DESCRIPTION

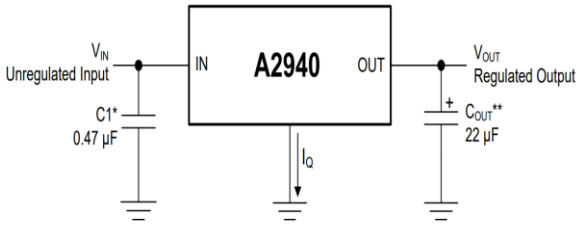
The A2940NR is three-terminal positive regulators One of these regulators can deliver up to 1.5A of output current. When used as a replacement Zener diode-resistor Combination, an effective improvement in output impedance can be obtained, together with lower quiescent current.

The A2940NR is available in SOT-223 package.

FEATURES

- Output Current of 1.5A
- Output transistor safe area protection
- No external components
- Available in SOT-223 Packages

TYPICAL APPLICATION



ORDERING INFORMATION

Package Type	Part Number	
SOT-223 SPQ: 2,500pcs/Reel	N	A2940NR
Note	R: Tape & Reel	
AiT provides all RoHS products		

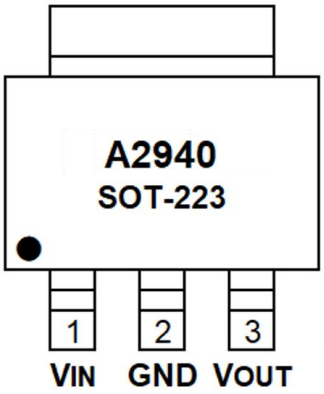
ABSOLUTE MAXIMUM RATINGS

over operating free-air temperature range (unless otherwise noted) (1)

V_{IN}, Input supply voltage	35V
I_{OUT}, MAX. Output current	1.5A
P_{max}, MAX Power	1W
T_J, Junction Temperature (4)	-40℃ ~ +125℃
T_{STR}, Storage Temperature	-55℃ ~ +155℃
Soldering temperature and time (Recommended 10S)	+260℃

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

PIN DESCRIPTION



SOT-223, N

Top View

PIN# SOT-223	Symbol	Function
1	VIN	Input voltage pin
2	GND	Ground pin
3	VOUT	Output voltage pin

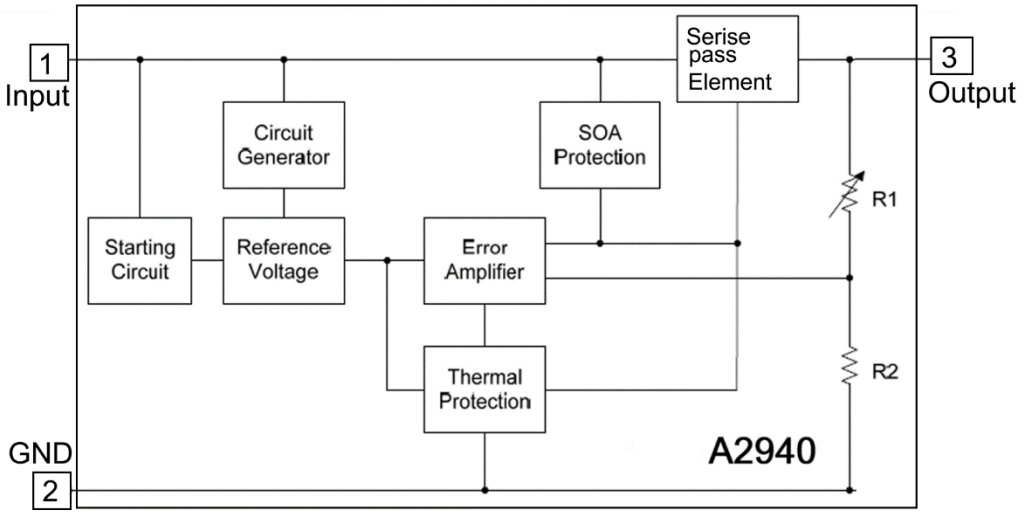
ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_{OUT}	Io=40mA, VIN=10V	0.964	-	1.036	V
		Io=1mA~40mA, VIN=7V~18V	0.960	-	1.040	
		Io=10mA, VIN=10V	0.950	-	1.050	
Line Regulation	LNR	VIN=7V~18V, Io=40mA	-150	-	150	mV
		VIN=8V~18V, Io=40mA	-100	-	100	
Load Regulation	LDR	VIN=10V, Io=1mA~100mA	-60	-	60	mV
		VIN=10V, Io=1mA~40mA	-30	-	30	
Dropout Voltage	VDIF	Ta=25°C, Io=500mA	-	1.7	-	mA
Quiescent Current	IQ	V_{IN} =10V	-	1.5	-	mA
Quiescent Current Change	ΔIQ	VIN=8V~18V, IO=40mA	-1.5	-	1.5	mA
		V_{IN} =10V, I_{OUT}=1mA~40mA,	-0.1	-	0.1	

