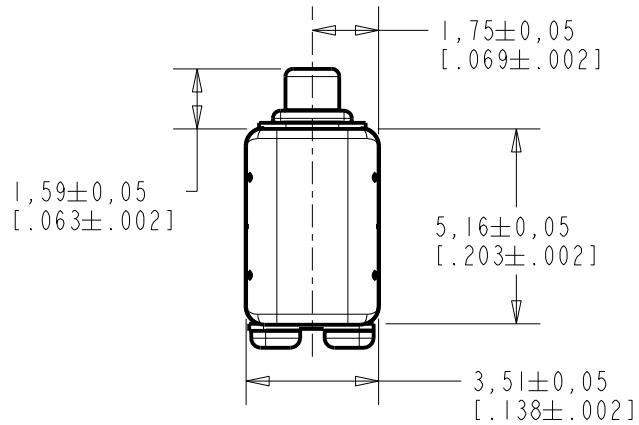

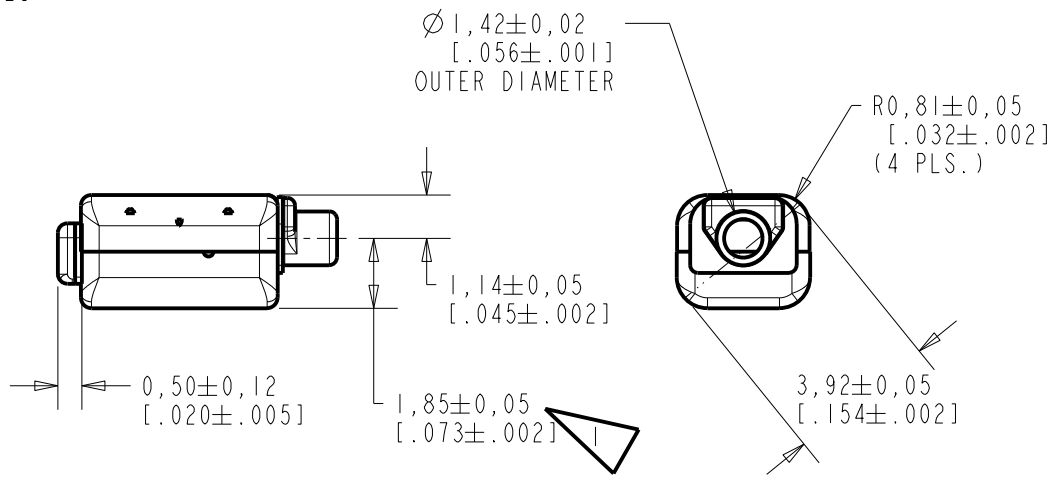
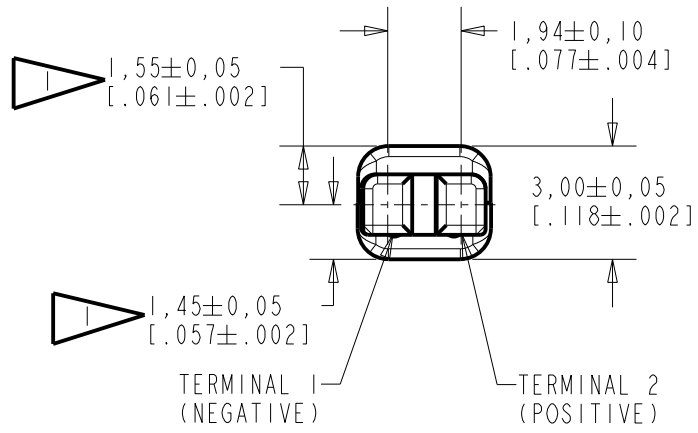


**HC-23766-000**  
SHT 1.1



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 [0,007].



SCALE 2:1

NOMINAL WEIGHT  
.23 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
			<b>Active</b>	<b>D</b>
D	C10112704	8-26-11		

SCALE: 5:1		DR. BY: AB	DATE: 11-29-05
DO NOT SCALE DRAWING			
TITLE: RECEIVER		HC-23766-000	
OUTLINE DRAWING		SHT 1.1	
		CK. BY: GJP	DATE: 12-5-05
		APP. BY: GJP	DATE: 12-5-05

