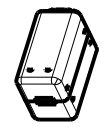
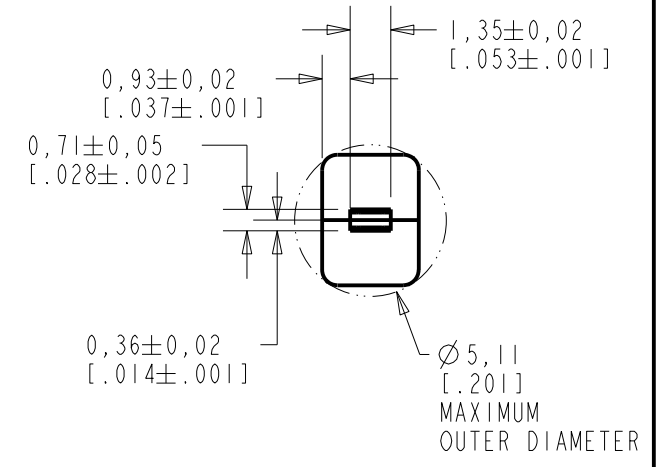
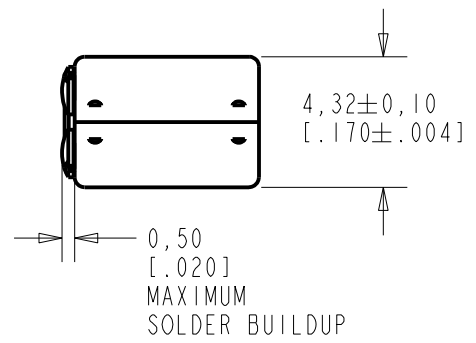
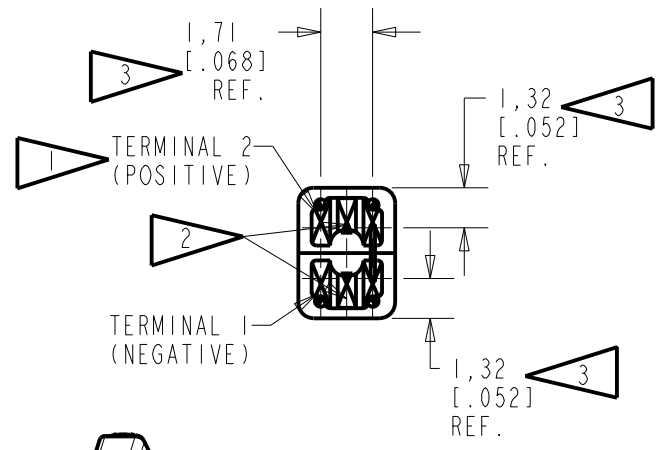
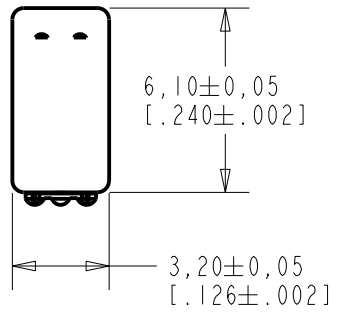


**GR-31711-000**  
SHT 1.1

NOTES:

- 1 A POSITIVE GOING VOLTAGE AT TERMINAL 2, RELATIVE TO TERMINAL 1, CAUSES A DECREASE IN PRESSURE AT THE SOUND OUTLET.
- 2 TERMINAL ELECTRICALLY CONNECTED TO CASE.
- 3 DIMENSION TO APPROXIMATE CENTER OF TERMINAL PAD.



