

## TGS5342 Gas Sensor for Carbon Monoxide Detection

### characteristic : \_\_\_\_\_

- \* Can be battery-powered
- \* small volume
- \* High selectivity/repeatability for carbon monoxide
- \* High linear output characteristics for carbon monoxide
- :: Easy and simple calibration
- \* Long service life
- \* Obtain UL certification
- \* Meet UL2034,EN50291 and RoHS requirements

### apply : \_\_\_\_\_

- Residential and commercial carbon monoxide detectors
- Industrial carbon monoxide monitoring
- :: Ventilation control of indoor parking
- \* fire-alarm

The TGS5342 is a battery-powered electrochemical sensor developed by Figaro, offering distinct advantages over conventional counterparts: eco-friendly electrolytes prevent leakage risks, achieves carbon monoxide detection at concentrations up to 1%, operates across -5°C to 55°C temperature ranges, and demonstrates exceptional interference resistance. With its extended lifespan, stable performance, and high precision, this sensor stands out as one of the few ideal options for digital display applications. OEM customers can print unique data for each sensor via barcode labels, eliminating costly gas calibration procedures while enabling individual tracking. Notably, the TGS5342 measures only 60% of the length of the TGS 5042.



### Sensitivity characteristics: \_\_\_\_\_

The representative sensitivity characteristic curve is shown in the figure below under standard test conditions (see back). The vertical coordinate shows the output current ( $I_{OUT} / \mu A$ ) of the sensor in various gases. The deviation within 0 ~ 500 ppm range shows high linearity  $\pm 5\%$ , indicating that it has high selectivity for carbon monoxide.

### Temperature and humidity characteristics: \_\_\_\_\_

The representative temperature/humidity characteristic curve is shown in the figure below under standard test conditions (see back).

The vertical axis represents the sensor output ratio ( $I/I_0$ ), which is defined as follows:  
The linear relationship between  $I/I_0$  value and carbon monoxide concentration is constant, no matter what the carbon monoxide concentration value is.

$I$  = output current of sensor in carbon monoxide at various temperatures from 400ppm  
 $I_0$  = sensor output current at 20°C and 50% R.H.400ppm carbon monoxide