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

# DESCRIPTION

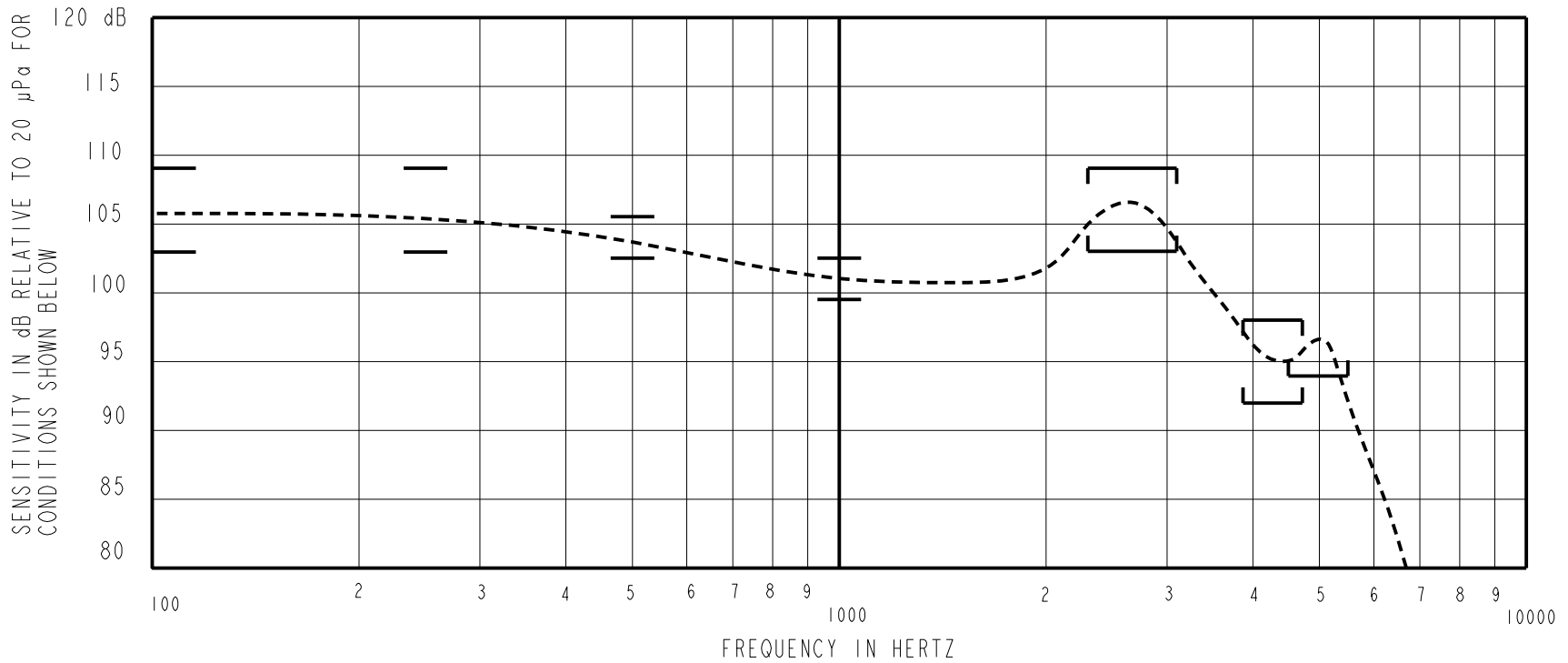
NO DAMPING

HC-23766-000  
SHEET 2.1

THE HC-23766-000 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.

## 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 20µPa. ALL OTHER VALUES IN dB RELATIVE TO THE SENSITIVITY AT 1 kHz.

FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
100	+2.0	+5.0	+8.0
250	+2.0	+5.0	+8.0
500	+1.5	+3.0	+4.5
1000	-1.5	101.0	+1.5
2300-3100 PEAK	+2.0	+5.0	+8.0
3890-4750 VALLEY	-9.0	-6.0	-3.0
4500-5500 PEAK	-7.0	---	---

TABLE 1.

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

FREQUENCY (Hz)	DRIVE (V RMS)	DC BIAS (MA)	LIMIT (%)
900	0.142 V	0	5
1350	0.142 V	0	5
500	0.399 V	0	10

TABLE 2.

## TEST CONDITIONS

NOMINAL SOURCE VOLTAGE	0.142 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 60318-5)

TABLE 3.

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

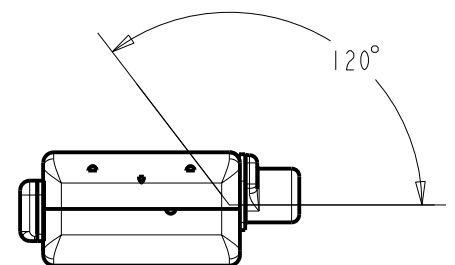
## ELECTRICAL

DC RESISTANCE	30Ω ±10%	*
IMPEDANCE @ 500 Hz	52Ω ±15%	*
IMPEDANCE @ 1 kHz	100Ω ±20%	*
INDUCTANCE @ 500Hz	13.5 ±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: SAC 305

**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 (2.65 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
			Active	D
D	C10112704	8-26-11		
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-23766-000		DR. BY DATE
PERFORMANCE SPECIFICATION		SHT 2.1		AB 11-29-05
				CK. BY DATE
				GJP 12-5-05
				APP. BY DATE
				GJP 12-5-05

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