



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

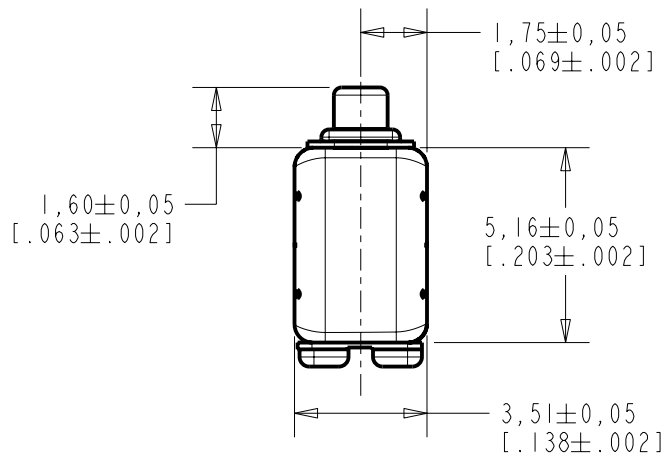
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832


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

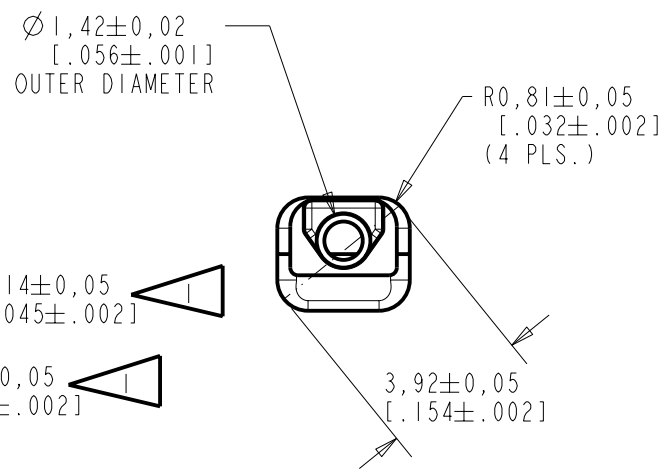
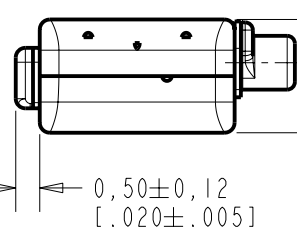
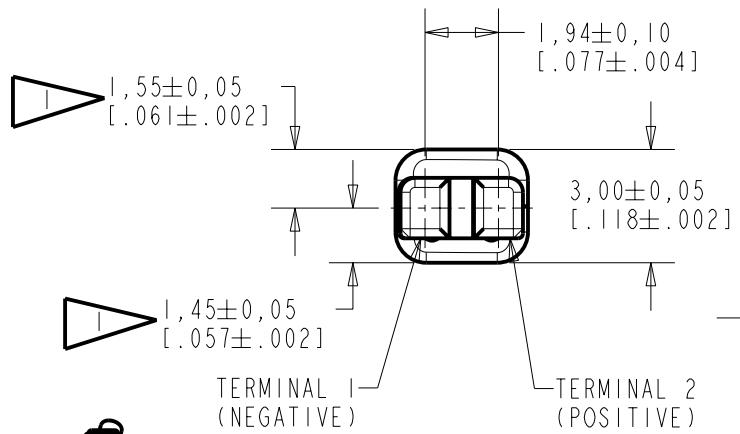
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



**WBHC-23911-000**  
SHT 1.1



NOTES:  
 LOCATED FROM TWO SURFACES FOR CUSTOMER CONVENIENCE. ONLY APPLICABLE FROM ONE SURFACE, NOT TO BE USED TOGETHER. HORIZONTAL LOCATION FOR TERMINAL CENTERED TO ±0,17 [0,007].



