# **Projects Unlimited**

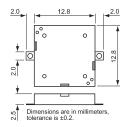


#### **ELECTRICAL**

Cat. No.	Resonant Frequency (KHz)	Res. Resist. (Ohmmax.)	Electro. Capacit. (nF) (±30%)	Shape	Net Price
AB1548B	4.8±0.5	2000	7.5	Α	\$1.03
AB2020A	2.0±0.5	300	90	Α	.64
AB2036AF	3.7±0.5	500	20	В	1.03
AB2038BF	3.8±0.5	350	17	В	.95
AB2040B	4.0±0.5	350	25	Α	.24
AB2065B	6.5 ± 1.0	300	14	А	.24
AB2720B	2.0±0.5	300	45	А	1.46
AB2720BF	2.0±0.5	500	35	В	1.86
AB2728B	2.8±0.5	300	30	А	1.30
AB2734B	3.4±0.5	1000	13	А	1.17
AB2737BF	3.7±0.5	400	20	В	1.22
AB2745BF	4.5±0.5	500	16	В	.90
AB2746B	4.6±0.5	250	16	А	.78
AB3526B	2.6±0.5	300	30	А	1.46
AB3529BF	2.9±0.5	500	25	В	1.51
AB4406B	0.6±0.3	1000	70	А	2.04

NOTE: All data at 25°C unless otherwise specified.





### SERIES SMT-1325 PIEZO CERAMIC AUDIO TRANSDUCERS

**FEATURES:** Surface mounting. Compatible with convection, IR, and vapour phase. 4100 Hz resonant frequency. 2.5mm low profile miniature case configuration

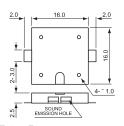
#### **ELECTRICAL**

Parameter	SMT-1325	Units
Operating Voltage (max.)	25	Vp-p
Rated Voltage	5	Vp-p
Rated Current (max.)	3	mA
Resonant Frequency	4100	Hz
Sound Press. Level @ 10cm (min.)	76	dBA
Capacitance@1KHz	16 ±30%	nF
Temp. Range: Operating/Storage	-20° to +70°/-30° to +80°	°C

NOTE: All data at 25°C unless otherwise specified.

Cat. No.	Net Price
SMT-1325	\$2.47





### SERIES SMT-1625 PIEZO CERAMIC AUDIO TRANSDUCERS

**FEATURES:** Surface mounting. Compatible with convection, IR, and vapour phase. 4000 Hz resonant frequency. 2.5mm low profile miniature case configuration.

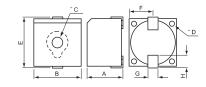
### ELECTRICAL

Parameter	SMT-1625	Units
Operating Voltage (max.)	25	Vp-p
Rated Voltage	5	Vp-p
Rated Current (max.)	3	mA
Resonant Frequency	4000	Hz
Sound Press. Level @ 10cm (min.)	70	dBA
Capacitance@1KHz	14 ±30%	nF
Temp. Range: Operating/Storage	-20° to +70°/-30° to +80°	°C

NOTE: All data at 25°C unless otherwise specified.

SMT-1625	\$2.17
Cat. No.	Net Price





### SERIES SMT-2114A AND SMT-2118 PIEZO CERAMIC SMD TRANSDUCERS

**FEATURES:** SMD mounting. Compatible with convection, IR, and vapour phase. Sealed for washing. 4300 Hz and 3000 Hz frequencies. Two voltages available: 1-20 and 1-30 Vp-p. Available in tubes of 35 pieces (SMT-2114A) and 25 pieces (SMT-2118). **SPECIFICATIONS:** Case: ABS, black. Weight: 0.11 oz. (3.2 grams). P.C. Pins: tin-plated brass.

### **ELECTRICAL**

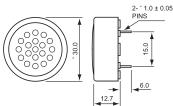
Parameter	SMT-2114A	SMT-2118	Units
Rated Voltage	5	5	Vp-p
Operating Voltage	3-20	3-30	Vp-p
Rated Current (max.)	8	7	mA
Resonant Frequency	3300	3700	Hz
Sound Pressure Level @ 10cm (typ.)	90	90	dBA
Temp. Range: Operating/Storage	–20° to +70°		°C
	–30° to	+80°	°C

NOTE: All data at 25°C unless otherwise specified.

