

## SMA SERIES



The Sonitron Multi-Application buzzers are low cost commercial grade components for large volume applications. The SMA series are designed to meet various requirements such as current consumption, voltage, sound pressure, mounting methods, connection, dimensions and packaging. They are available in five sizes: 13 mm, 17 mm, 21 mm, 24 mm and 30 mm. The buzzers have a built-in oscillator generating their working frequency. They produce a highly reliable audible tone signal, giving either an extremely clear and penetrating tone or a soft sound for non-aggressive signals.

## ADVANTAGES &amp; APPLICATIONS

## ADVANTAGES :

- Octagonal form
- Models with different pin pitches
- Light but solid state construction
- Little power consumption, especially the extra loud LC-versions
- Wide voltage range (1,5V to 24V)
- Easy mountable
- SMA-13 and SMA-17 for applications with limited space
- SMD models with heat resistant label for protection during automatic soldering
- Automatic pick & place

## APPLICATIONS :

- Automatic doors
- Alarms
- Gas & metal detectors
- Weighing & measuring equipment
- Medical instrumentation
- Timers & clocks
- Control instrumentation & systems
- Copiers
- Automobiles & trucks
- Games & toys
- Computer peripherals
- Cash registers

## SPECIFICATIONS

| Model    | SPL *<br>(dB(A)) | Frequency<br>(+/-15%) Hz) | Operating<br>Voltage (min.-max.) | Operating<br>current (mA) | Weight<br>(g) |
|----------|------------------|---------------------------|----------------------------------|---------------------------|---------------|
| SMA-13   | 75               | 3000                      | 1.5 to 24                        | 1.8                       | 1             |
| SMA-13LT | 82               | 3000                      | 1.5 to 15                        | 11.6                      | 1             |
| SMA-13LC | 81               | 3000                      | 1.5 to 15                        | 0.7                       | 1             |
| SMA-13LV | 80 @ 3V          | 3350                      | 2 to 4                           | 13 @ 3V                   | 1             |
| SMA-17   | 82               | 3000                      | 1.5 to 24                        | 3.3                       | 2             |
| SMA-17L  | 88               | 3000                      | 1.5 to 24                        | 5                         | 2             |
| SMA-17LT | 86               | 3000                      | 1.5 to 15                        | 15                        | 2             |
| SMA-17LC | 89               | 3500                      | 1.5 to 15                        | 0.8                       | 2             |
| SMA-21   | 85               | 3300                      | 1.5 to 24                        | 3.8                       | 2.5           |
| SMA-21L  | 91               | 3300                      | 1.5 to 24                        | 5                         | 2.5           |
| SMA-21LT | 90               | 3300                      | 1.5 to 15                        | 12.5                      | 2.5           |
| SMA-21LC | 91               | 3800                      | 1.5 to 15                        | 1.1                       | 2.5           |
| SMA-21LV | 87 @ 3V          | 3000                      | 2 to 6                           | 13 @ 3V                   | 2.5           |
| SMA-24   | 92               | 3000                      | 1.5 to 24                        | 4.2                       | 4             |
| SMA-24L  | 98               | 3000                      | 1.5 to 15                        | 6.7                       | 4             |
| SMAI-24  | 92               | **3500                    | 5 to 24                          | 6.2                       | 4             |
| SMA-30   | 87               | 2500                      | 1.5 to 24                        | 4.1                       | 5             |
| SMA-30L  | 97 @ 9V          | 2500                      | 3 to 9                           | 5 @ 9V                    | 5             |

\* All measurements are made in free air @ 21°C @ 30cm @ 12Vdc (Except for the SMA-21LV & SMA-30 L). Buzzers soldered on a PCB board with dimensions of 24cmx11cm.

\*\* SMAI 24: intermittent pulse rate of 5Hz (@ 15Vdc). All the other models have a continuous tone.

|                         |  |
|-------------------------|--|
| Operating temperature   | -20°C to +70°C   |
| Storage temperature     | -40°C to +85°C   |
| Life time (@ 21°C)      | @12Vdc (L-version working @ 6Vdc) continuous use min. 100 hours<br>The SMA-21 LV (PIN/SMD) working @ 3Vdc in continuous use:<br>min.24 hours. All tests are made @ 20°C mounted on PCB<br>(expected life time curve in addendum) |
| Case material           | ABS (UL rating: 94 HB) for pin-versions, SMA-13/21/30<br>PBT (UL rating: 94 HB) for pin versions, SMA-17/24<br>PPS (UL rating: 94 V0/5V) for SMD-versions, SMA-13/17/21/24/30  |
| Standard colour of case | Grey   |

