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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

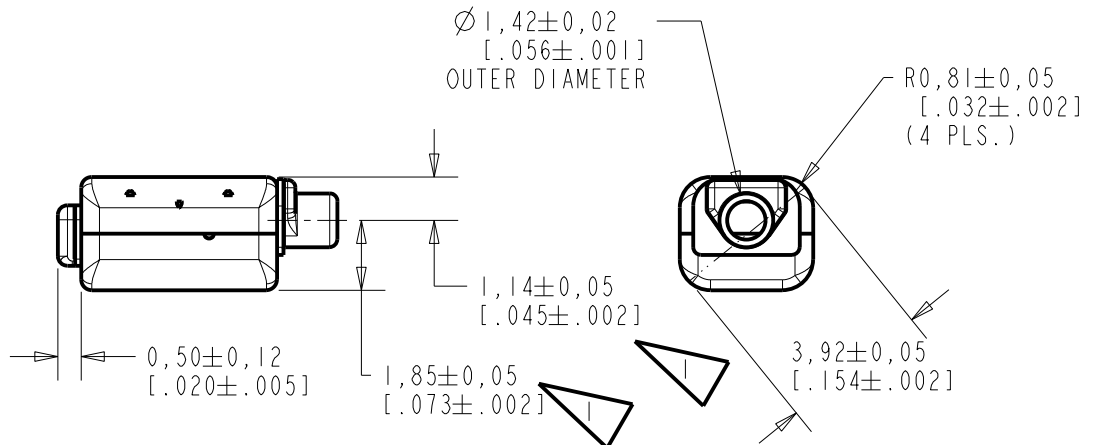
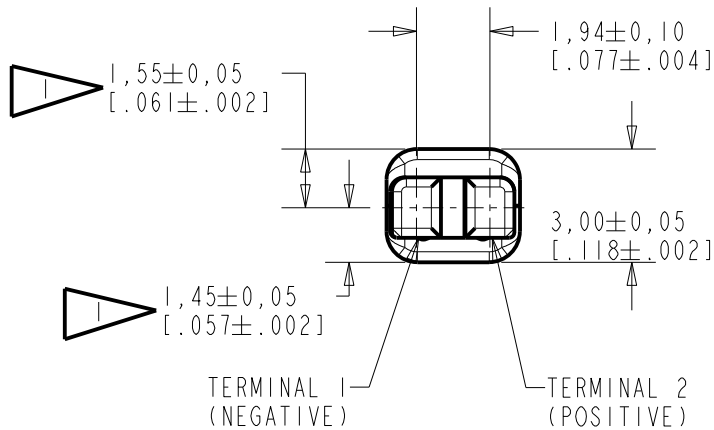
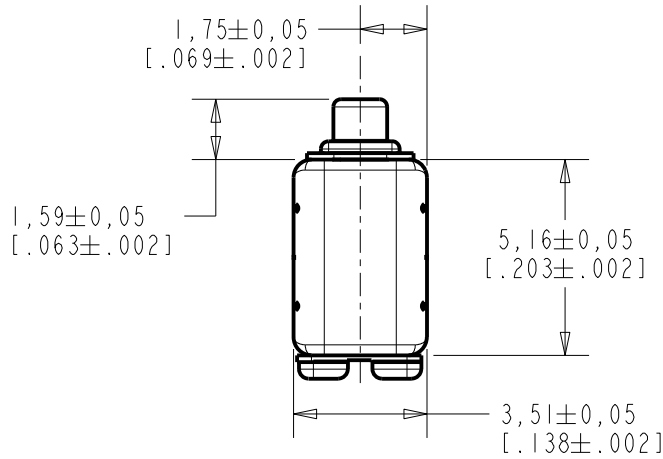


HC-23765-000

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  $\pm 0,17$  [.007].



SCALE 2:1

NOMINAL WEIGHT  
.23 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

| Revision | C.O. #    | Implementation Date | RELEASE LEVEL | REVISION |
|----------|-----------|---------------------|---------------|----------|
| C        | C10118120 | 2-25-11             | Active        | C        |
| B        | C10103946 | 2-20-06             |               |          |
| 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-23765-000         |  | APP. BY | DATE     |
| SHT 1.1              |  | GJP     | 12-5-05  |

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ITASCA, ILLINOIS U.S.A.

