

### FEATURES

- Low Power Consumption.
- Low Temperature Coefficient.
- Output Short Circuit Protected.
- Wide Operating Voltage Range.
- Good Input Stability.
- Space-Saving Package: TO-92 or SOT-89

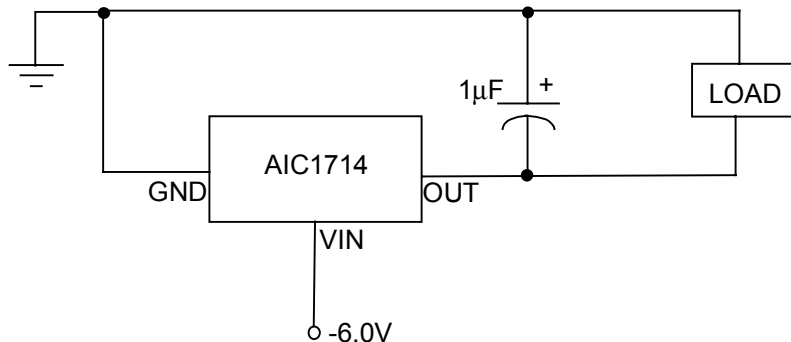
### APPLICATIONS

- LCD for Printing Calculators
- Cameras
- Voltage References for Instrumentation

### DESCRIPTION

The AIC1714 is a series of 3-terminal negative voltage regulators with output voltages internally set below the positive supply voltage. Since the AIC1714 consumes less current and only requires a small input/output voltage difference than existing industry standard 3-terminal voltage regulators, a battery-powered portable equipment is afforded a high capacity and longer service life. The AIC1714 is ideal for power source of liquid crystal displays.

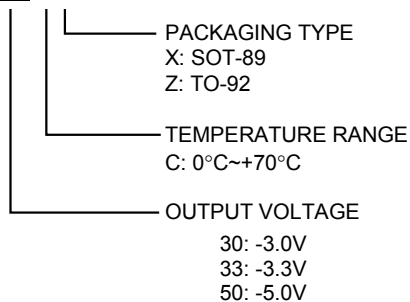
### TYPICAL APPLICATION CIRCUIT

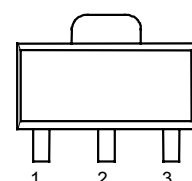
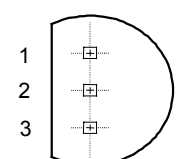


Negative Voltage Regulator

### ORDERING INFORMATION

AIC1714-XX-XX

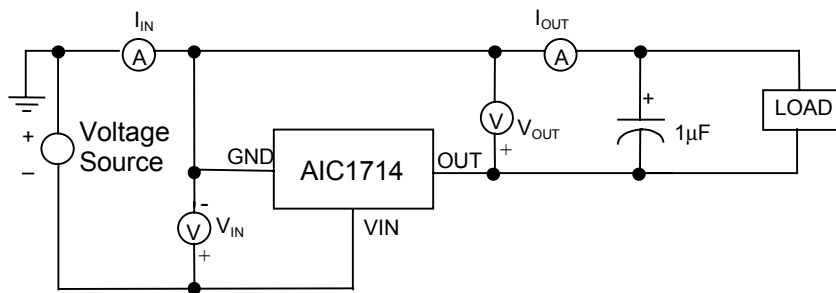


ORDER NUMBER	PIN CONFIGURATION
AIC1714-30CX AIC1714-33CX AIC1714-50CX (SOT-89)	FRONT VIEW 1: VIN 2: GND 3: VOUT 
AIC1714-30CZ AIC1714-33CZ AIC1714-50CZ (TO-92)	TOP VIEW 1: GND 2: VIN 3: VOUT 

## ■ ABSOLUTE MAXIMUM RATINGS

Supply Voltage	.....	-13V
Operating Temperature Range	.....	- 20°C~80°C
Storage Temperature Range	.....	- 65°C~150°C
Power Dissipation	SOT-89 Package	..... 0. 80W
	TO-92 Package	..... 0.78W