		Dimensions						Net	
Cat. No.	Α	В	С	D	Е	F	G	Н	Price
SMT-2114A	10.7	14.2	3.0	1.5	14.8	7.1	3.0	4.2	\$3.79
SMT-2118	11.9	17.9	2.7	1.5	18.4	9.0	3.0	4.2	3.84

NOTE: Dimensions are in millimeters, tolerance is ±0.3.





### SERIES AT-41 SPEAKER AUDIO TRANSDUCERS

The AT-41 was designed to satisfy the need for a small, P.C. board-mountable speaker transducer for use in keyboards. It has a low profile and a sound output suitable for an office-type environment. Additional impedance and frequency outputs are available. Contact Electro Sonic for details. **FEATURES:** P.C. board mounting. 8 Ohms impedance—32 and 100 Ohms available. 1400 Hz frequency—800 and 1400 available. **SPECIFICATIONS:** Case: ABS, black. Weight: 0.35 oz. (10 grams.). P.C. Pins: tin-plated copper.

### ELECTRICAL

Parameter	AT-41	Units
Power Input (nom.)	0.15	Watt
Power Input (max.)	0.20	Watt
Impedance	8	Ohm
Operating Temperature Range	-40° to +70°	°C

NOTE: All data at 25°C unless otherwise specified

Cat. No.	Net Price
AT-41	\$1.80

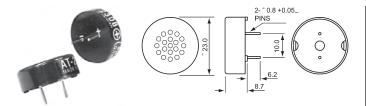
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# **Projects Unlimited**





### SERIES AT-2308 SPEAKER AUDIO TRANSDUCERS

The AT-2308 has been designed for a wide variety of applications where small size is important. Its low profile and broad frequency range make it an ideal choice for keyboard, hand-held devices, and other miniaturized systems. **FEA-TURES:** P.C. board mounting. Mylar cone. 8 Ohm standard impedance. Wave solderable. Low Profile. **SPECIFICATIONS:** Case: ABS, black. Weight: 0.11 oz. (3.2 grams.).

### **ELECTRICAL**

Parameter	AT-2308	Units
Rated Input	.08	Watt
Maximum Input	0.15	Watt
Frequency Range	600-2000	Hz
Resonant Frequency	1500	Hz
Impedance	8±20%	Ohm
Operating Temperature Range	-20° to +60°	°C

NOTE: All data at 25°C unless otherwise specified.

Cat. No.	Net Price
AT-2308	\$5.03



PAPER CONE/MYLAR CONE BOTH UNITS HAVE METAL CASE

# C - A - B - 17.0

### SERIES AT-38008 THIN DYNAMIC SPEAKERS

**FEATURES:** Variety of sizes and impedances. Low profile. Paper or mylar cone. Light weight.

### **ELECTRICAL**

Parameter	AT-38008 AT-38008M	AT-40008 AT-40008M	AT-45008 AT-45008M	AT-50008 AT-50008M	AT-57008 AT-57008M	Units	
Rated Input	0.1	0.1	0.1	0.2	0.25	Watt	
Frequency Range			F <sub>0</sub> -4000			Hz	
Lowest Resonant Freq. (F <sub>0</sub> )	700 ±50	700±50	500±80	450 ±80	400 ±60	Hz	
Impedance		8 ± 15% @ 1KHz					
Temp. Range:	-20° to +60° -30° to +70°					သိသိ	

NOTE: All data at 25°C unless otherwise specified.