# DESCRIPTION

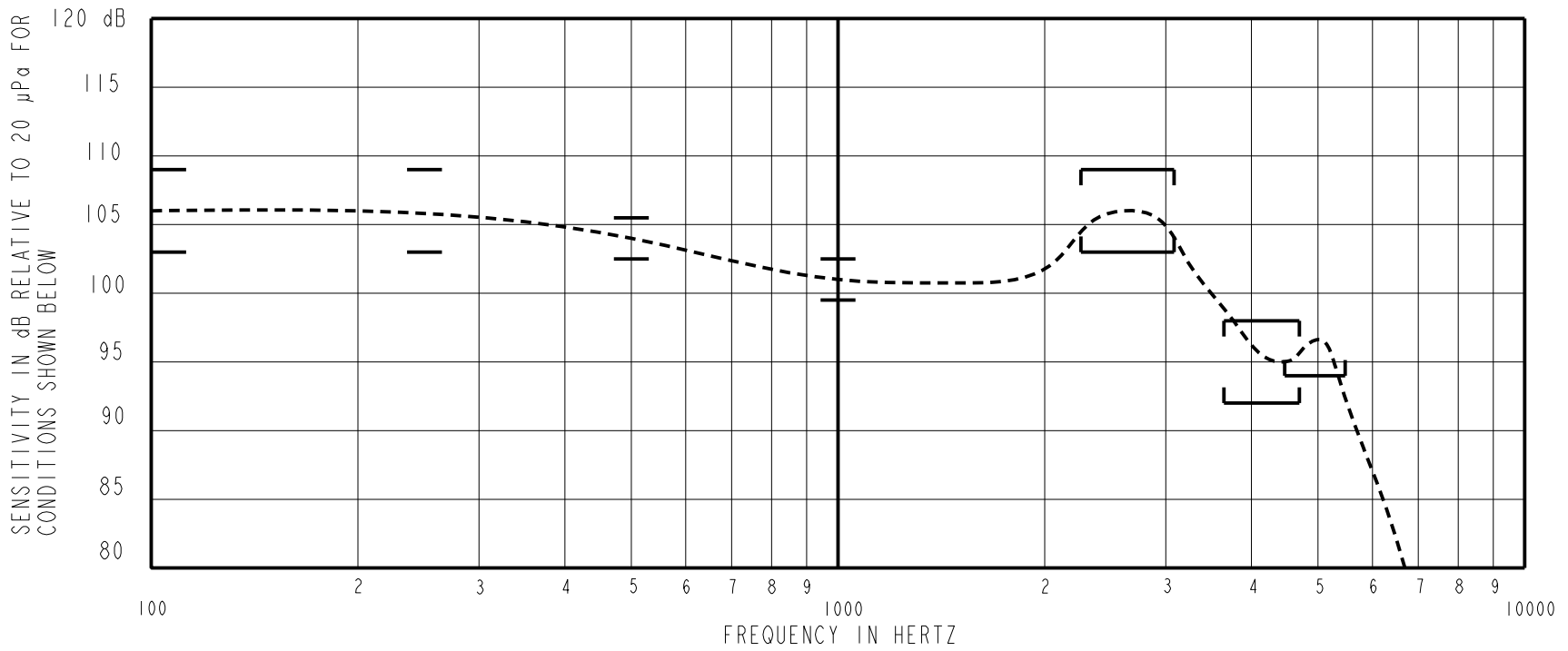
NO DAMPING

HC-23765-000  
SHEET 2.1

THE HC-23765-000 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    |
| 3680-4720 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            | 0.119 V       | 0            | 5         |
| 1350           | 0.119 V       | 0            | 5         |
| 500            | 0.336 V       | 0            | 10        |

TABLE 2.

## TEST CONDITIONS

|                        |   |
|------------------------|---|
| NOMINAL SOURCE VOLTAGE | 0.119 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.

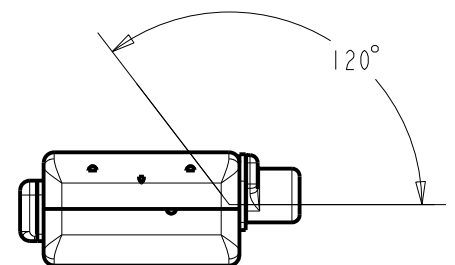
## ELECTRICAL

|                      |            |   |
|----------------------|------------|---|
| DC RESISTANCE        | 20Ω ±10%   | * |
| IMPEDANCE @ 500 Hz   | 33Ω ±15%   | * |
| IMPEDANCE @ 1 kHz    | 53Ω ±20%   | * |
| INDUCTANCE @ 500Hz   | 9.5mH ±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 (2.23 Vrms AT 2700 Hz SIGNAL, 1 HOUR)  
MECHANICAL SHOCK  
LEAK TEST AFTER AGING (NO LEAK AFTER ANY OF THE ABOVE TESTS)

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| B  | C10103946 | 2-20-06             |               |          |
| A  | C10103365 | 11-29-05            |               |          |
| 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  |           |                     | AB            | 11-29-05 |
|  |           |                     | HC-23765-000  |          |
| PERFORMANCE SPECIFICATION  |           |                     | GJP           | 12-5-05  |
|  |           |                     | APP. BY       | DATE     |
|  |           |                     | GJP           | 12-5-05  |

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