



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



To be read in conjunction with "Introduction to Pellistor Gas Sensors" and Pellistor Application Notes 1, 2, 3, 4, 6 and 7.

INTRODUCTION

The VQ23TB is an improved poison-resistant sensor consisting of two matched elements which are used for the detection of combustible gases, particularly methane in air mixtures in concentrations from 0.1% upwards. There is no interference from water vapour or carbon dioxide. Using the recommended bridge circuit below and the mounting arrangement shown on page 3, the minimum sensitivity is 15 mV/% methane.

The VQ23TB has been designed for use in atmospheres where traces of silicone and other poisoning agents may be present.

GENERAL DATA

Electrical

The information given below relates to the VQ23TB operating in the recommended circuit shown.

Operation (see note 1)	continuous
Bridge supply	2.4V to 2.6V
Bridge power consumption	1.1 W max
Typical average sensor current	335 mA
Minimum sensitivity (see note 2)	15 mV/% methane
Linearity	linear up to 5% methane
Response time to register 1 1/4% in a 2 1/2% concentration (see notes 2 and 3)	2 seconds
Maximum methane concentration (see note 4)	5 %

Mechanical

Mounting	see page 3
Outline	see page 2

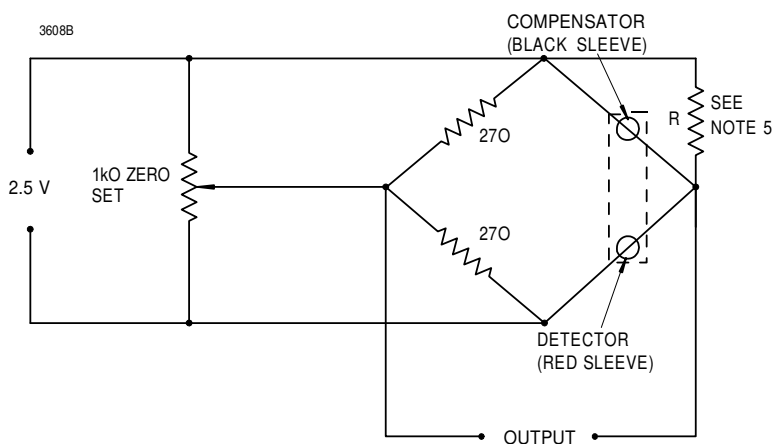
MARKING

Each element is identified by a unique serial number written on the can of both the detector and compensator. The serial number is written in red on the detector and black on the compensator. In addition, the detector carries a red circular label on the base identifying the device type.

NOTES

1. Operation may be under either direct flow or diffusion conditions in appropriate mountings (see page 3).
2. With open-circuit conditions at the bridge output.
3. The response time is a function of the type of mounting used.
4. If the VQ23TB is exposed to greater than 5% methane concentration, the calibration of the instrument should be checked.
5. The elements are supplied as a matched pair with a trimming resistor R of the correct value which is supplied where necessary. The trimming resistor is to be connected across the compensator element as shown below.
6. The resistance to poisoning by silicone compounds is partly dependent upon the type of housing within which the elements are mounted. The results shown on page 2 were obtained using a flow housing shown on page 3.
7. The response to certain of the heavy flammable vapours especially aromatic substances with side chains, may be lower than that calculated from the conversion (K) factors listed in the preamble.

