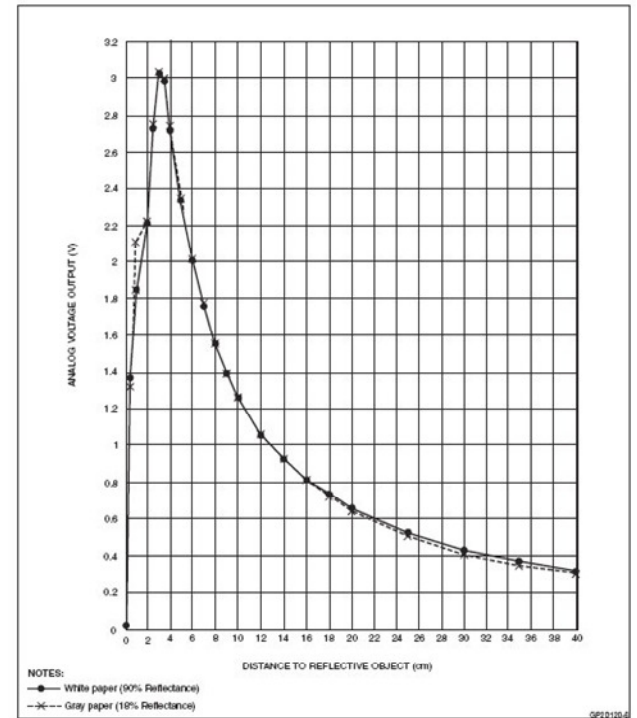
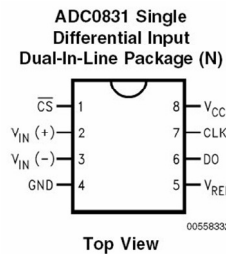
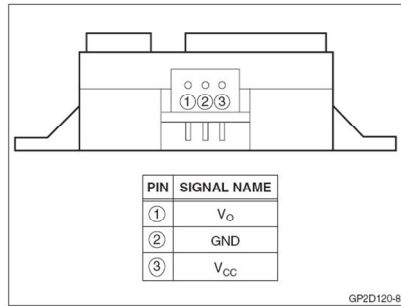


Quantity	Part
1	Sharp GP2D12 or GP2D120
1	ADC0381 8Bit A/D Converter



Due to the non linear nature an easy conversion to distance is not easy. If measuring less than 3 cm use the positive slope. If measuring to 40 cm, ignore the first 3 cm and use the negative slope. See the chart above. The peak is at about 4 cm or about 1.5 inches. The back side (negative slope) may be more useful.

```
'-----[ Title ]-----
'IR Ranger
'1/31/2010
' Paul Ashley
' {$STAMP BS2}
' {$PBASIC 2.5}
'-----[ Declarations ]-----
adcBits VAR Byte
object VAR Byte

'-----[ Initialization ]-----
CS PIN 0
CLK PIN 1
DataOutput PIN 2

DEBUG CLS
'-----[ Main Routine ]-----
DO
GOSUB ADC_Data
GOSUB Display
LOOP
```

```
'-----[ Subroutines ]-----
ADC_Data:
HIGH CS
LOW CS
LOW CLK
PULSOUT CLK, 210
SHIFTIN DataOutput,CLK,MSBPOST,[adcBits\8]
object = adcBits / 2
RETURN

Display:
DEBUG HOME
DEBUG "8-bit binary value: ", BIN8 adcBits
DEBUG CR, CR, "Approximant Distance in cm : ", DEC3 object

RETURN
```

TITLE		
Infrared Ranger and 8 Bit A/D Converter Sharp GP2D12		
DATE	SCALE	Parallax BS2 program provided.
1-30-2010	VISIO	
DRAWN BY	PAGES	www.robo-works.net
Paul Ashley	1 of 1	