

To:

# Dust Sensor GP2Y1010AU0F

## Dust Density Conversion

System Device Unit  
Electronic Components and Devices Company  
SHARP Corporation

## SPEC Comparison GP2Y1010AU0F

	GP2Y1010AU0F
Output Type	Analog Voltage (V)
Output at no dust "Voc"	0 to 1.5 (V)
Sensitivity "K"	$0.5V \pm 30\% / (100\mu g/m^3)$
Sampling data	<b>Single-shot output</b> Every 10 msec (Tolerance of "Voc" is around $\pm 0.15 V$ )
Other function	N/A

## Conversion Formula from Output to Dust Density

$$\text{Dust Density } (\mu\text{g}/\text{m}^3) = (\Delta V / K) \times 100$$

$$\Delta V = V_{\text{out}} - V_{\text{oc}}$$

Voc: Output at no dust

Vout: Output at measuring dust

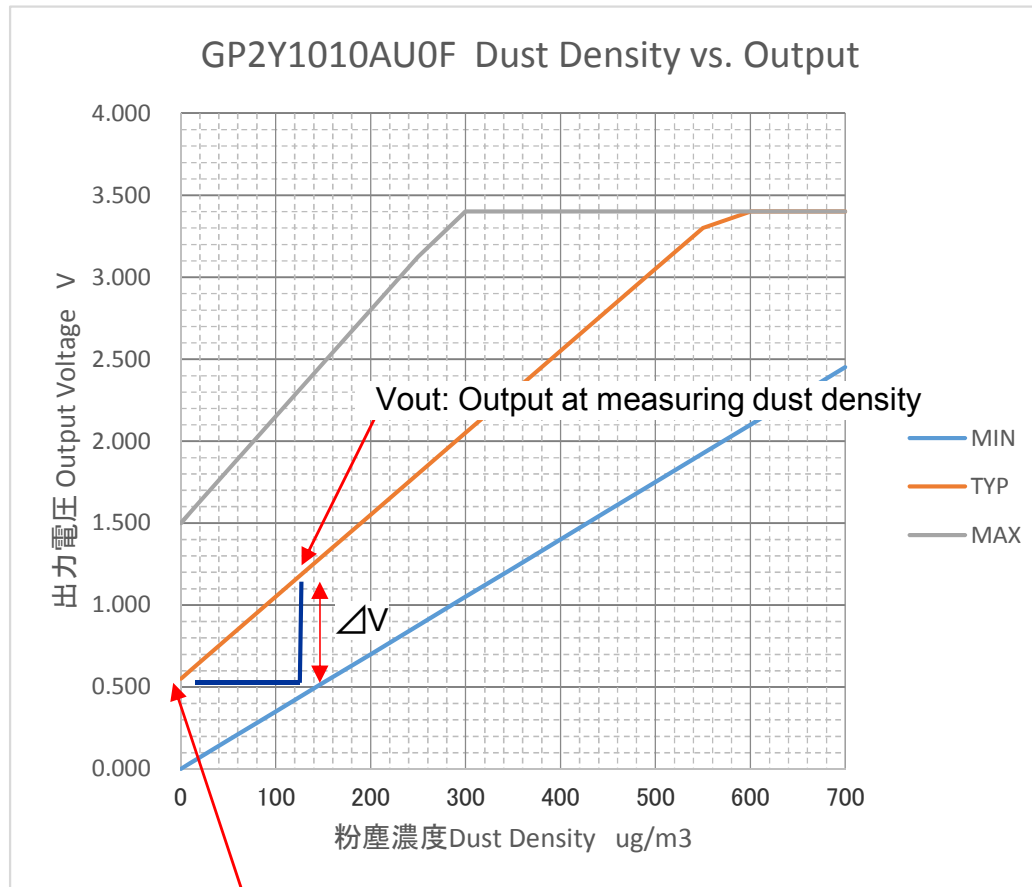
K: Sensitivity

(Noted)

Conversion Formula is applied under conditions of SPEC sheet  
such as measuring the density of MEVIUS (made by Japan Tobacco Inc.)

Please refer SPEC sheet.

# Dust Density vs. Output



Voc: Output at No dust

<Noted> Data of MIN, TYP and MAX in graph are converted by combination SPEC of Voc (MIN, TYP and MAX) and SPEC of K (MIN, TYP and MAX.)

**SHARP**