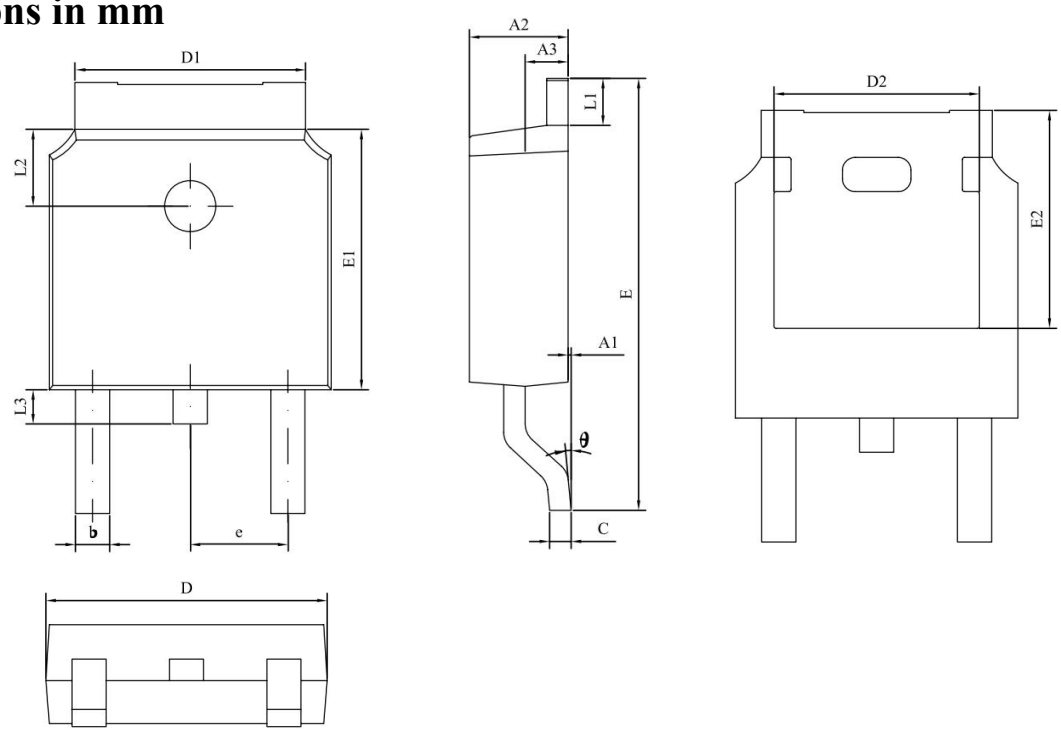


符号 Symbol	最小值 Min	典型值 Typ	最大值 Max
A	4.4		4.6
C	1.2		1.32
C1	0.38		0.55
D	2.4		2.65
E	9.85		10.85
F	0.6		0.85
F1	1.22		1.4
F2	1.22		1.4
G	4.93	5.08	5.23
G1	2.39	2.54	2.69
L	13.1		13.9
L1	3.75		4.75
L2	15.25		15.75
L3	6.25		6.75
L4	2.65		2.85
Φp	3.75	3.84	3.95

Package Information

TO-252

Dimensions in mm



Symbol	Millimeters	
	Min	Max
A1	0.00	0.13
A2	2.18	2.39
A3	0.90	1.10
b	0.65	0.85
c	0.46	0.61
D	6.35	6.73
D1	4.95	5.46
D2	4.32	
E	9.40	10.41
E1	5.97	6.22
E2	5.21	
e	2.286 BSC	
L1	0.89	1.27
L2	1.70	1.90
L3	0.60	1.00
θ	0°	8°

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