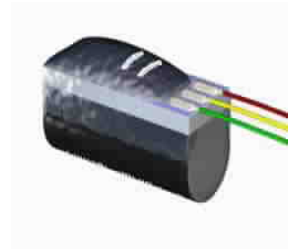


### Description

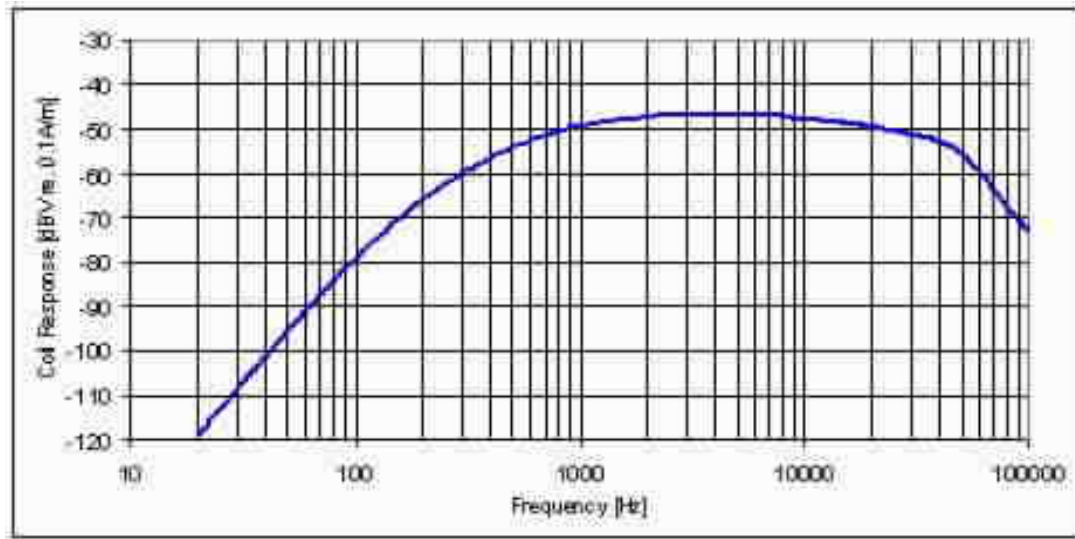
Amplified inductive pick-up coil for use in hearing instruments.

The coil has an integrated pre-amplifier with standard EMI suppression for improved compatibility with digital cellular phones. Furthermore, it features a higher-order low frequency roll off for LF noise (50/60 Hz) attenuation.

The output stage is equivalent to the one found in our microphones with CMOS ICs (e.g. 6000, 96/9700 and 1M000 series), and allows direct switching between microphone and coil. The response curve is flat which ensures good matching of the telecoil and microphone response.



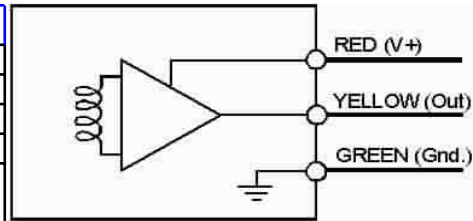
### Typical response curve



### Absolute maximum ratings

Parameter	Symbol	Min	Max	Unit
Supply voltage	Vdd	0.9	3.6	VDC
Operating temperature	Tw	-10	50	°C
Storage temperature	Ts	-40	80	°C
ESD protection level	Vesd	3		kV

ESD protection level: Class 2 according to MIL-STD-750D, test method 1020.2. Apply protection in accordance with IEC 61340-5-1 and 61340-5-2.



Sonion reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

### Electrical characteristics

Unless otherwise specified, Vdd = 1 VDC, frequency = 1 kHz, temperature = 23°C (73.4F) and H = 100 mA/M and load 10 pF/200 kOhm. All parameters were measured according their specific MQP.

Parameters	Symbol	Min	Typ	Max	Unit	Comments	
Supply voltage	Vdd	0.9	1	1.5	VDC		
Supply current	Idd	40	55	90	µA	Vdd: 0.9-1.5 V	
DC output voltage	Vo	450	580	800	mV	Vdd: 0.9-1.5 V	
Output impedance	Zout	1700	3000	4500	Ohm	Vdd: 0.9-1.5 V	
Sensitivity	@ 200 Hz	S200	-69.5	-67	-64.5	dB re 1V/0.1Am <sup>-1</sup>	
	@ 1 kHz	S1k	-51.5	-49.5	-47.5		
	@ 5 kHz	S5k	-49	-46.5	-44		
Sensitivity	@ 200 Hz	S200	-72	-69.5	-67	dB re 1V/0.1Am <sup>-1</sup>	10 kOhm load
	@ 1 kHz	S1k	-54	-52	-50		
	@ 5 kHz	S5k	-51.5	-49	-46.5		
1st High pass cutoff frequency	F1	175	217	270	Hz		
2nd High pass cutoff frequency	F2	0.85	1.05	1.3	kHz	\$@5kHz-3dB	
1st Low pass cutoff frequency	F3	15.8	19.8	24	kHz	\$@5kHz-3dB	
Equivalent input noise <sup>1</sup>	Ni		30	32.5	dB MFL*	0.1-10kHz (Awtg)	
Maximum output voltage swing	Vout		27		pk-to-pk mV	THD < 1%	
Maximum input signal <sup>2</sup>	Mi		87.5		dB MFL*	THD < 1%	
Dynamic range	DR		-57.5		dB		
Total harmonic distortion (1kHz)	THD		0.3	1	%	Vo = 10mVrms	
Power supply rejection <sup>3</sup>	PSR	16	20		dB	0.1-10kHz	
Eq. EMI noise <sup>1</sup>	0.9 GHz	Nemi0.9		35	dB MFL*	Near-field measurement	
	1.9 GHz	Nemi1.9		77	dB MFL*		
50 Hz suppression re 2 kHz level	dB		50		dB		

