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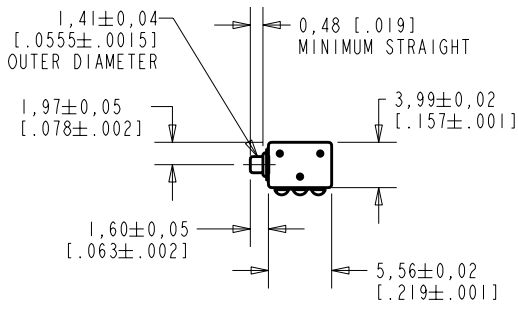
[EA-21843-000](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

**EA-21843-000**

SHT 1.1

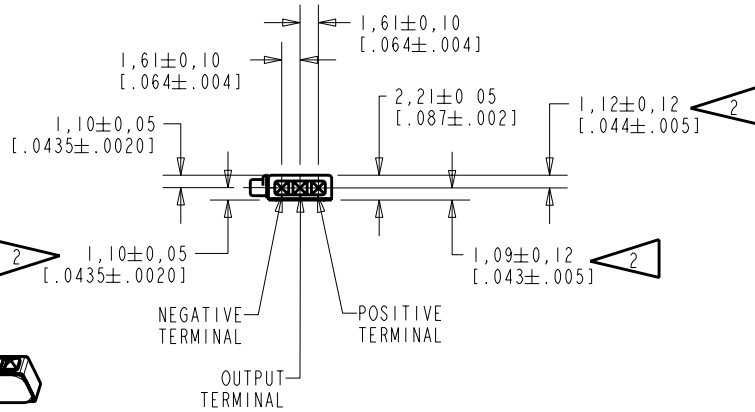


NOTE:

1. INCREASED PRESSURE AT THE SOUND INLET CAUSES A POSITIVE GOING VOLTAGE TO APPEAR AT THE OUTPUT TERMINAL, RELATIVE TO THE NEGATIVE TERMINAL.



2. 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].



0.64  
[.025]  
MAXIMUM  
SOLDER BUILDUP



NOMINAL WEIGHT  
.13 GRAM

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
A	MI0101526	8-3-07	Released	A

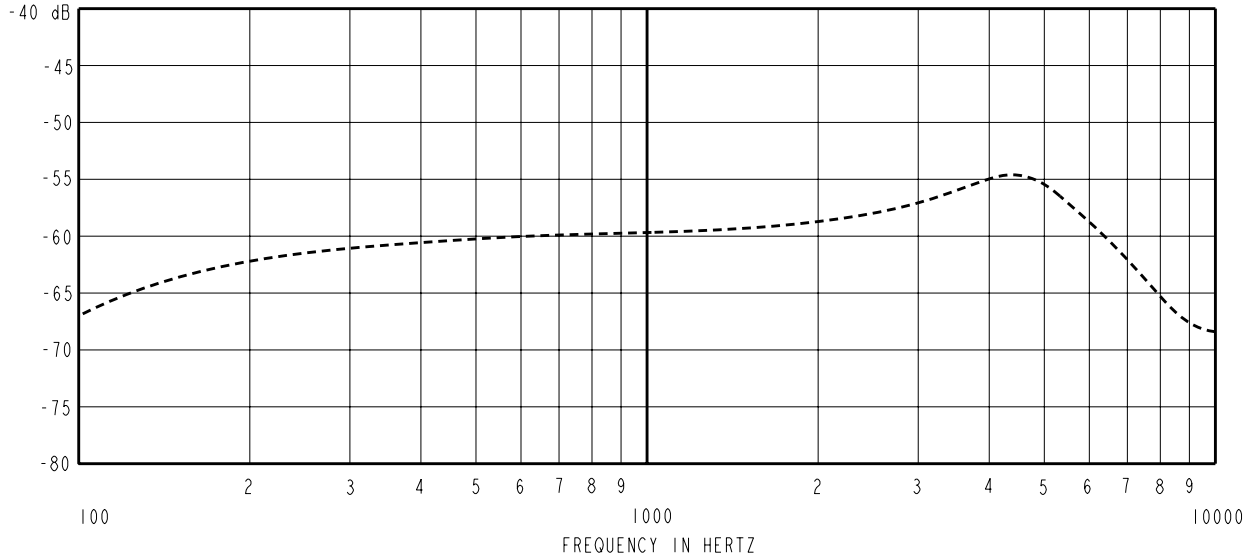
**KNOWLES ELECTRONICS**  
ITASCA, ILLINOIS U.S.A.

SCALE:	2:1		DR. BY	DATE
DO NOT SCALE DRAWING			LSY	8-3-07
TITLE:	MICROPHONE	EA-21843-000	CK. BY	DATE
OUTLINE DRAWING		SHT 1.1	GJP	8-8-07
			APP. BY	DATE
			GJP	8-8-07

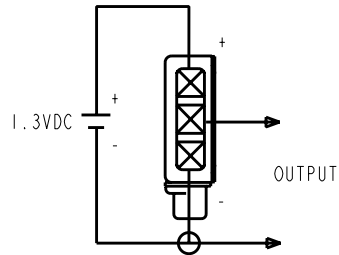
KE111ASIZE.FRM

Rev: B

SENSITIVITY IN dB RELATIVE TO 1.0 VOLT/0.1 Pa (N/M<sup>2</sup>)  
FOR CONDITIONS SHOWN BELOW.



