

GENERAL DESCRIPTION

The CL9193 is a low-dropout voltage regulator designed for portable and wireless applications that require high PSRR, low quiescent current and excellent line and load transient response.

The CL9193 is designed to work with small 1uF input and output ceramic capacitors.

The CL9193 consumes less than 0.1uA in shutdown mode. The CL9193 is available in 5 pin SOT23-5L packages. The output standards of 1.2V, 1.3V, 1.5V, 1.8V, 2.0V, 2.5V, 2.7V, 2.8V, 3.0V, and 3.3V are available.

FEATURES

◆ Input Range : 2.0V ~ 6.0V

◆ Maximum Output Current : 300mA

♦ High PSRR : 70dB @ 1KHz

◆ Low Quiescent Current : 40uA (Typ.)

♦ Shutdown Mode Current : < 0.1uA</p>

◆ Dropout Voltage : 150mV @ 100mA

◆ Operation Ambient Temperature : -40 ~ +85°C

Protection :Current Limit & SOT23-5L Package Available

Short Protect

APPLICATIONS

◆ CDMA/GSM mobile phone

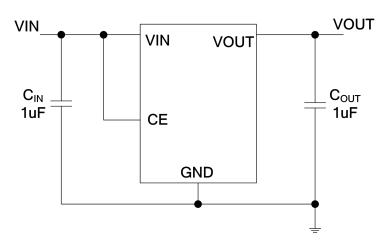
◆ PDAs/MP3

WLAN and bluetooth appliances

Cordless telephones

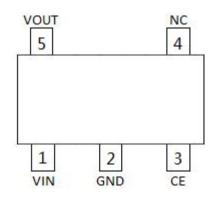
Battery powered portable devices

TYPICAL APPLICATIONS





PIN CONFIGURATION SOT23-5L



PIN FUNCTIONS

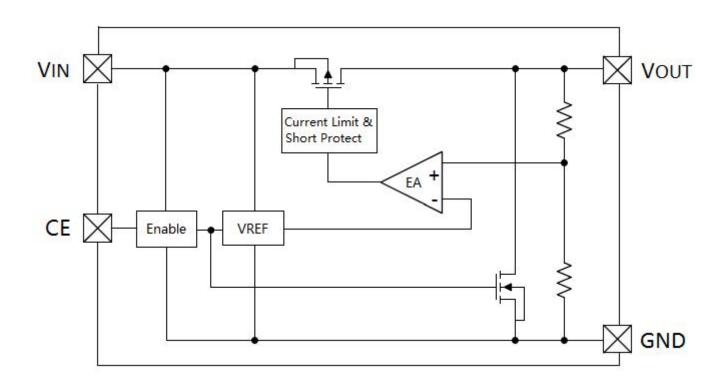
SOT23-5	PIN NAME	FUNCTIONS
1	VIN	Power Input
2	GND	Ground
3	CE	Chip Enable
4	NC	No Connection
5	Vout	Output

ESD & Latch-up Level

HBM ESD	4000V
MM ESD	400 V
Latch-up	400mA



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNITS
INPUT VOLTAGE	VIN	6	V
OUTPUT CURRENT	IOUT	500	mA
OUTPUT VOLTAGE	Vout	GND-0.3 ~ VIN +0.3	V
POWER DISSIPATION (SOT23-5L)	Pd	400	mW
OPERATING TEMP.	Topr	-25 ~ +85	°C
STORAGE TEMP.	Tstg	-40 ~ +125	°C
LEAD TEMP.	Tsolder	260°C, 10s	



ELECTRICAL CHARACTERISTICS

(VIN = VOUT +1V,CIN=COUT=1uF,Ta=25°C, unless otherwise stated)

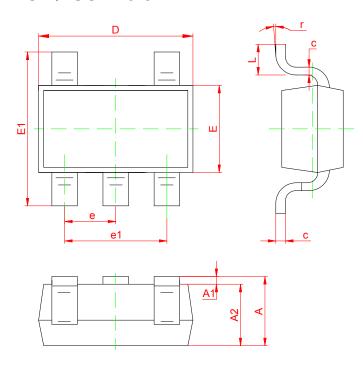
PARAMETER	SYMBOL	CONDITIONS		MIN	TYP	MAX	UNITS
Input Voltage	VIN					6.0	V
Output Voltage	Vout	IOUT=40mA, VOUT<1.5V		X 0.97	VOUT(T) ^{Note1}	X 1.03	V
		IOUT=40mA, VOUT≥1.5V		X 0.98	VOUT(T) ^{Note1}	X 1.02	V
Max. Output Current	IOUT(max)	VIN=VOUT+1V		300			mA
		VIN=VOUT+1V 1mA≤IOUT≤100mA	VOUT=1.2V		20		mV
Load Regulation Δ\	ΔVOUT		VOUT=2.5V		25		
			VOUT=3.3V		30		
		IOUT =100mA	Vout=1.2V		600		mV
Dropout Voltage	Vdif		Vout=2.5V		200		mV
			VOUT=3.3V		150		
Supply Current	IQ	VIN= VOUT +1V			40		uA
Standby Current	ISTDBY	VCE=0V			<0.1		uA
Line Regulation	ΔVOUT	IOUT =40mA VOUT+1V≤VIN≤ 7V			0.05		%/V
	ΔVIN * VOUT						707 V
CE "H" Threshold	VCEH	VIN=5V		1.4			
CE "L" Threshold	VCEL	VIN=5V				0.4	
Ripple Rejection Rate	PSRR	VIN= [VOUT +1]V +1Vp-pAC IOUT =40mA,f=1kHz			70		dB

NOTE:

1. VOUT(T)=Specified Output Voltage



PACKAGE INFORMATION: SOT-23-5L



Symbol	Dimensions In Millimeters		Dimensions In Inches		
	Min	Max	Min	Max	
А	1.050	1.250	0.041	0.049	
A1	0.000	0.100	0.000	0.004	
A2	1.050	1.150	0.041	0.045	
b	0.300	0.500	0.012	0.020	
С	0.100	0.200	0.004	0.008	
D	2.820	3.020	0.111	0.119	
E	1.500	1.700	0.059	0.067	
E1	2.650	2.950	0.104	0.116	
е	0.950 (BSC)		0.037 (BSC)		
e1	1.800	2.000	0.071	0.079	
L	0.300	0.600	0.012	0.024	
r	0°	8°	0°	8°	



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