

## Excellent Integrated System Limited

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[FED-30027-I24](#)

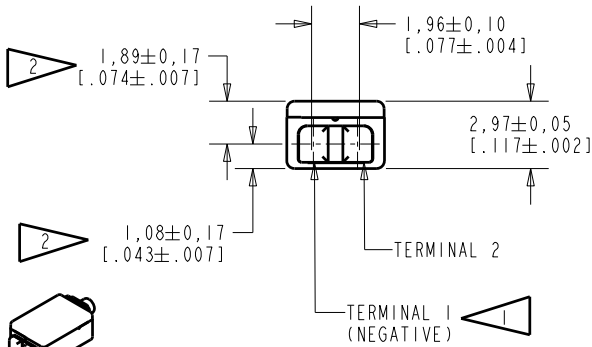
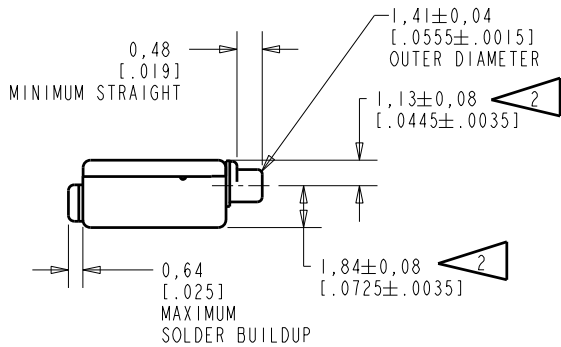
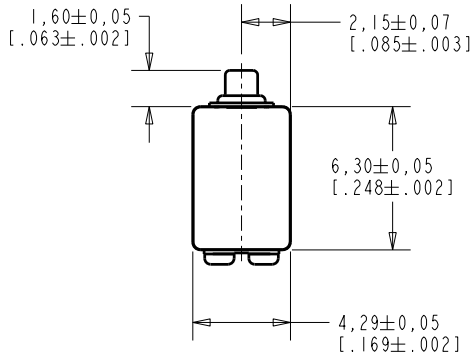
For any questions, you can email us directly:

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

**FED-30027-124**  
SHT 1.1

NOTE:

- 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. HORIZONTAL LOCATION FOR TERMINAL CENTERED TO  $\pm 0,17$  [.007].



SCALE 2:1

NOMINAL WEIGHT  
.31 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
			Active	D
D	CI0109720	5-15-09		

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

SCALE:	4:1		DR. BY	DATE
DO NOT SCALE DRAWING			SDZ	6-14-06
TITLE:			CK. BY	DATE
RECEIVER		FED-30027-124	GJP	6-23-06
OUTLINE DRAWING		SHT 1.1	APP. BY	DATE
			GJP	6-23-06

