

BOM note

R1	R2	R3	C1
U1 stuff REF5040	X	TOP	X
U1 stuff LTC6652	O	bottom	X

USD1.2

U1
1410029046-01
LINEAR_LTC6652BHMS4-4.096#PBF
<Characteristics>

Abs Max VCC 13.2V
OP temp -40~125°C
IOUT -5~+5mA
VOUT 4.096V / 0.1%
Temp drift 10ppm/°C

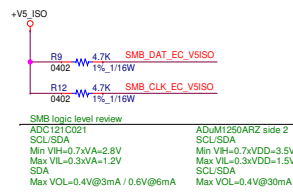
Assume ADC performance can achieve 12-bit noise free performance.
(for ignore offset and INL error)
=> Each LSB can be $4.096V / 2^{12} = 4.096/4096 = 1mV$
=> $1mV * 51 = 51mV$

ADC 1 bit is 1mV, which means DCIN 51mV
ADC max input 4.096V means DCIN 208.896V

For 160V input, 51mV/bit means 0.03% error
For 9V input, 51mV/bit means 0.567% error

review: ADC is 16-bit, why we use 12-bit to calculate?..OK
A 12-bit ADC just can achieve 11-bit performance. LSB is not effective, because it's usually close to noise level.

review 0910: change to 0.1V/bit and cheaper ADC...ok



SMB logic level review

ADC121C021	ADUM1250ARZ side 2
SCL:SDA	SCL:SDA
Min VIH=0.7xVDD=2.8V	Min VIH=0.7xVDD=3.5V
Max VIL=0.3xVDD=1.2V	Max VIL=0.3xVDD=1.5V
SDA	SDA
Max VOL=0.4V@3mA / 0.6V@6mA	Max VOL=0.4V@30mA

ADC121C021 Address Assignment

ADR1	ADR0	Address
Floating	Floating	1010 000
Floating	GND	1010 001
Floating	VA	1010 010
GND	Floating	1010 100
GND	GND	1010 101
GND	VA	1010 110
VA	Floating	1011 000
VA	GND	1011 001
VA	VA	1011 010