		Net				
Cat. No.	А	В	С	D	Е	Price
AT-38008M	38.0	34.0	8.0	5.0	2.0	\$8.62
AT-40008M	40.0	36.0	8.0	5.5	2.0	8.30
AT-45008M	45.0	40.0	8.3	5.8	2.5	8.62
AT-50008M	50.0	45.0	9.0	6.5	2.5	8.00
AT-57008M	57.0	52.0	9.6	7.3	2.5	8.62
AT-38008	38.0	34.0	8.0	5.0	2.0	8.35
AT-40008	40.0	36.0	8.0	5.5	2.0	8.35
AT-45008	45.0	40.0	8.3	5.8	2.5	6.39
AT-50008	50.0	45.0	9.0	6.5	2.5	5.96
AT-57008	57.0	52.0	9.6	7.3	2.5	8.00

**NOTE:** Dimensions are in millimeters, tolerance is ±0.3.



### SERIES FS-30, FS-40, AND FS-50 SUPER THIN FLAT SPEAKERS

**FEATURES:** Super thin profile. Stainless steel diaphragm. Broad frequency range. Excellent temperature and humidity characteristics. **NOTES:** Square speakers can be mounted by conventional methods, taking care not to distort the speaker frame. If resonation occurs, the unit should be mounted on rubber or similar material. Round speakers can be mounted by using double-faced tape or an adhesive. Care should be taken not to deform the diaphragm when handling as this can effect performance.

#### **ELECTRICAL**

ELECTRICAL	
Parameter	All Models, except as noted
Rated Input, Watt	0.4
Max. Input, Watt	0.8
Impedance Ohm @ 1 KHz	8*
Sound Pressure Level @ 10cm, dB	70
Frequency Response, KHz	FS-30: 13-10,000 FS-40: 12-6000 FS-50: 9-4000
Distortion, KHz	FS-30: 10% max./4 FS-40: 10% max./3 FS-50: 10% max./2
Temperature Range:	-20° to +55° -40° to +80°
Humidity @ 40°C	90% RH

NOTE: All data at 25°C unless otherwise specified

	Dime		Net		
Cat. No.	А	В	С	Weight	Price
FS-30R	30 (tol. +0.3,-0)			7 grams	\$2.46
FS-40R	40 (tol. +0.4,-0)			9 grams	2.46
FS-50R	50 (tol. +0.5,-0)			12 grams	2.77
FS-30S	30 (tol. +0.3,-0)	36 (tol. +0,-0.3)	2.5	7 grams	2.46
FS-40S	40 (tol. +0.4,-0)	47 (tol. +0,-0.3)	3.0	10 grams	2.60
FS-50S	50 (tol. +0.5,-0)	59 (tol. +0,-0.3)	3.5	13 grams	2.51



Part's indicated with a leaf  $\mathcal{A}$  are considered RoHS July 2006 compliant based on the manufacturer's confirmation at the time of publishing. For additional information please contact Electro Sonic.



### **Mode Electronics**





### MODE UNIVERSAL SWITCHING ADAPTER **REGULATED OUTPUT**

This multi-output switching power supply can be used for the output voltages listed below with loads from 0-1.7 amps. The unit comes with an assortment of changeable plugs suitable for most requirements. The plugs can be easily changed to centre positive or negative. The output voltage is selected by a switch on the back of the adapter.

Cat. No.	Output Voltages	Current Rating	Net Price
68-519-1	3 4 5 6 7 5 9 and 12VDC	1 7A	\$20.83







### **AUDIO TRANSFORMERS**

		Impedance		Dimensions					
Cat. No.	Type	Primary	Secondary	Α	В	С	D	Е	Net Price
60-281-0	Output	500Ω c.t.	8Ω	16	12	20	15	8	\$1.92
60-282-0	Output	1.2KΩ c.t.	8Ω	16	12	20	15	8	1.92

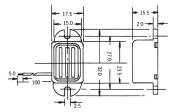


L-PADS

 $8\Omega$  15 watt balanced impedance audio level control.