SCALE 2:1  
NOMINAL WEIGHT 0.24 GRAMS  
DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
C	C10114167	9-21-12	<b>Active</b>	<b>C</b>
B	C10114045	8-29-12		
A	C10113749	7-18-12		

SCALE: <b>4:1</b>		DR. BY: LSY	DATE: 7-18-12
DO NOT SCALE DRAWING			
TITLE: <b>RECEIVER</b>		GR-31711-000	
OUTLINE DRAWING		SHT 1.1	
		APP. BY: GJP	DATE: 7-20-12
		APP. BY: GJP	DATE: 7-20-12

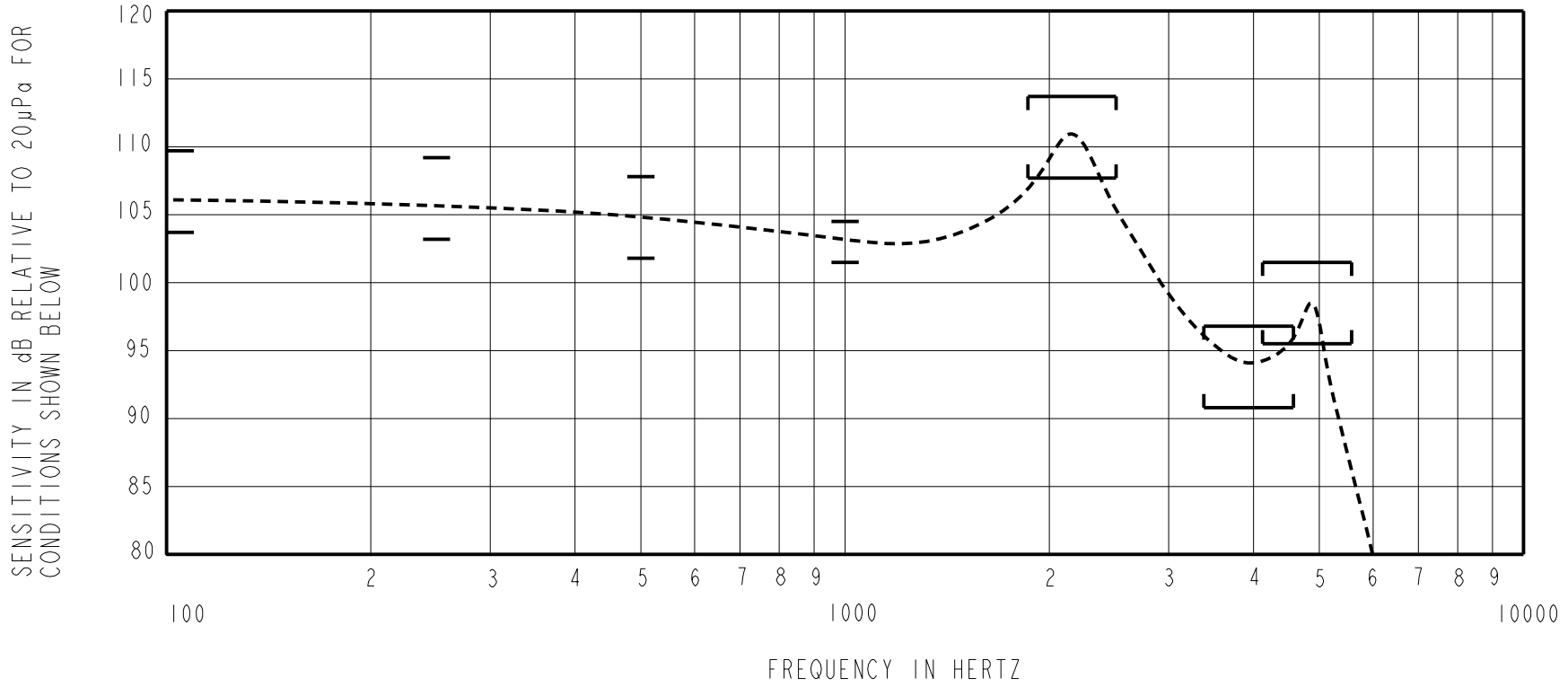
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THIS IS A PAIR OF RECEIVERS WITH VERY LOW VIBRATION IN ALL DIRECTIONS, AND A QUADRAPOLE MAGNETIC RADIATION PATTERN.