## ELECTRICAL PARAMETERS

| Models | Sound pressure level vs. operating voltage | Current consumption vs. operating voltage |
|--------|--|---|
| SMA-13 | <p><b>dB (A)</b></p>                       | <p><b>mA</b></p>                          |
| SMA-17 | <p><b>dB (A)</b></p>                       | <p><b>mA</b></p>                          |

All measurements are made @ 30 cm in free air @ 21°C.  
°°: standard versions, respectively SMA-13, SMA-17.

| Models | Sound pressure level vs. operating voltage | Current consumption vs. operating voltage |
|--------|--|---|
| SMA-21 | <p><b>dB (A)</b></p>                       | <p><b>mA</b></p>                          |
| SMA-24 | <p><b>dB (A)</b></p>                       | <p><b>mA</b></p>                          |
| SMA-30 | <p><b>dB (A)</b></p>                       | <p><b>mA</b></p>                          |

All measurements are made @ 30 cm in free air @ 21°C.  
 °°: standard versions, respectively SMA-21, SMA-24, SMA-30.

## PRODUCT CODIFICATION

|  |                                       |   |   |   |   |
|--|---------------------------------------|---|---|---|---|
| <p>SMA</p> <p>↓</p> <p>Sonitron<br/>Multi-<br/>Application</p> | <p>I</p> <p>↓</p> <p>Intermittent</p> | <p>-</p> <p>13<br/>17<br/>21<br/>24<br/>30</p> <p>↓</p> <p>Square diameter (mm)</p> | <p>L<br/>LV</p> <p>↓</p> <p>L: Loud<br/>LV: Low voltage</p> | <p>C<br/>T</p> <p>↓</p> <p>C: C-MOS<br/>T: Transistor</p> | <p>P7.5<br/>P10<br/>P15<br/>P17.5<br/>P20.32<br/>S</p> <p>↓</p> <p>P: Pin distance (in mm)<br/>S: SMD terminals</p> |
|--|---------------------------------------|---|---|---|---|

## LIST OF AVAILABLE PRODUCT TYPES

| Version       | Standard (°°)   | Loud (L)   | Transistor (LT)  | Low Current (LC)   | Intermittent (I) (*)   | Low Voltage (LV)                            |
|---------------|---|--|--|--|--|---|
| SMA-13 series | SMA-13 P7.5<br>SMA-13 P10<br>SMA-13 S                                 |  | SMA-13LT P7.5<br>SMA-13LT P10<br>SMA-13LT S                  | SMA-13LC P7.5<br>SMA-13LC P10<br>SMA-13LC S                  |  | SMA-13LV P7.5<br>SMA-13LV P10<br>SMA-13LV S |
| SMA-17 series | SMA-17 P7.5<br>SMA-17 P10<br>SMA-17 S                                 | SMA-17L P7.5<br>SMA-17L P10<br>SMA-17L S                                   | SMA-17LT P7.5<br>SMA-17LT P10<br>SMA-17LT S                  | SMA-17LC P7.5<br>SMA-17LC P10<br>SMA-17LC S                  |  |   |
| SMA-21 series | SMA-21 P10<br>SMA-21 P15<br>SMA-21 P17.5<br>SMA-21 S                  | SMA-21L P10<br>SMA-21L P15<br>SMA-21L P17.5<br>SMA-21L S                   | SMA-21LT P10<br>SMA-21LT P15<br>SMA-21LT P17.5<br>SMA-21LT S | SMA-21LC P10<br>SMA-21LC P15<br>SMA-21LC P17.5<br>SMA-21LC S |  | SMA-21LV P10<br>SMA-21LV P15<br>SMA-21LV S  |
| SMA-24 series | SMA-24 P10<br>SMA-24 P15<br>SMA-24 P17.5<br>SMA-24 P20.32<br>SMA-24 S | SMA-24L P10<br>SMA-24L P15<br>SMA-24L P17.5<br>SMA-24L P20.32<br>SMA-24L S |  |  | SMAI-24 P10<br>SMAI-24 P15<br>SMAI-24 P17.5<br>SMAI-24 P20.32<br>SMAI-24 S |   |
| SMA-30 series | SMA-30 P15<br>SMA-30 P17.5<br>SMA-30 P20.32<br>SMA-30 S               | SMA-30L P15<br>SMA-30L P17.5<br>SMA-30L P20.32<br>SMA-30L S                |  |  |  |   |

\* When the third pin of SMAI-24 is left open, the audible signal is intermittent. When the third pin is connected to the (-), the audible signal is continuous. When the third pin is connected to the (+), there is no sound (=stop).

Order options and packaging information see page 52, 53.

