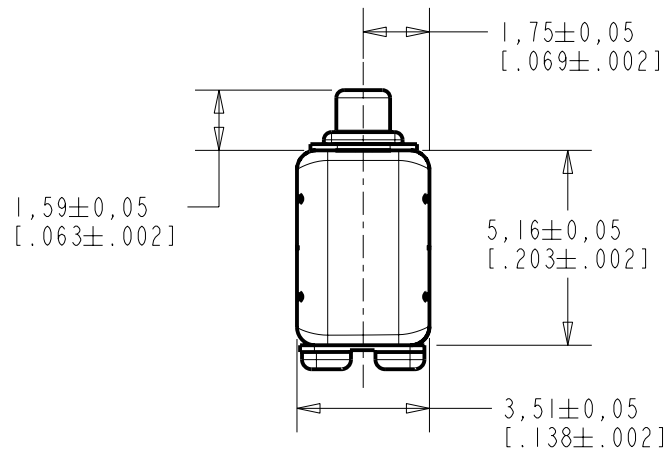

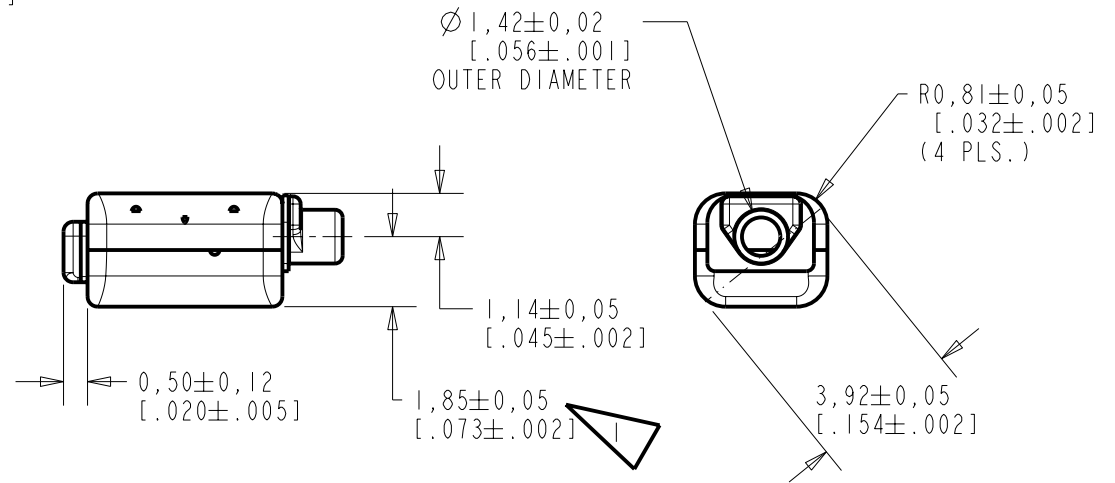
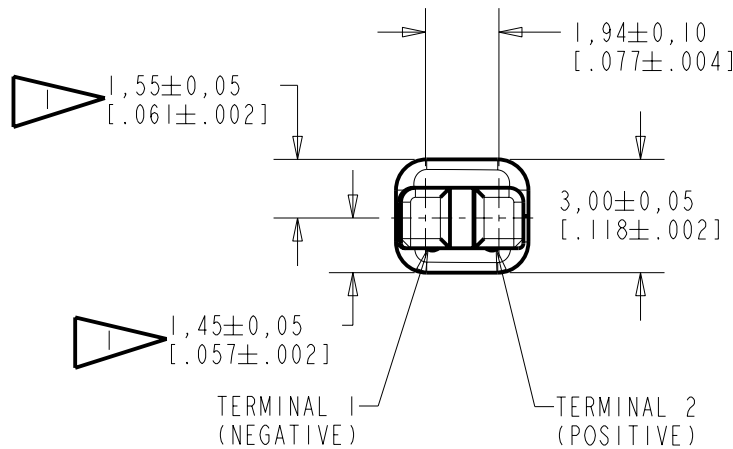


**HC-23764-000**  
SHT 1.1



NOTE:  
 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 [.007]