NO DAMPING

CR-31711-000  
SHEET 2.1

CONSTANT VOLTAGE DRIVE CONDITIONS



**ACOUSTICAL**

SENSITIVITY DEVICE WILL PRODUCE THE SPL LISTED BELOW UNDER TEST CONDITIONS DESCRIBED IN TABLE 4. NOMINAL SENSITIVITY AT 1kHz IS dB RELATIVE TO 20µPa. ALL OTHER VALUES IN dB RELATIVE TO THE SENSITIVITY AT 1kHz.

LIMIT TYPE	FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
REL	100	+0.7	+3.7	+6.7
REL	250	+0.2	+3.2	+6.2
REL	500	-1.2	+1.8	+4.8
REF	1000	-1.5	103.0	+1.5
PEAK1	1860 - 2510	+4.7	+7.7	+10.7
VALLEY1	3380 - 4580	-12.2	-9.2	-6.2
PEAK2	4125 - 5580	-7.5	-4.5	-1.5

TABLE 1

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

FREQUENCY (Hz)	AC DRIVE (Vrms)	DC BIAS (V)	LIMIT (%)
1/3 PEAK1 (TYP. 705)	0.094	0	3
1/2 PEAK1 (TYP. 1058)	0.094	0	3
1/3 PEAK1 (TYP. 705)	0.265	0	8
1/2 PEAK1 (TYP. 1058)	0.265	0	8

TABLE 2

MAXIMUM OUTPUT LEVEL

FREQUENCY	THD(%)	AC DRIVE (Vrms)	SPL MINIMUM (dB)
500Hz	5	1.305	114.0
PEAK	6	1.305	130.3

TABLE 3

**TEST CONDITIONS**

NOMINAL SOURCE VOLTAGE	0.094 Vrms, 0 mA DC BIAS
MAXIMUM DRIVE VOLTAGE	1.305 Vrms
SOURCE IMPEDANCE	<1 Ohm
TUBING	10 mm [.394"] LONG X 1 mm [.039"] I.D. ("ITE")
COUPLER CAVITY	2 CM <sup>3</sup> , SIMULATED ANSI S3.7 TYPE HA-3 (IEC 60318-5)

TABLE 4

**ELECTRICAL**

DC RESISTANCE @ 20°C	29.0 Ohms ± 10%
IMPEDANCE @ 500 Hz	39.5 Ohms ± 15%
IMPEDANCE @ 1 kHz	63.0 Ohms ± 15%
INDUCTANCE @ 500 Hz	7.1 mH TYPICAL
CAPACITANCE @ 10 MHz	2.8 pF TYPICAL