#### Notes:

<sup>1</sup> A-weighted input referred noise voltage

<sup>2</sup> With maximum THD of 1%

<sup>3</sup> Power supply rejection (PSR) is expressed as the maximum of inverse function of the small-signal voltage gain from the positive power supply line to the output of the amplifier in the frequency range 0.1-10kHz.

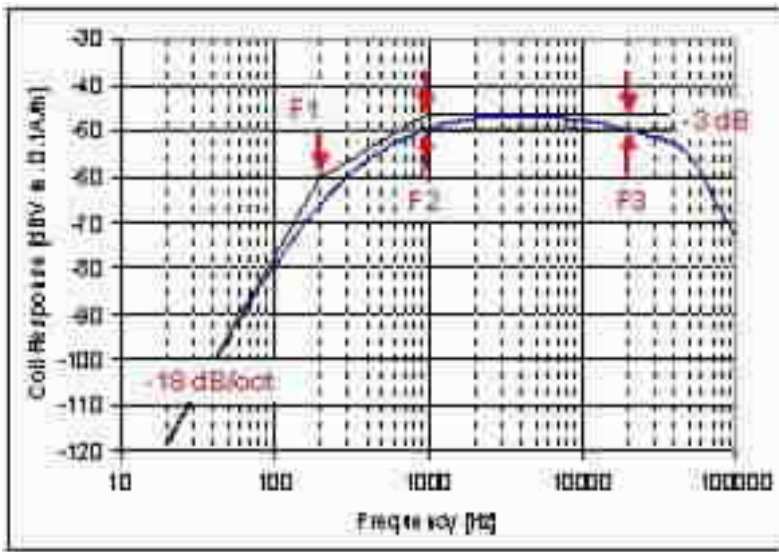
\* 0 dB MFL (Magnetic Field Level) - 0 dB SPL (70 dB SPL - 100 mA/m is the typical conversation level)

0 dB MFL - 31.6 µA/m = Hr

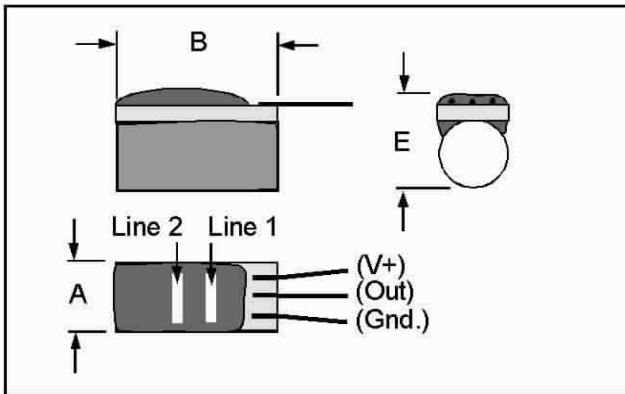
Hi [MFL] = Vo [dB re 1V] - S [dB re 1V/Am<sup>-1</sup>] - Hr [dB re 1Am<sup>-1</sup>] = Vo [dB re 1V] - S [dB re 1V/0.1Am<sup>-1</sup>] + 70

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### Cutoff frequency



### Dimensions



### Mechanical data

Dimensions	in mm	in inch
Dimension A max.	2.34	0.092
Dimension B max.	4.8	0.189
Dimension E max.	3.05	0.12

### Color code

Line 1	Yellow
Line 2	Red

### Lead wires

Parameters	Supply lead (V+)	Signal lead (Out)	Ground lead (Gnd)
Diameter in mm	0.125	0.125	0.125
Plating	None	None	None
Color	Red	Yellow	Green
Length in mm*	30 ± 2	30 ± 2	30 ± 2
Strip/tin free end	None	None	None

\* Length measured from flange.

### Assembly notes

No black epoxy on lead wires, full black epoxy on coil wires.

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