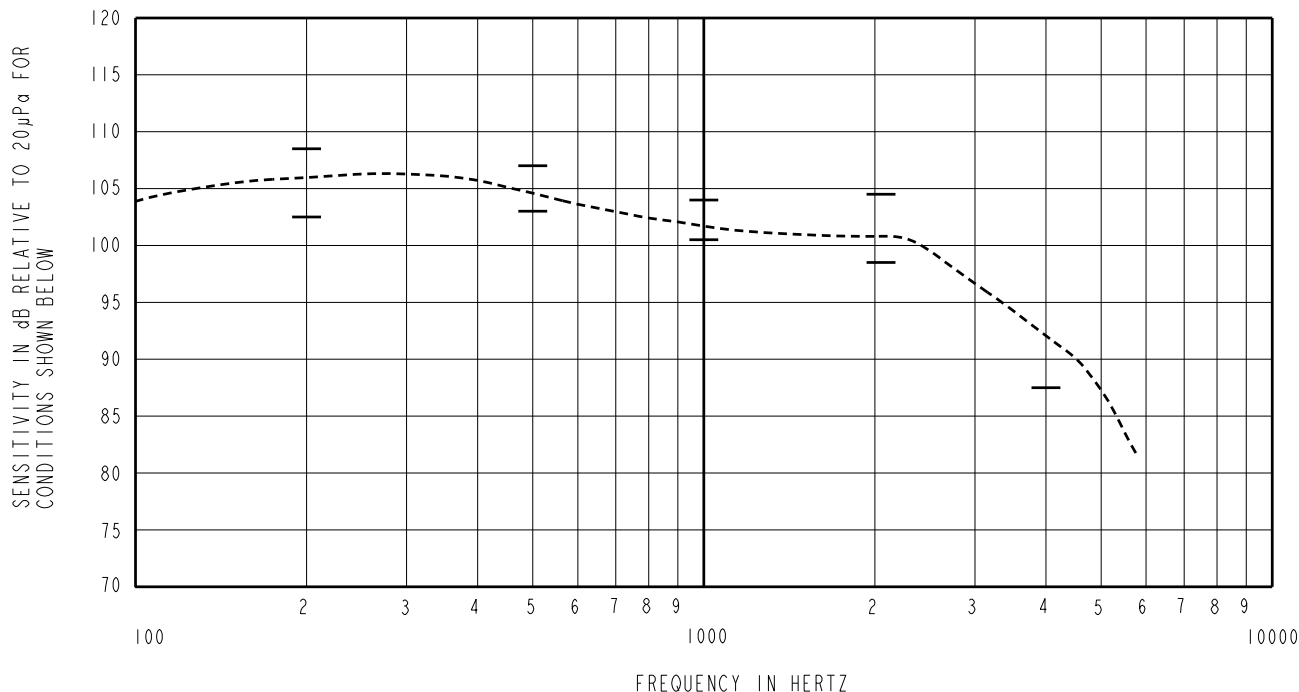
FERROFLUID AND  
TYPE II DAMPING

FED-30027-124

SHEET 2.1

THE FED-30027-124 IS A FERROFLUID AND HEAVY TYPE II DAMPED ED-27288 RECEIVER WITH A PEAK OF -1dB RELATIVE TO THE SENSITIVITY AT 1kHz UNDER CONSTANT VOLTAGE DRIVE CONDITIONS. THIS MODEL HAS INCREASED DCR/IMPEDANCE RATIO AND IS NOMINALLY 4 dB DAMPED BY FERROFLUID AND 4dB BY HEAVY TYPE II DAMPING.

CONSTANT VOLTAGE DRIVE CONDITIONS



**ACOUSTICAL**

**SENSITIVITY**

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

FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
200	0.0	+3.0	+6.0
500	+0.5	+2.5	+4.5
1000	-2.0	102.5	+2.0
2050	-4.0	-1.0	+2.0
4000	-15.0	---	---

PORT LOCATION: 12C

TABLE 1

**TOTAL HARMONIC DISTORTION**

DEVICE WILL NOT EXCEED TOTAL HARMONIC DISTORTION LEVELS LISTED BELOW.

FREQUENCY (Hz)	AC DRIVE (V rms)	DC BIAS (mA)	LIMIT (%)
500	0.470	0	10
830	0.167	0	5
1250	0.167	0	5

TABLE 2

**TEST CONDITIONS**

NOMINAL SOURCE VOLTAGE	0.167 V rms, 0mA 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	48 OHMS ± 10%
IMPEDANCE @ 500 Hz	74 OHMS ± 15%
IMPEDANCE @ 1 kHz	116 OHMS ± 15%

TABLE 4

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

TEMPERATURE: OPERATING RANGE FROM 0°C TO 63°C (SENSITIVITY WILL NOT VARY BY MORE THAN ±3 dB WITHIN RANGE) SENSITIVITY AT 0°C IS 2dB LOWER THAN THE SENSITIVITY AT ROOM TEMPERATURE. DELTA PEAK IS 1dB HIGHER AT BODY TEMPERATURE (37°C) STORAGE RANGE FROM -40°C TO 63°C.