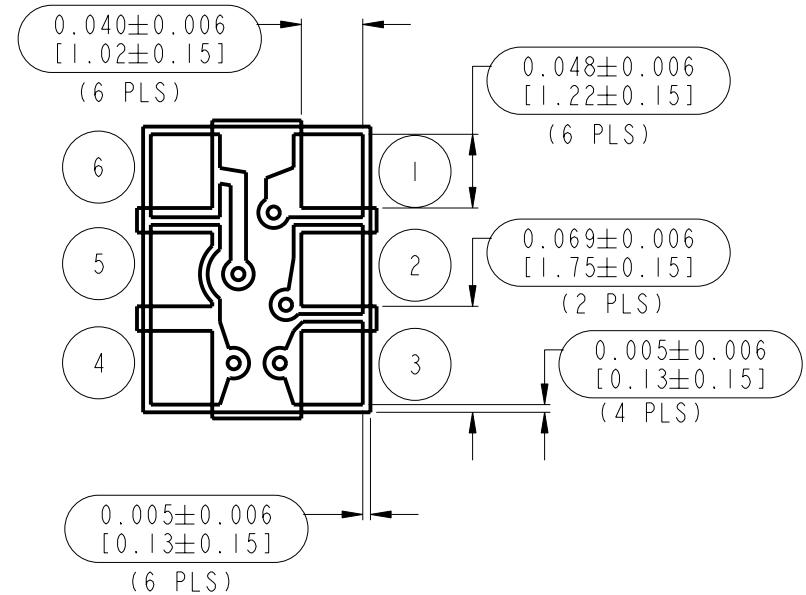
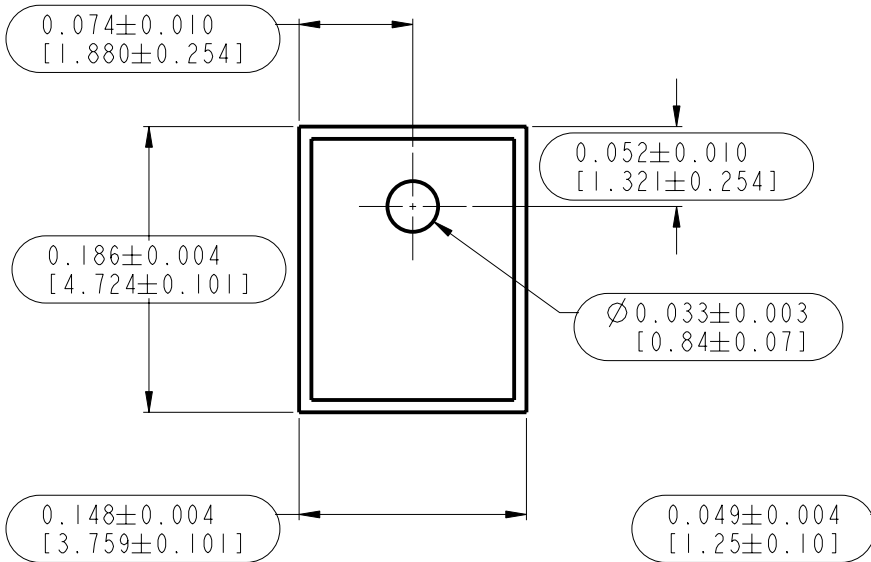