SCALE 2:1

NOMINAL WEIGHT  
.21 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
B	C10104863	10-16-06	Released	B
A	C10103801	2-2-06		

**KNOWLES ELECTRONICS**  
ITASCA, ILLINOIS U.S.A.

SCALE: 5:1		DR. BY: DATE
DO NOT SCALE DRAWING		MMM 2-2-06
TITLE: RECEIVER		WBHC-23911-000
OUTLINE DRAWING		SHT 1.1
		CK. BY: DATE
		GJP 2-6-06
		APP. BY: DATE
		GJP 2-6-06

# DESCRIPTION

NO DAMPING

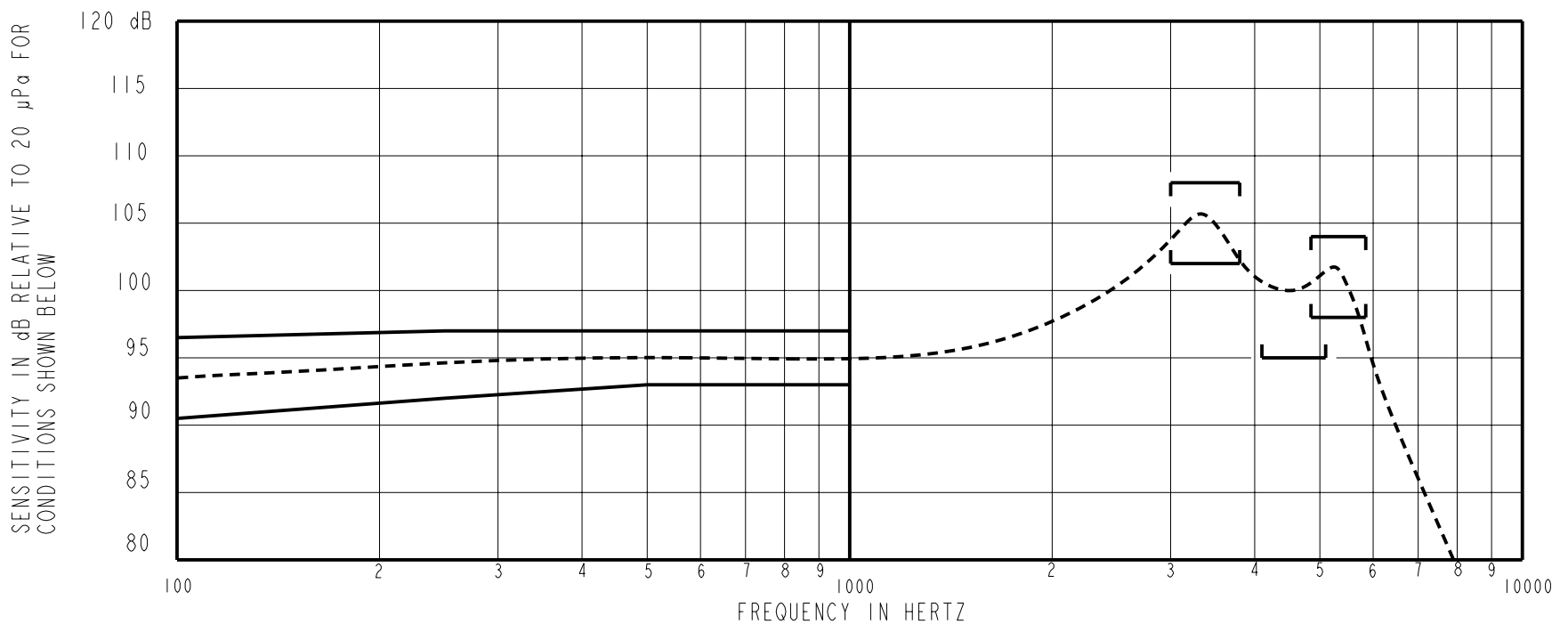
WBHC-23911-000

SHEET 2.1

THE WBHC-23911-000 IS A MAGNETIC BALANCED ARMATURE RECEIVER INTENDED FOR USE IN ITC AND CIC HEARING INSTRUMENTS. THE WBHC FAMILY OFFERS AN EXTENDED HIGH FREQUENCY RESPONSE IN THE SAME SIZE PACKAGE AS THE HC FAMILY. ALL WBHC UNITS HAVE SHOCK PROTECTION. THIS MODEL HAS MEDIUM IMPEDANCE AND IS UNDAMPED.

