



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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

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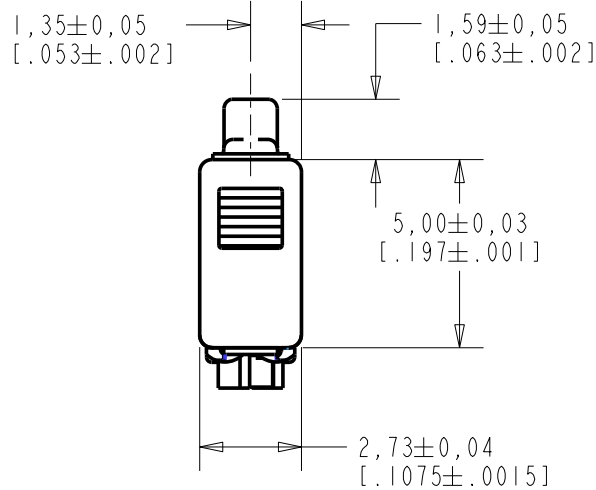
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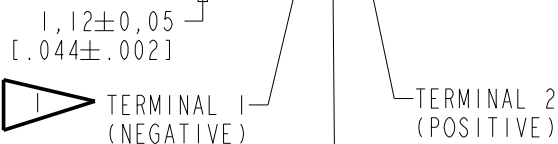
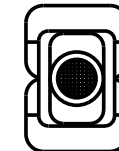
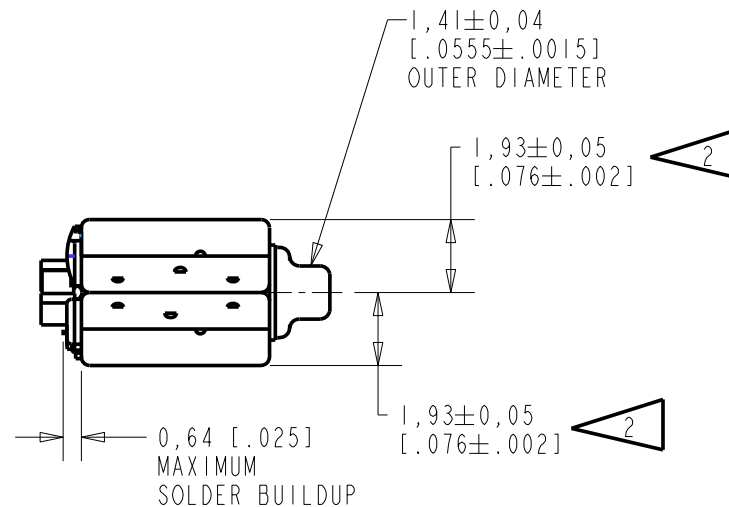
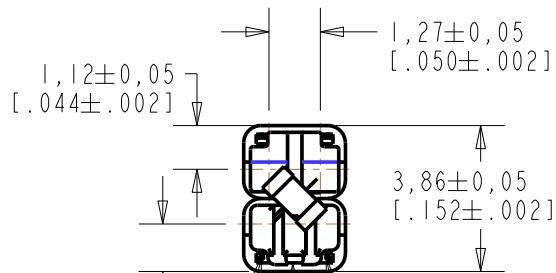
**TWFK-30195-000**

**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 LOCATED FROM TWO SURFACES FOR CUSTOMER CONVENIENCE. ONLY APPLICABLE FROM ONE SURFACE, NOT TO BE USED TOGETHER.



UNUSED TERMINAL  
RUBBER SEAL REMOVED FOR  
BACK VENT AFTER FINAL TEST



SCALE 2:1

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
C	C10108259P	12-18-08	Active	C
B	C10106978	1-11-08		