**SPM0206HE3**  
SHT 1.1

TOP VIEW

SIDE VIEW

BOTTOM VIEW



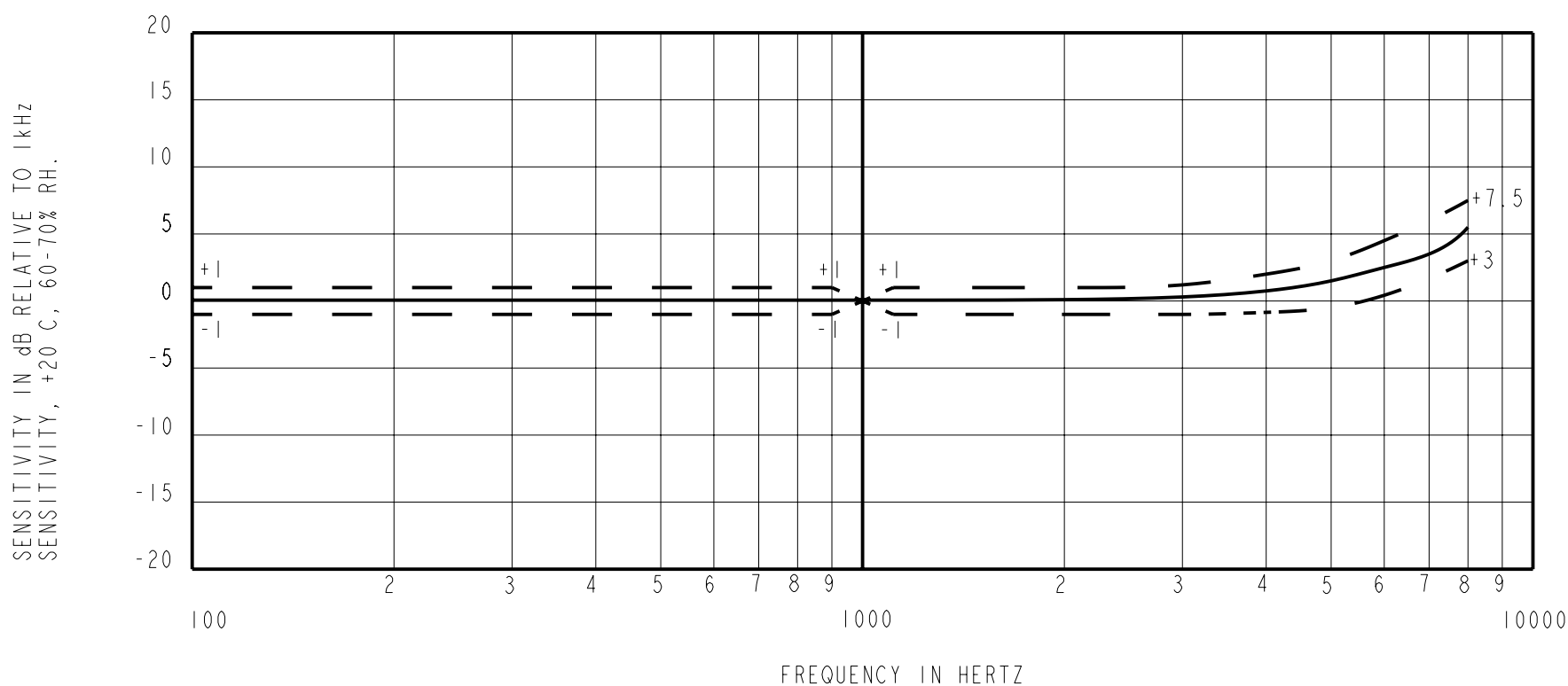
PIN	FUNCTION
1	OUTPUT +
2	OUTPUT -
3	GAIN CONTROL
4	GROUND
5	NO CONNECTION OR GROUND
6	POWER (Vdd)

DIMENSIONS IN INCHES [MILLIMETERS]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
C	CI0105330	1-31-07	Released	C
B	CI0104380	06-20-06		
A	CI0104042	03-24-06		

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

SCALE: <b>8:1</b>		DR. BY	DATE
DO NOT SCALE DRAWING		DMS	03-09-06
TITLE: <b>ASSEMBLY, MICROPHONE</b>		CK. BY	DATE
OUTLINE DRAWING		GJP	03-24-06
<b>SPM0206HE3</b>		APP. BY	DATE
<b>SHT 1.1</b>		GJP	03-24-06



ACOUSTIC & ELECTRICAL CHARACTERISTICS  
(TEST CONDITIONS: +20°C, 60-70% R.H.)