FREQUENCY	SENSITIVITY			DEVICE CONFORMITY	
	MIN.	NOM.	MAX.	RANGE OF DEVIATION FROM 1KHz	
100	---	-66.0	---	-11.0	-4.0
1000	-62.0	-59.0	-56.0	0.0	0.0
≈ 4250	---	-54.5	---	+1.5	+7.5



NOTES:

1. CASE CONNECTED TO NEGATIVE TERMINAL.
2. MICROPHONE TO BE FUNCTIONAL WITH 10 VDC SUPPLY.
3. CONFORMS TO REQUIREMENTS SHOWN ON 'ELECTRET MICROPHONE ENVIRONMENTAL QUALIFICATION TEST, SHEET 2.2'.

PORT LOCATION	DC SUPPLY	AMPLIFIER CURRENT DRAIN	SENSITIVITY CHANGE ON REDUCING SUPPLY TO 0.9VDC	"A" WEIGHTED NOISE (1 kHz EQUIV. SPL)	OUTPUT IMPEDANCE OHMS			CAPACITANCE ±50%	
					MIN.	NOM.	MAX.	1-2	1-3
9S	1.3V	50 µA MAX.	3 dB MAX.	28.5 dB MAX.	2000	3500	6000	NA	NA

WHEN THESE TESTS ARE USED TO ESTABLISH PRODUCT QUALIFICATION, CORRELATION OF TEST EQUIPMENT WITH KNOWLES ELECTRONICS IS ALSO REQUIRED TO ELIMINATE EQUIPMENT AND TEST METHOD VARIATION.

BECAUSE THIS IS AN ACCELERATED LIFE TEST, IT FOLLOWS THAT THE UNITS WHICH HAVE BEEN TESTED WILL NOT QUALIFY AS IN-WARRANTY RETURNS. SINCE THESE TESTS ARE DESTRUCTIVE IN NATURE, DEVICES SUBJECTED TO THESE TESTS SHOULD NOT BE USED IN PRODUCTION.

**I. ACCELERATED DAMP HEAT TEST.**

**I.1 PRECONDITIONING:**

- TIME - 16 HOURS
- TEMPERATURE - 22°C ± 1°C
- HUMIDITY - 60% MAX. R.H.

**I.2 TEST CONDITIONS:**

- TIME AT CONDITIONS: - 1000 HOURS
- TEMPERATURE - 63°C ± 1°C
- HUMIDITY - 95% R.H. ± 2%
- VOLTAGE STRESS - DETAILED FIG. 1

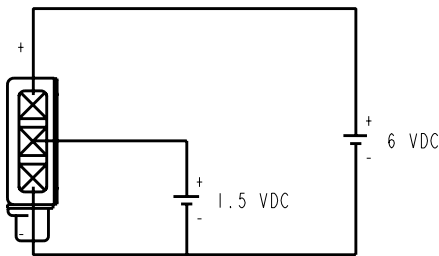


FIG. 1

(AVOID CONDENSATION FALLING ON UNITS UNDER TEST.)

**I.3 INITIAL MEASUREMENTS:**

AFTER PRECONDITIONING, MEASURE SENSITIVITY PER SHEET 2.1 OF THE APPLICABLE KNOWLES ELECTRONICS MICROPHONE PERFORMANCE SPECIFICATION.

**I.4 TEST PROCEDURE:**

INSERT UNIT(S) INTO TEST CHAMBER PER CONDITIONS OF 1.2.

**I.5 RECOVERY:**

- TIME - 2 HOURS
- TEMPERATURE - 22°C ± 1°C
- HUMIDITY - 60% MAX. R.H.

**I.6 FINAL MEASUREMENTS:**

MEASURE SENSITIVITY PER CONDITIONS DESCRIBED ON SHEET 2.1.

**I.7 REQUIREMENT:**

NO UNITS WILL BE INOPERATIVE FOLLOWING THE TEST AND RECOVERY CYCLE.

**2. SHOCK TEST**

**2.1 PRECONDITIONING:**

- TIME - 16 HOURS
- TEMPERATURE - 22°C ± 1°C
- HUMIDITY - 60% MAX. R.H.

**2.2 TEST CONDITIONS:**

- HALF-SINE IMPULSE DURATION - 100 MICROSECONDS
- PEAK AMPLITUDE - 20,000 g

SPURIOUS DEVIATIONS IN THE HALF-SINE IMPULSE CURVE SHALL BE REDUCED TO WHERE RESULTS ARE NOT APPRECIABLY AFFECTS.

UNIT(S) TO BE SUBJECTED TO THE TEST CONDITIONS EITHER IN THE COVER UP OR COVER DOWN ORIENTATION.

**2.3 INITIAL MEASUREMENTS:**

AFTER PRECONDITIONING, MEASURE AND RECORD THE 1 kHz SENSITIVITY PER SHEET 2.1 OF THE APPLICABLE KNOWLES ELECTRONICS MICROPHONE PERFORMANCE SPECIFICATION.

**2.4 TEST PROCEDURE:**

STRESS UNIT(S) ACCORDING TO THE ABOVE 2.2 TEST CONDITIONS.

**2.5 RECOVERY:**

UNITS TO BE MEASURED IMMEDIATELY AFTER TEST CYCLE.

**2.6 FINAL MEASUREMENTS:**

MEASURE AND RECORD THE 1 kHz SENSITIVITY PER SHEET 2.1.

**2.7 REQUIREMENT:**

THE UNIT(S) SHALL SHOW A MAXIMUM CHANGE IN 1kHz SENSITIVITY (INITIAL TO FINAL) OF 1.0 dB AS A RESULT OF THE TEST CYCLE.