SCALE 2:1

NOMINAL WEIGHT  
.23 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
B	C10103946	2-20-06	Released	B
A	C10103365	11-29-05		

SCALE: 5:1		DR. BY	DATE
DO NOT SCALE DRAWING		AB	11-29-05
TITLE: RECEIVER		CK. BY	DATE
OUTLINE DRAWING		GJP	12-5-05
HC-23764-000		APP. BY	DATE
SHT 1.1		GJP	12-5-05

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

**DESCRIPTION**

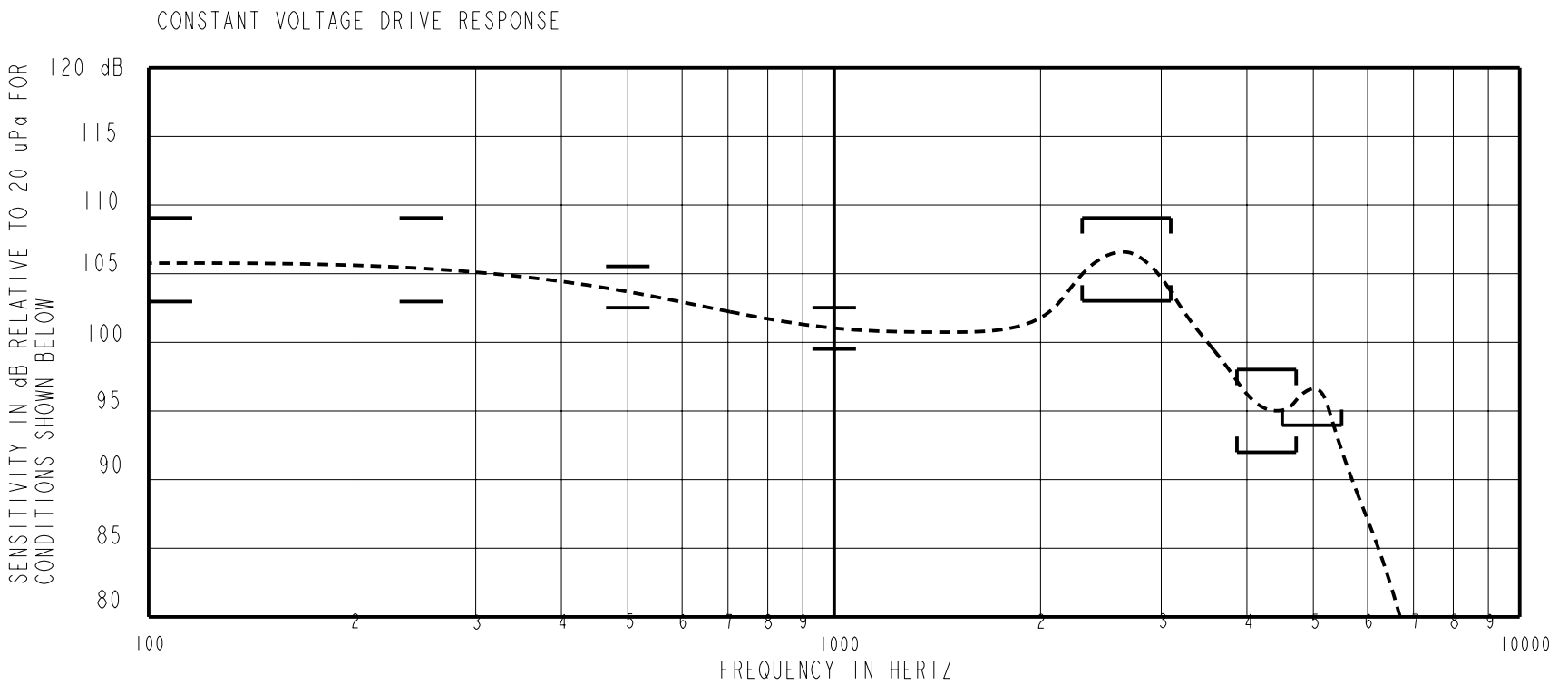
NO DAMPING

HC-23764-000

SHEET 2.1

THE HC-23764-000 IS A MAGNETIC BALANCED ARMATURE RECEIVER INTENDED FOR USE IN ITC AND CIC HEARING INSTRUMENTS. THE HC FAMILY OFFERS 6 dB HIGHER OUTPUT LEVELS IN THE SAME SIZE PACKAGE AS THE FC FAMILY. ALL HC UNITS HAVE SHOCK PROTECTION. THIS MODEL HAS LOW IMPEDANCE AND IS UNDAMPED.