LNR: Line Regulation. The change in output voltage for a change in the input voltage. The measurement is made under conditions of low dissipation or by using pulse techniques such that the average chip temperature is not significantly affected.

LDR: Load Regulation : The change in output voltage for a change in load current at constant chip temperature.

BLOCK DIAGRAM



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Output Voltage vs. Input Voltage

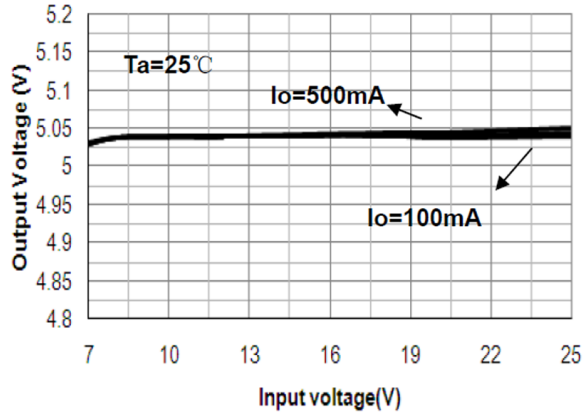


Fig 2. Output Voltage vs. Load

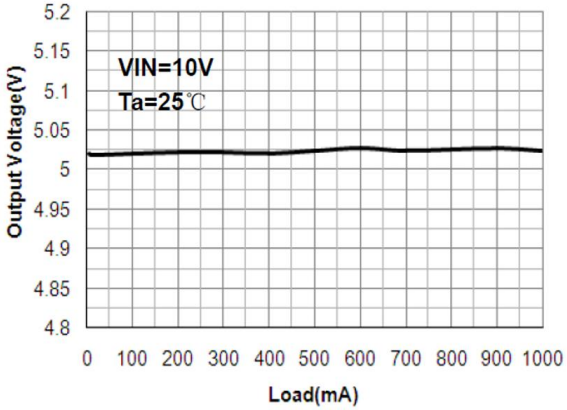


Fig 3. Output Voltage vs. Temperature