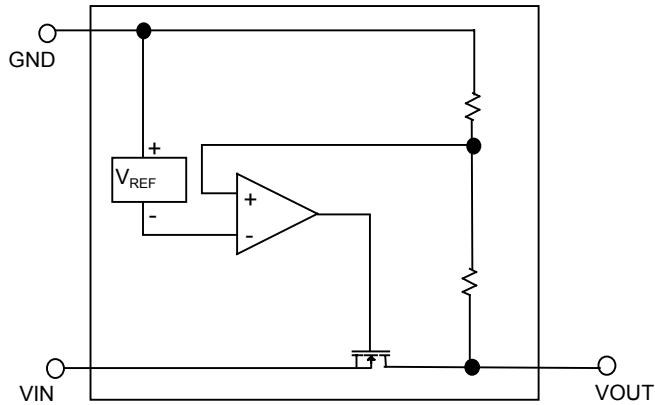
## ■ TEST CIRCUIT



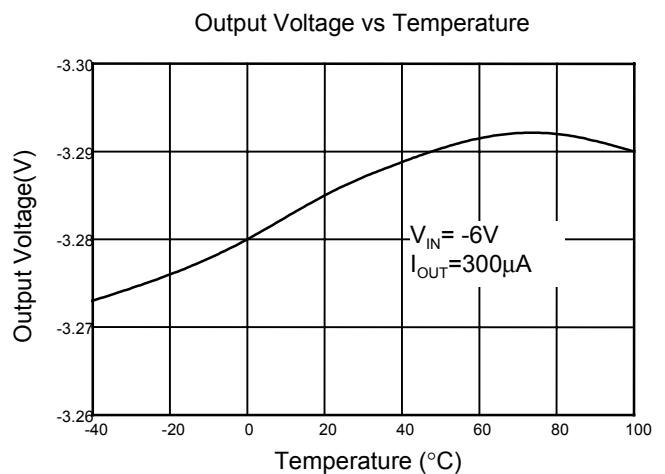
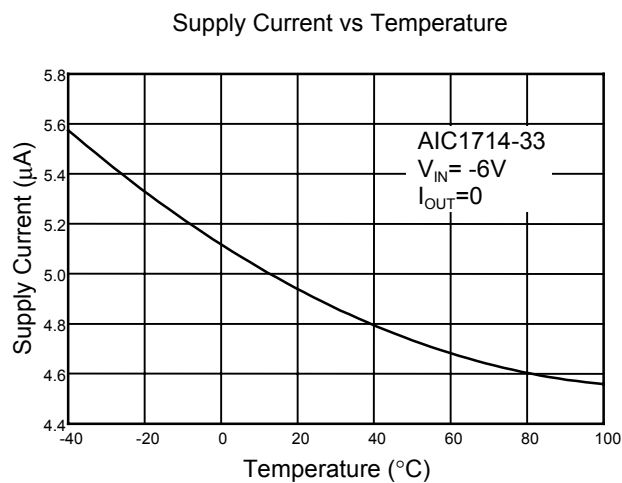
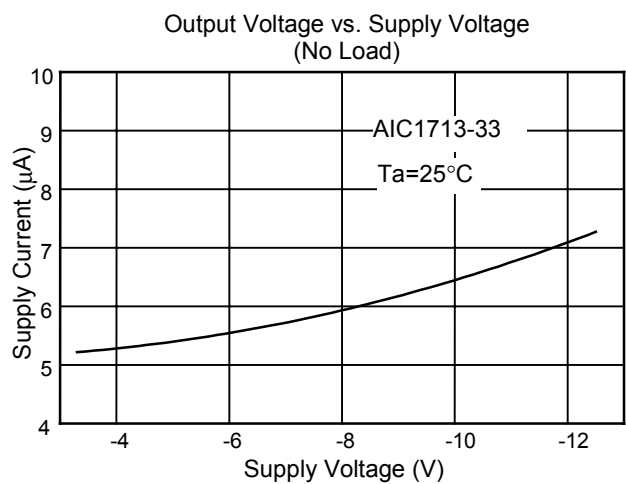
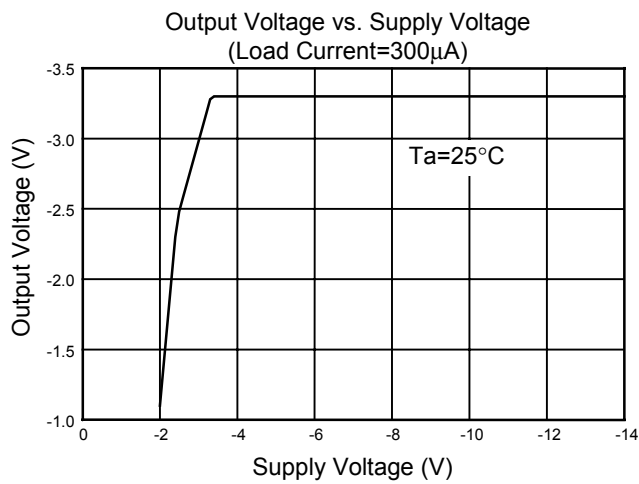
## ■ ELECTRICAL CHARACTERISTICS ( $V_{IN} = -6.0V$ , $T_a = 25^\circ C$ , unless otherwise specified.)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Output Voltage	$I_{OUT} = 300\mu A$	AIC1714-30	-2.95	-3.0	-3.05	V
		AIC1714-33	-3.25	-3.3	-3.35	V
		AIC1714-50	-4.93	-5.0	-5.07	V
Load Regulation	$I_{OUT} = 0 \sim 5mA$	$\Delta V_{OUT}$		20	100	mV
I/O Voltage Difference	$I_{OUT} = 300\mu A$	$V_{DIFF}$		50	200	mV
Supply Current	$I_{OUT} = 0$	$I_{IN}$		6	12	$\mu A$
Input Stability		$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$		0.05		%/V
Temperature Coefficient	$-25^\circ C \sim 85^\circ C$	$T_C$		50		ppm
Output Short Circuit Current	$R_{LOAD} = 0$		15	24		mA