SCALE: **5:1**

DO NOT SCALE DRAWING

TITLE: **RECEIVER**

**TWFK-30195-000**

OUTLINE DRAWING

**SHT 1.1**

DR. BY	DATE
CRG	8-16-07
CK. BY	DATE
GJP	8-17-07
APP. BY	DATE
GJP	8-17-07

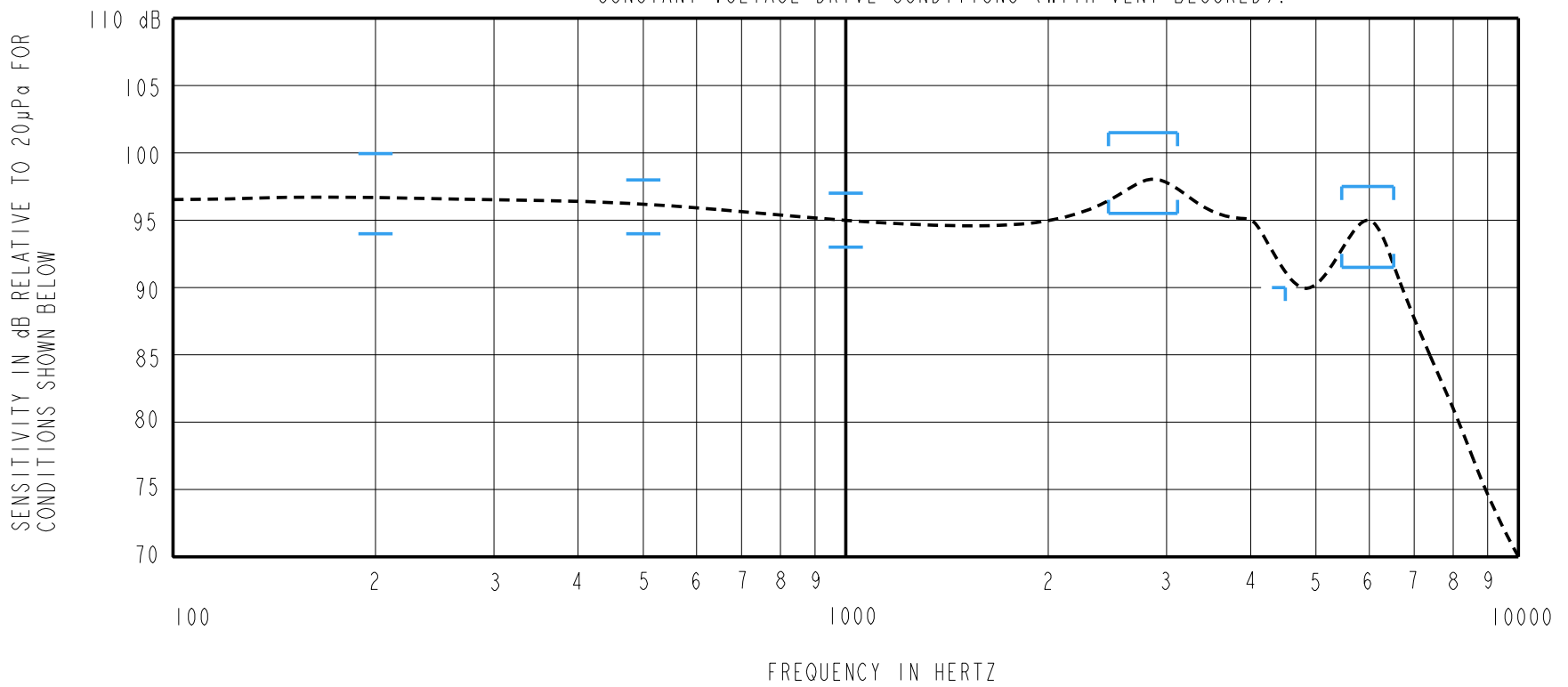
**KNOWLES ELECTRONICS**  
ITASCA, ILLINOIS U.S.A.

MAGNETIC BALANCED ARMATURE RECEIVERS INTENDED FOR USE AS THE HIGH AND LOW FREQUENCY DRIVERS IN A Hi Fi SYSTEM. THE TWFK IS A WIDEBAND FK AND FK RECEIVER PAIR WITH AN EXTENDED HIGH FREQUENCY RESPONSE AND SHOCK PROTECTION. UNIT INCLUDES PRE-ATTACHED CROSSOVER CAPACITOR, FK RECEIVER VENTED THROUGH UNUSED TERMINAL.

TYPE 1 DAMPING

TWFK-30195-000  
SHEET 2.1

NOTE: SPECIFICATIONS FOLLOWED BY AN ASTERISK (\*) ARE 100% TESTED.  
CONSTANT VOLTAGE DRIVE CONDITIONS (WITH VENT BLOCKED).



### ACOUSTICAL

SENSITIVITY\*  
DEVICE WILL PRODUCE THE SPL LISTED BELOW UNDER TEST CONDITION IN TABLE 3.  
NOMINAL SENSITIVITY AT 1kHz IS dB RELATIVE TO 20 µPa. ALL OTHER VALUES IN dB RELATIVE TO THE SENSITIVITY AT 1kHz.

FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
200	-1.0	+2.0	+5.0
500	-1.0	+1.0	+3.0
1000	-2.0	95.0	+2.0
2500-3100	+0.5	+3.5	+6.5
4500	-5.0	---	---
5550-6550	-3.5	-0.5	+2.5

TABLE 1

### MECHANICAL

PORT LOCATION: 12S  
SOLDER TYPE: SAC305

### TEMPERATURE:

OPERATING: SENSITIVITY AT 500Hz WILL NOT VARY BY MORE THAN ±3 dB FROM 0°C TO 63°C.  
STORAGE: -40°C TO 63°C.

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

FREQUENCY (Hz)	AC DRIVE (V rms)	DC BIAS (mA)	LIMIT (%)
930	0.246	0	5
1400	0.246	0	5
500	0.696	0	8

TABLE 2

### TEST CONDITIONS

0.22µF CAPACITOR CONNECTED TO THE INPUT OF THE WBFK RECEIVER

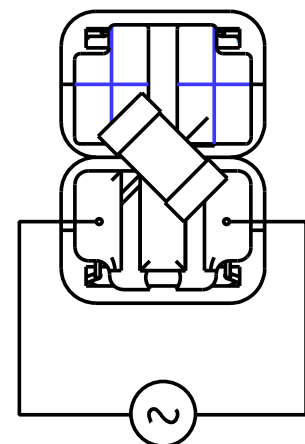
NOMINAL SOURCE VOLTAGE	0.246 V rms, 0 V DC BIAS
SOURCE IMPEDANCE	<1 Ohm
TUBING	10mm [.394"] LONG, 1mm [.039"] I.D.
COUPLER CAVITY	2 CM <sup>3</sup> , SIMULATED ANSI S3.7 TYPE HA-3 (IEC 126)

TABLE 3

### ELECTRICAL

DC RESISTANCE	200 Ohms ± 10%* 200 Ohms FK / 50 Ohms WBFK
IMPEDANCE @ 500 Hz	243 Ohms ± 15%*
IMPEDANCE @ 1kHz	353 Ohms ± 15%*

TABLE 4



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

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
C	C10108259P	12-18-08	Active	C
B	C10106978	1-11-08		
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		TWFK-30195-000		DR. BY DATE
PERFORMANCE SPECIFICATION		SHT 2.1		CRG 8-16-07
				CK. BY DATE
				GJP 8-17-07
				APP. BY DATE
				GJP 8-17-07

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