Cat. No.	Туре	Net Price
61-111-0	Mono	\$4.75
61-112-0	Stereo	8.33





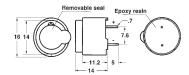
UNIT: MM

### MINIATURE BUZZERS W/100MM WIRE LEADS

Input voltage: Rated current: see chart 35mA 85db@20cm Sound output: Frequency:

Cat. No.	Type	Net Price
61-211-0	4-8 VDC	\$1.58
61-212-0	8-16 VDC	1.25



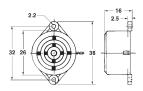


Current: Output: Frequency: 85db@10cm 2KHz

Complete with driver circuit

Cat. No.	Description	Net Price
61-223-0	4-7 Volts	\$1.50
61-224-0	8-15 Volts	1.50



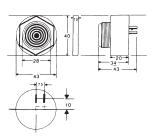


SPECIFICATIONS: Current: Output: 40mA 90db@30cm Frequency:

2.8KHz
Panel mount buzzer with 100mm leads.

Cat. No.	Description	Net Price
61-231-0	4-8 Volts	\$2.00
61-233-0	20-28 Volts	2.08





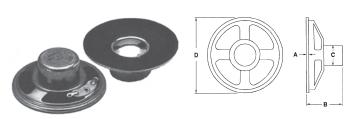
UNIT: MM

### PANEL MOUNT AUDIO ALARMS

Input voltage: 4-28 VDC Rated current: 15mA 80db@100cm Sound output: Frequency: 3.2KHz

Cat. No.	Туре	Net Price
61-301-0	Continuous Tone	\$3.75
61-302-0	Pulsed Tone	3.75
61-303-0	Continuous and Pulsed Tone	4.17

NOTE: 61-303-0 input voltage: 16VDC maximum.



### **8 OHM MINIATURE SPEAKERS**

Frequency range: 300Hz - 4KHz.

Cat. No.	Power	Size (D)	Α	В	С	Net Price
61-640-0	100mW	40mm	2.5	16.7	17.9	\$1.50

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### **Mode Electronics**





### $8\Omega$ MINIATURE SPEAKERS W/ ALNICO MAGNETS

Cat. No.	Size	Power	Frequency	Type	Net Price
61-650-0	50mm (2")	200mW	300Hz-4KHz	Round	\$1.67



### **OUTDOOR HORNS**

SPECIFICATIONS:

| Impedance: 8Ω | 15 watts | 15

Cat. No.	Net Price
70-703-1	\$28.33



8 ohm @ 20 watts 360Hz - 7.5KHz 4.5  $^{\circ}$  x 8  $^{\prime\prime}$  opening. 9 1/4  $^{\prime\prime}$  length. 12  $^{\prime\prime}$  wire leads. White ABS plastic.

70-704-1	\$30.83
Cat. No.	Net Price



### **OUTDOOR HORNS**

SPECIFICATIONS: Impedance:

Cat. No.	Net Price
70-706-1	\$12.92



8 ohm @ 10 watts 500Hz - 7.8KHz 5  $^{\prime\prime}$  diameter opening 6  $^{\prime\prime}$  wire leads. White ABS plastic.

-707-1	\$10.83
at. No.	Net Price



### **DESOLDERING TOOL**

This pump type desoldering tool features Aluminum barrel, enclosed plunger, teflon tip and automatic cleaning. Replacement teflon tip available (84-111-0).

Cat. No.	Description	Net Price
84-110-1	Desoldering Tool	\$5.42
84-111-0	Replacement Tip	1.45



### 'HELPING HANDS'

Convenient holder with heavy cast base and adjustable arms with clips suitable for holding connectors and printed circuit boards for soldering.

Cat. No. <b>84-122-1</b>	Net Price \$6.67



### **CONNECTOR TOOL**

Small size, inexpensive, easy to use tool for "snap-n-seal" type connectors.

Cat. No.	Net Price
84-157-1	\$23.33



### MODULAR CRIMP TOOL

**FEATURES:** 8P/8C (RJ45) precision crimper. Cuts and strips both flat and round modular cable. Extremely comfortable cushioned handles. Ratchet action with easy release.

Cat. No.	Net Price
12-309	\$34.58



### **HEAVY DUTY CRIMP TOOL**

Heavy duty hexagonal crimp tool for F59 connectors. Suitable for RG59/U and RG62/U coaxial cable. Hex crimp sizes are .255" and .322" across flats. Comfortable cushion grip handles.

Cat. No.	Net Price
84-159-1	\$20.83