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



**ACOUSTICAL**

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

FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
100	+2	+5	+8
250	+2	+5	+8
500	1.5	+3	+4.5
1000	-1.5	101.0	+1.5
2300-3100 PEAK	+2	+5	+8
3890-4750 VALLEY	-9	-6	-3
4500-5500 PEAK	-7	---	---

TABLE 1.

**TOTAL HARMONIC DISTORTION\***  
 DEVICE WILL NOT EXCEED TOTAL HARMONIC DISTORTION LEVELS LISTED BELOW.

FREQUENCY (Hz)	DRIVE (V RMS)	DC BIAS (MA)	LIMIT (%)
900	0.100 V	0	5
1350	0.100 V	0	5
500	0.282 V	0	10

TABLE 2.

**TEST CONDITIONS**

NOMINAL SOURCE VOLTAGE	0.100 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.

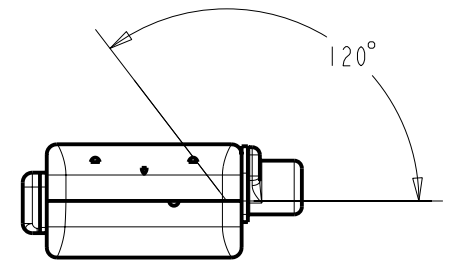
**ELECTRICAL**

DC RESISTANCE	15.5Ω ±10%	*
IMPEDANCE @ 500 Hz	24Ω ±15%	*
IMPEDANCE @ 1 kHz	43Ω ±20%	*
INDUCTANCE @ 500Hz	6mH ±15%	
CAPACITANCE @ 10 MHz	6pF ±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).  
 134 dB re 1μA/m  
 DISTANCE OF 6.3 mm FROM CENTER OF RECEIVER  
 ANGLE OF 120 DEGREES FROM TUBE



**MECHANICAL**

PORT LOCATION: 12C

SOLDER TYPE: 96.5% Sn, 3% Ag, 0.5% Cu (LEAD FREE)

**TEMPERATURE**  
 OPERATING: SENSITIVITY WILL NOT VARY MORE THAN +1/-3 dB FROM -17°C TO 63°C  
 STORAGE: -40°C TO 63°C

**RELIABILITY**  
 UNITS WILL SURVIVE ANY OF THE FOLLOWING ACCELERATED LIFE TESTS, REPORT AVAILABLE FROM QA DEPARTMENT

- HALT TEST (8 WEEKS, 63°C, 95% RH, 0.83V, 500 Hz SIGNAL)
- HIGH TEMPERATURE STORAGE (63°C, 72 HOURS)
- LOW TEMPERATURE STORAGE (-40°C, 72 HOURS)
- DAMP HEAT CYCLING (ALTERNATE 25°C TO 63°C, 93% RH, 20 CYCLES)
- THERMAL SHOCK (-40°C TO 63°C, 5 CYCLES)
- SOLDER/DESOLDER CYCLING (5 CYCLES)
- SOLDER PAD STRENGTH (STRENGTH > 1.8 LBS.)
- STRESS TEST (1.87 Vrms AT 2700 Hz SIGNAL, 1 HOUR)
- MECHANICAL SHOCK
- LEAK TEST AFTER AGING (NO LEAK AFTER ANY OF THE ABOVE TESTS)

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
B	C10103946	2-20-06	Released	B
A	C10103365	11-29-05		

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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

TITLE: **RECEIVER** HC-23764-000  
 PERFORMANCE SPECIFICATION SHT 2.1

DR. BY	DATE
AB	11-29-05
CK. BY	DATE
GJP	12-5-05
APP. BY	DATE
GJP	12-5-05