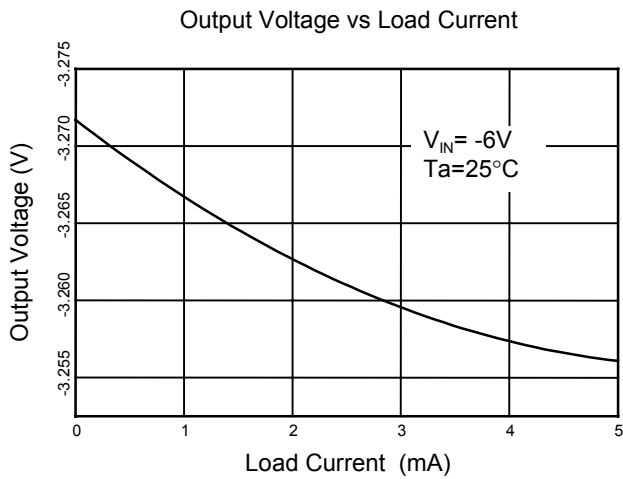
**BLOCK DIAGRAM**



**TYPICAL PERFORMANCE CHARACTERISTICS**

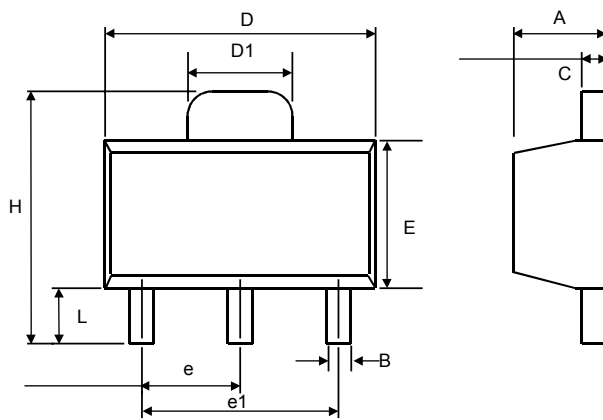


■ **TYPICAL PERFORMANCE CHARACTERISTICS** (Continued)



■ **PHYSICAL DIMENSIONS**

- SOT-89 (unit: mm)

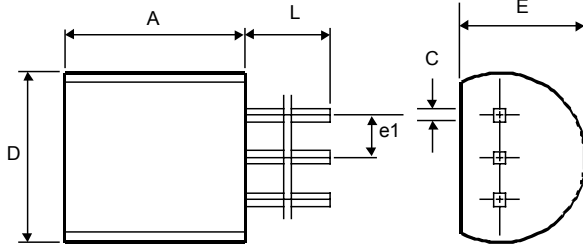


SYMBOL	MIN	MAX
A	1.40	1.60
B	0.36	0.48
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 (TYP.)	
e1	3.00 (TYP.)	
H	3.94	4.25
L	0.89	1.20

- SOT89 Marking

Part No.	Marking
AIC1714-30	AP30
AIC1714-33	AP33
AIC1714-50	AP50

- TO-92 (unit: mm)



SYMBOL	MIN	MAX
A	4.32	5.33
C	0.38 (TYP.)	
D	4.40	5.20
E	3.17	4.20
e1	1.27 (TYP.)	
L	12.7	-