TABLE 5

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

**MECHANICAL**

PORT LOCATION: 12N

SOLDER TYPE: SAC305

TEMPERATURE

OPERATING: SENSITIVITY WILL NOT VARY MORE THAN +1/-3 dB AT 500 Hz FROM -17°C TO 63°C

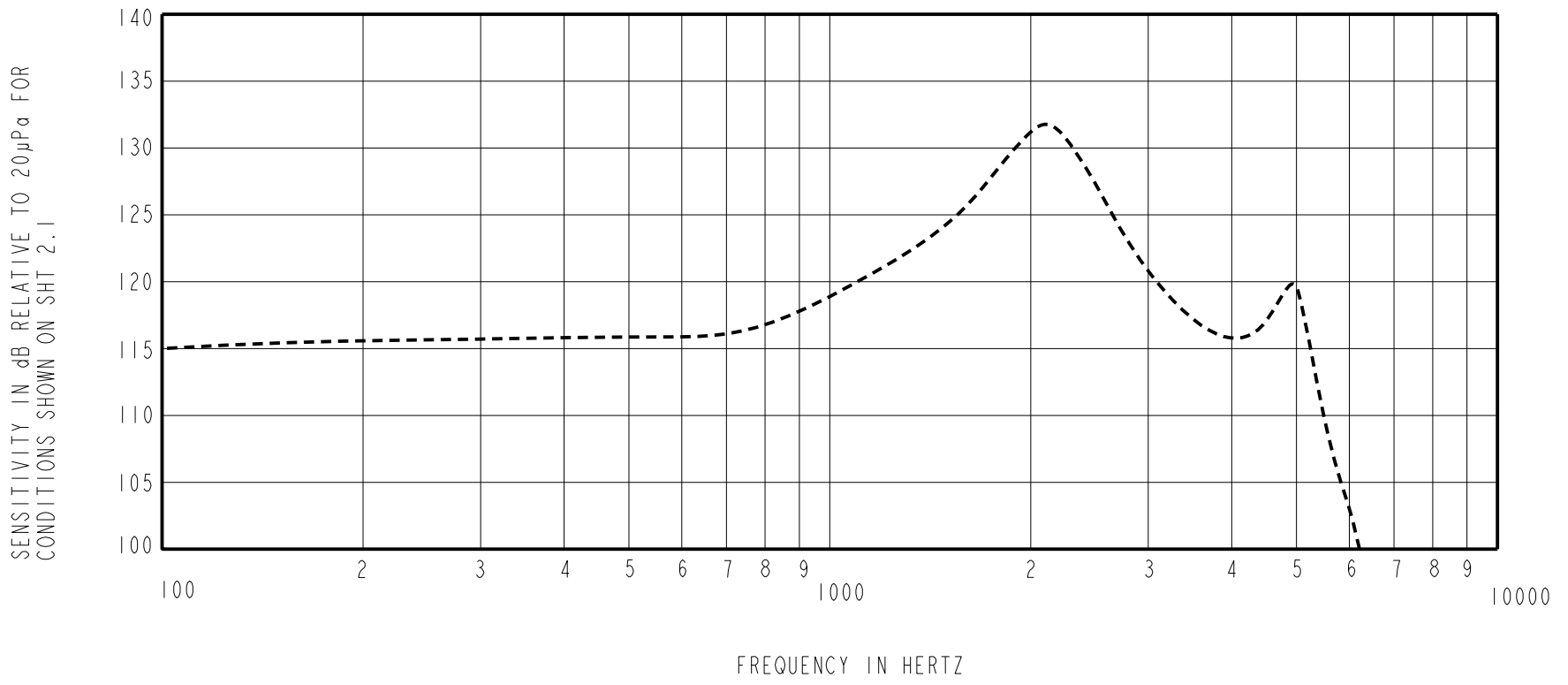
STORAGE: -40°C TO 63°C

SHOCK RESISTANCE: 90% SURVIVAL RATE WITH THD @ 1/3 PEAK FREQUENCY LESS THAN 10%, THD @ 1/2 PEAK FREQUENCY LESS THAN 20% AND LESS THAN 3dB CHANGE IN SENSITIVITY AT 1kHz WHEN SUBJECTED TO 14,100 G.

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B	C10114045	8-29-12		
A	C10113749	7-18-12		
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: <b>RECEIVER</b> PERFORMANCE SPECIFICATION			LSY	7-18-12
			CR-31711-000 SHT 2.1	
			CK. BY	DATE
			GJP	7-20-12
			APP. BY	DATE
			GJP	7-20-12

TYPICAL OUTPUT - 5% THD AND 1.305 V LIMITED



Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
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A	C10113749	7-18-12		

**KNOWLES ELECTRONICS**  
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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

DR. BY	DATE
LSY	7-18-12
CK. BY	DATE
GJP	7-20-12
APP. BY	DATE
GJP	7-20-12

TITLE: **RECEIVER**  
PERFORMANCE SPECIFICATION

**CR-31711-000**  
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