
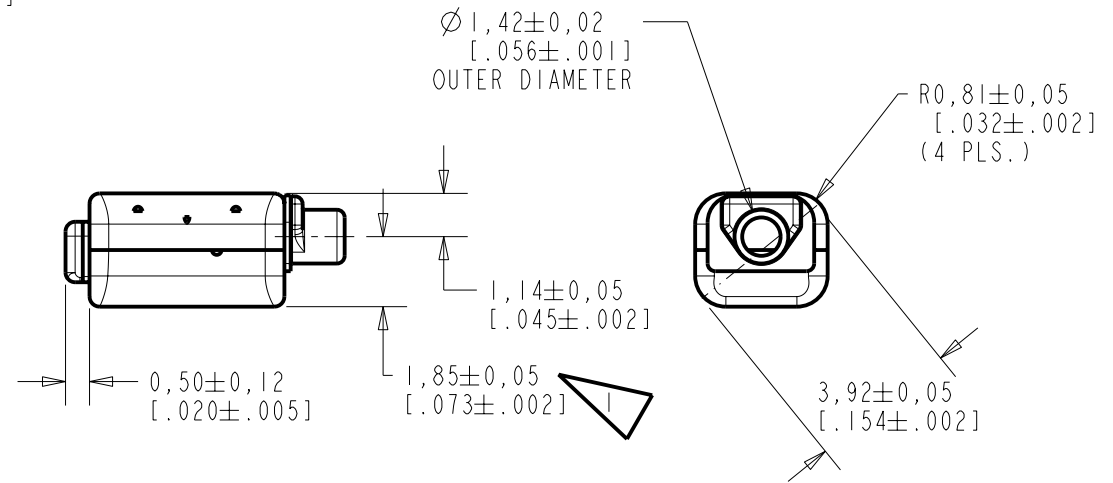
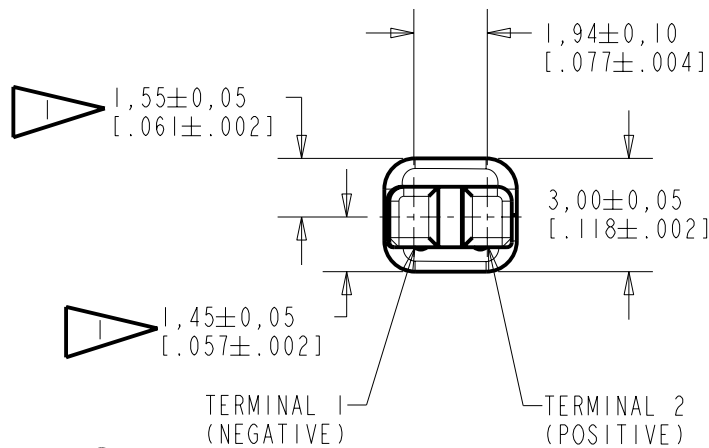
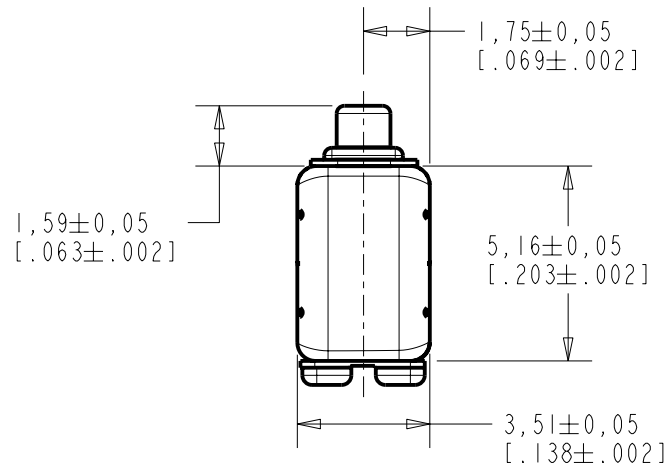


HC-23767-000
SHT 1.1

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 |
|----------|-----------|---------------------|---------------|----------|
| 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-23767-000 | | APP. BY | DATE |
| SHT 1.1 | | GJP | 12-5-05 |

KNOWLES ELECTRONICS
ITASCA, ILLINOIS U.S.A.