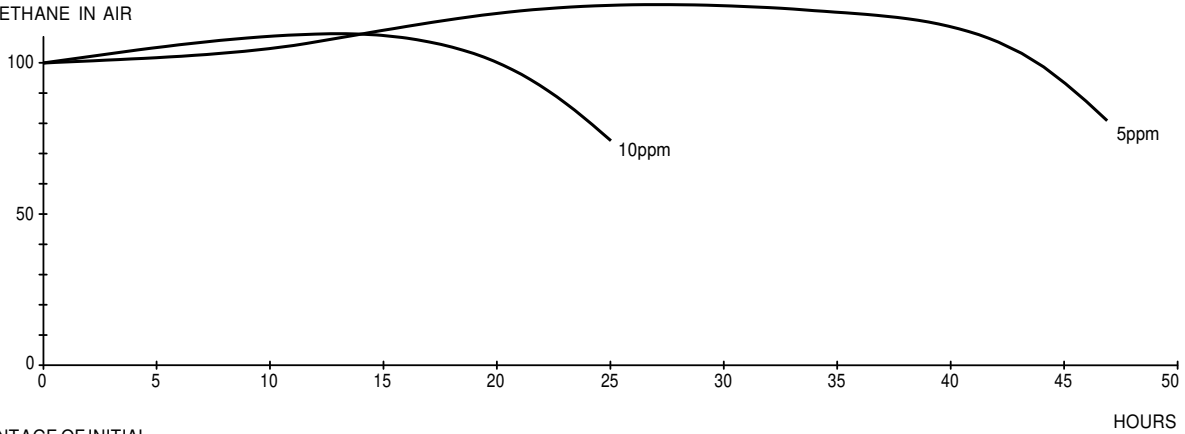
BRIDGE CIRCUIT



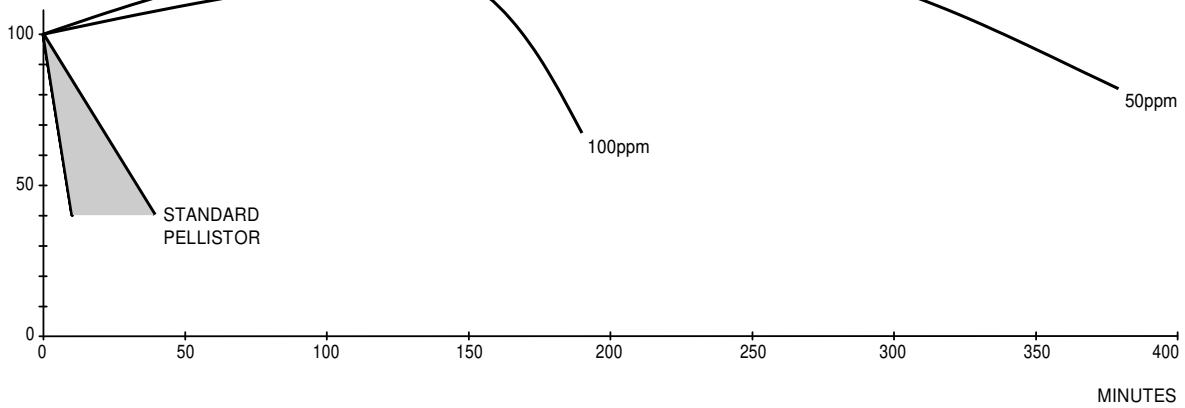
TYPICAL RESPONSE OF VQ23TB AND STANDARD PELLISTOR WHEN EXPOSED TO HEXAMETHYL DISILOXANE ATMOSPHERES

PERCENTAGE OF INITIAL SENSITIVITY TO 1% METHANE IN AIR

5521A

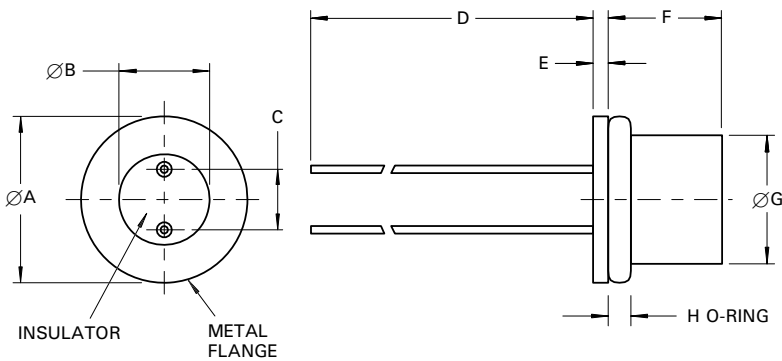


PERCENTAGE OF INITIAL SENSITIVITY TO 1% METHANE IN AIR



OUTLINE (All dimensions without limits are nominal)

7218

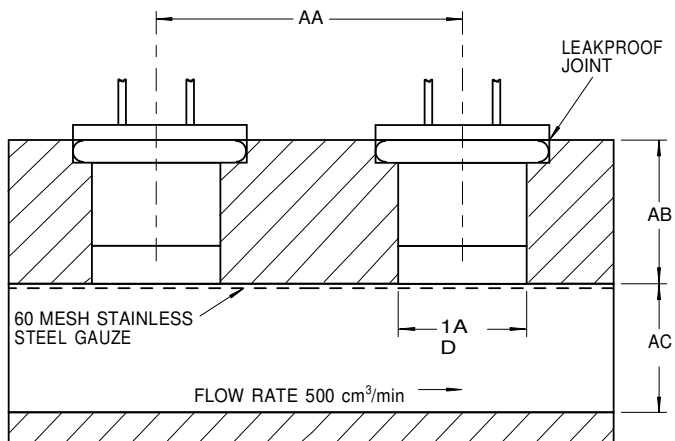


Ref	Millimetres	Inches
A	11.3 max	0.445 max
	10.8 min	0.425 min
B	6.35 max	0.250 max
	5.85 min	0.230 min
C	3.69 max	0.145 max
	3.43 min	0.135 min
D	40.0 min	1.575 min
E	1.0 nom	0.039 nom
F	7.88 max	0.310 max
	6.86 min	0.270 min
G	8.2 max	0.323 max
H	1.5 nom	0.059 nom

Inch dimensions have been derived from millimetres.

RECOMMENDED MOUNTING ARRANGEMENTS

2310C



Ref	Millimetres
AA	19.05 max
AB	9.53 + 0.13
AC	8.33 + 0.13
AD	8.20 min
AE	19.05 max
AF	9.53 + 0.13
AG	8.20 min