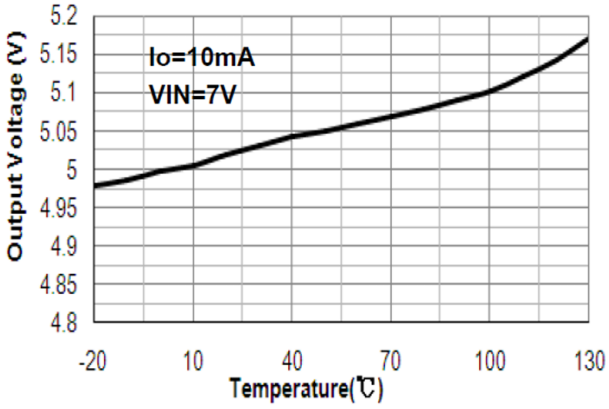
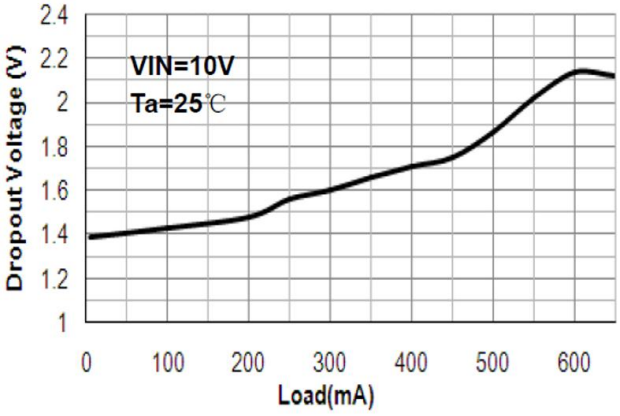
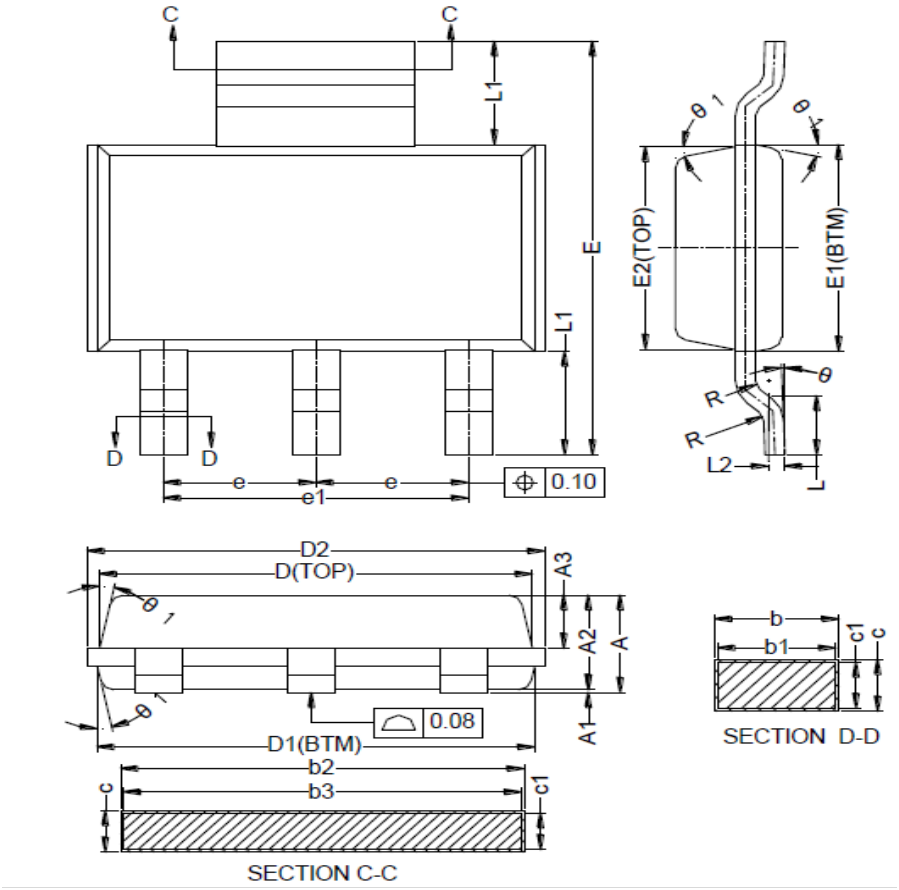


Fig 4. Dropout Voltage vs. Load



PACKAGE INFORMATION

Dimension in SOT-223 (Unit: mm)



Symbol	Min	Max	Symbol	Min	Max
A	-	1.80	E	6.80	7.20
A1	0.02	0.10	E1	3.40	3.60
A2	1.50	1.70	E2	3.33	3.53
A3	0.80	1.00	e	2.30BSC	
b	0.67	0.80	e1	4.60BSC	
b1	0.66	0.76	L	0.80	1.20
b2	2.96	3.09	L1	1.75REF	
b3	2.95	3.05	L2	0.25BSC	
c	0.30	0.35	R	0.10	-
c1	0.29	0.31	R1	0.10	-
D	6.48	6.58	θ	0°	8°
D1	6.55	6.65	θ1	10°	14°
D2	-	7.05			

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