	SYMBOL	CONDITION	LIMITS			UNIT
			MIN.	NOM.	MAX.	
DIRECTIVITY		OMNI-DIRECTIONAL				
SENSITIVITY	S	@ 1kHz (0dB=1V/P <sub>a</sub> )	-46	-42	-38	dB
OUTPUT IMPEDANCE	Z <sub>OUT</sub>	SENSITIVITY DECREASES BY 6dB	N/A	N/A	100	Ω
CURRENT CONSUMPTION	I <sub>DSS</sub>	ACROSS 1.5 TO 5.5 V	0.100	N/A	0.250	mA
SIGNAL TO NOISE RATIO	S/N	@ 1kHz (0dB=1V/P <sub>a</sub> )	55	59	N/A	dB
SUPPLY VOLTAGE	V <sub>S</sub>		1.5	N/A	5.5	V
TYPICAL INPUT REFERRED NOISE	ENL	A-WEIGHTED, 10kHz BW, RELATIVE TO SENSITIVITY @ 1kHz/IP <sub>a</sub>	N/A	35	39	dBA SPL
SENSITIVITY LOSS ACROSS SUPPLY VOLTAGE		CHANGE IN SENSITIVITY OVER 5.5 V TO 1.5 V	NO CHANGE ACROSS VOLTAGE RANGE			dB
THD		100dB SPL INPUT @ 1kHz	N/A	N/A	1%	dB
		115dB SPL INPUT @ 1kHz	N/A	N/A	10%	
OPERATING TEMPERATURE			-40		+100	°C
STORAGE TEMPERATURE			-40		+100	°C

RELIABILITY CHARACTERISTICS  
(AFTER TEST CONDITIONS ARE PERFORMED, THE SENSITIVITY OF THE MICROPHONE SHALL NOT DEVIATE MORE THAN 3dB FROM ITS INITIAL VALUE.)

THERMAL SHOCK	MICROPHONE UNIT MUST OPERATE WHEN EXPOSED TO AIR-TO-AIR THERMAL SHOCK 100 CYCLES, FROM -40°C TO +125°C. (IEC 68-2-4)
HIGH TEMPERATURE STORAGE TEST	MICROPHONE UNIT MUST MAINTAIN SENSITIVITY AFTER STORAGE AT +105°C FOR 1,000 HOURS. (IEC 68-2-2 TEST Ba)
LOW TEMPERATURE STORAGE TEST	MICROPHONE UNIT MUST MAINTAIN SENSITIVITY AFTER STORAGE AT -40°C FOR 1,000 HOURS. (IEC 68-2-1 TEST Aa)
HIGH TEMPERATURE OPERATING TEST	MICROPHONE UNIT MUST OPERATE WITHIN SENSITIVITY SPECIFICATIONS FOR 1,000 HOURS AT +105°C. (IEC 68-2-2 TEST Ba)
LOW TEMPERATURE OPERATING TEST	MICROPHONE UNIT MUST OPERATE WITHIN SENSITIVITY SPECIFICATIONS FOR 1,000 HOURS AT -40°C. (IEC 68-2-1 TEST Aa)
HUMIDITY TEST	TESTED UNDER BIAS AT 85°C/85% R.H. FOR 1,000 HOURS. (JESD22-A101A-B)
VIBRATION TEST	MICROPHONE UNIT MUST OPERATE UNDER TEST CONDITIONS: 4 CYCLES, FROM 20 TO 2,000 Hz IN EACH DIRECTION (X,Y,Z), 48 MINUTES, USING PEAK ACCELERATION OF 20g (+20%, -0%). (MIL 883E, METHOD 2007.2, A)
ELECTROSTATIC DISCHARGE	TESTED TO 8kV DIRECT CONTACT DISCHARGE OR 15kV AIR DISCHARGE AS SPECIFIED BY IEC 1000-4-2, LEVEL 3 AND LEVEL 4.
REFLOW	MICROPHONE IS TESTED TO 5 PASSES THROUGH REFLOW OVEN, WITH MICROPHONE MOUNTED UPSIDE-DOWN UNDER CONDITIONS OF 260°C FOR 30 SECONDS MAXIMUM.
MECHANICAL SHOCK	MICROPHONE MUST OPERATE AFTER EXPOSURE TO SHOCK TEST OF 5,000g PER IEC 68-2-27, EA.

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
C	C10105330	1-31-07	Released	C
B	C10104380	06-20-06		
A	C10104042	03-24-06		

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

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: **ASSEMBLY, MICROPHONE**  
PERFORMANCE SPECIFICATION

**SPM0206HE3**  
SHT 2.1

DR. BY	DATE
DMS	03-09-06
CK. BY	DATE
GJP	03-24-06
APP. BY	DATE
GJP	03-24-06