NOTE: SPECIFICATIONS FOLLOWED BY AN ASTERISK (\*) ARE 100% TESTED.

## CONSTANT VOLTAGE DRIVE RESPONSE



## ACOUSTICAL

### SENSITIVITY\*

DEVICE WILL PRODUCE THE SPL LISTED BELOW WITH THE TEST CONDITIONS DESCRIBED IN TABLE 3. NOMINAL SENSITIVITY AT 1 kHz IS dB RELATIVE TO 20 µPa. ALL OTHER VALUES IN dB RELATIVE TO THE SENSITIVITY AT 1 kHz.

FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
100	-4.5	-1.5	+1.5
250	-3.0	-0.5	+2.0
500	-2.0	0.0	+2.0
1000	-2.0	95.0	+2.0
3000-3800 PEAK	+7.0	+10.0	+13.0
4100-5100 VALLEY	0.0	---	---
4850-5850 PEAK	+3.0	+6.0	+9.0

TABLE 1.

### TOTAL HARMONIC DISTORTION\*

DEVICE WILL NOT EXCEED TOTAL HARMONIC DISTORTION LEVELS LISTED BELOW.

FREQUENCY (Hz)	DRIVE (V RMS)	DC BIAS (MA)	LIMIT (%)
1100	0.336 V	0	5
1650	0.336 V	0	5
500	1.78 V	0	8

TABLE 2.

### TEST CONDITIONS

NOMINAL SOURCE VOLTAGE	0.336 Vrms, 0 Vdc BIAS
SOURCE IMPEDANCE	< 1 Ω
TUBING	10 mm (.394) LONG, 1 mm (.039) ID.
COUPLER CAVITY	2 CC SIMULATED ANSI S3.7 TYPE HA-3, (IEC 126)

TABLE 3.

### POLARITY\*

POSITIVE SIGNAL APPLIED TO TERMINAL 2 WILL PRODUCE A DECREASE IN SOUND PRESSURE AT THE SOUND OUTLET.

## ELECTRICAL

DC RESISTANCE	177 Ω ±10%	*
IMPEDANCE @ 500 Hz	189 Ω ±15%	*
IMPEDANCE @ 1 kHz	207 Ω ±20%	*
INDUCTANCE @ 500Hz	9 mH ±15%	
CAPACITANCE @ 10 MHz	4 pF ±20%	

TABLE 4.

ISOLATION: THE CASE WILL BE ELECTRICALLY ISOLATED FROM THE COIL CIRCUIT\*

### MAGNETIC RADIATION

WORST CASE: FIELD WILL BE LESS THAN LEVEL STATED BELOW AT AMPLIFIER CLIPPING (.920 V).

124 dB re 1µA/m

DISTANCE OF 6.3 mm FROM CENTER OF RECEIVER

ANGLE OF 45 DEGREES FROM TUBE

## MECHANICAL

PORT LOCATION: 12C

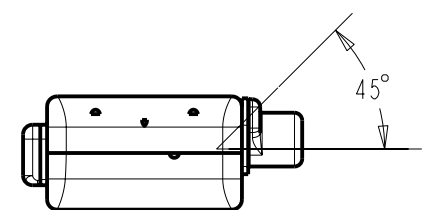
SOLDER TYPE: SAC305

### TEMPERATURE

OPERATING: SENSITIVITY WILL NOT VARY MORE THAN

+1/-3 dB FROM -17°C TO 63°C

STORAGE: -40°C TO 63°C



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Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
B	C10104863	10-16-06	Released	B
A	C10103801	2-2-06		
WHEN TEST LIMITS ARE USED TO ESTABLISH INCOMING INSPECTION ACCEPTANCE/REJECTION CRITERIA, CORRELATION OF TEST EQUIPMENT WITH KNOWLES IS ALSO REQUIRED FOR ELIMINATION OF EQUIPMENT AND TEST METHOD VARIATION			DR. BY	DATE
TITLE: RECEIVER PERFORMANCE SPECIFICATION			WBHC-23911-000	2-2-06
			SHT 2.1	2-6-06
			CK. BY	DATE
			GJP	2-6-06
			APP. BY	DATE
			GJP	2-6-06