DESCRIPTION

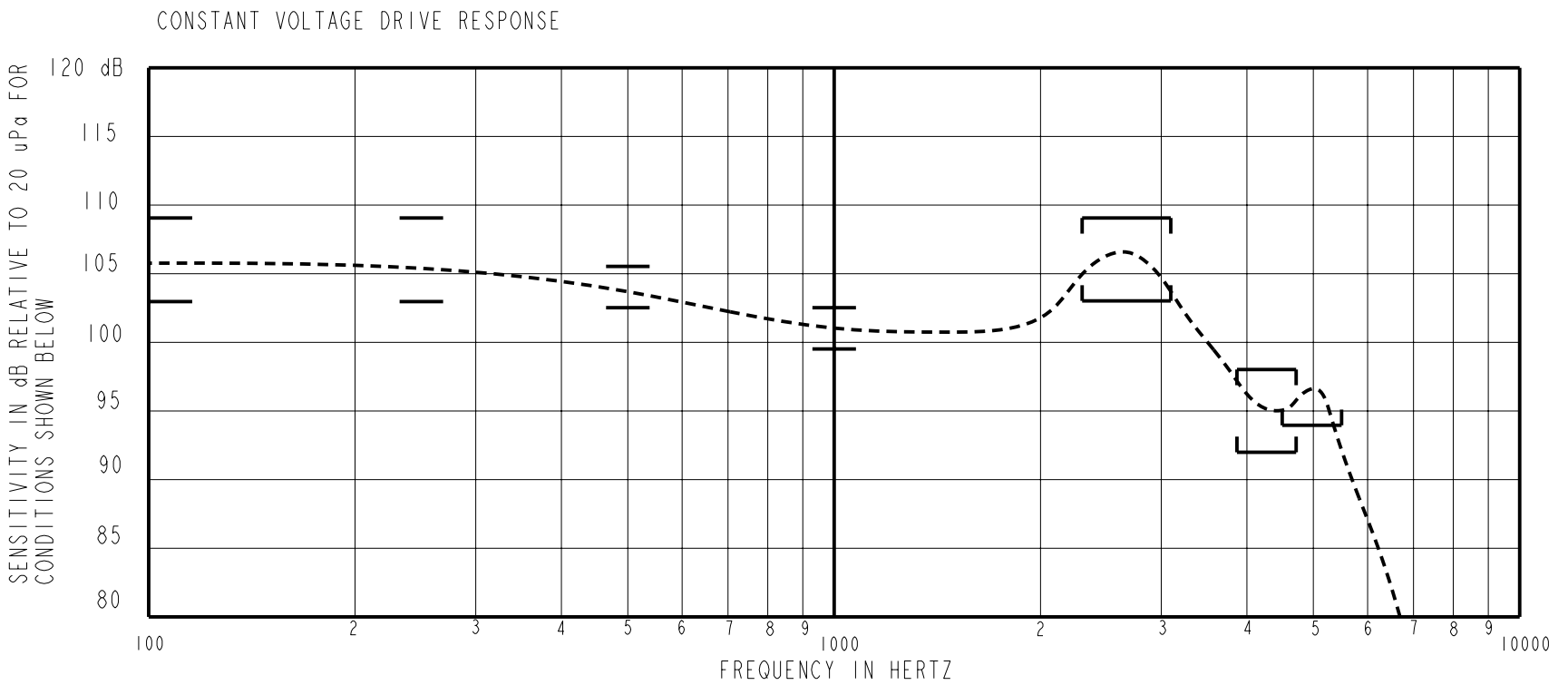
NO DAMPING

HC-23767-000

SHEET 2.1

THE HC-23767-000 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 | .169 V | 0 | 5 |
| 1350 | .169 V | 0 | 5 |
| 500 | .475 V | 0 | 10 |

TABLE 2.

TEST CONDITIONS

| | |
|------------------------|---|
| NOMINAL SOURCE VOLTAGE | .169 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 | 44Ω ±10% | * |
| IMPEDANCE @ 500 Hz | 67Ω ±15% | * |
| IMPEDANCE @ 1 kHz | 117Ω ±20% | * |
| INDUCTANCE @ 500Hz | 16mH ±15% | |
| CAPACITANCE @ 10 MHz | 6pF ±20% | |

TABLE 4.

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

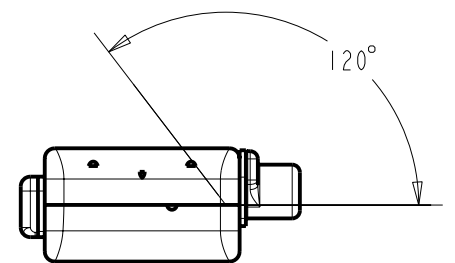
MAGNETIC RADIATION

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 (3.14 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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|----------|-----------|---------------------|---------------|----------|
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| 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**
PERFORMANCE SPECIFICATION

HC-23767-000
SHT 2.1

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