

High intelligibility for your two-way radio system: The 93088 wide range speaker driver delivers the clear sound you need for any trusted communications application, sporting a design to emit strong voice fundamentals, and a high-energy neodymium magnet to produce powerful results. Fit this 3" x 5" driver into compact enclosures, thanks to a slim, oval shaped steel frame.

- Wide range speaker
- 3" x 5" (77 mm x 127 mm) basket diameter
- 15 watts, 4 ohms, 90 dB SPL
- 0.8" copper voice coil, aluminum former
- Neodymium magnet, stamped steel basket
- Paper cone, treated cloth surround

*Oaktron by MISCO* is a premium line of high performance, ready-to-ship transducers and drivers for a wide variety of applications including high fidelity, arcade, and casino games, automotive, aerospace and many more. From elegantly simple to highly specialized designs for unique and demanding applications, there is an Oaktron loudspeaker perfectly suited for your needs.

MISCO engineers use the world's most sophisticated loudspeaker measurement systems including the Klippel Analyzer to maximize and validate the speaker's design, as well as the Klippel QC module to ensure perfect unit to unit consistency and reliability.



#### Primary Specifications

|  |                 |
|--|-----------------|
| <b>Size, Nominal (inch &amp; mm)</b>         | 3" Oval (77 mm) |
| <b>Rated Impedance (<math>\Omega</math>)</b> | 4               |
| <b>Continuous Power (W)</b>                  | 15              |
| <b>Sensitivity (dB SPL) <sup>1</sup></b>     | 90              |
| <b>Frequency Range (Hz)</b>                  | 100 - 20,000    |
| <b>Resonant Frequency (Fs) (Hz) +/- 15%</b>  | 230             |

### More Specifications

|   |                      |
|---|----------------------|
| <b>Application</b>                              | Voice Communications |
| <b>RoHS Compliant</b>                           | Yes                  |
| <b>DC Resistance (Re) (<math>\Omega</math>)</b> | 3.1                  |
| <b>Program Power (W)</b>                        | 30                   |
| <b>Continuous Power (W)</b>                     | 15                   |

### Small Signal Parameters

|  |       |
|--|-------|
| <b>Nominal Impedance (Z) (<math>\Omega</math>)</b>     | 4     |
| <b>DC Resistance (Re) (<math>\Omega</math>)</b>        | 3.1   |
| <b>Voice Coil Inductance (Le) (mH)</b>                 | 0.07  |
| <b>Resonant Frequency (Fs) (Hz) +/- 15%</b>            | 230   |
| <b>Mechanical Q Factor (Qms)</b>                       | 3.09  |
| <b>Electrical Q Factor (Qes)</b>                       | 1.27  |
| <b>Total Q Factor (Qts)</b>                            | 0.9   |
| <b>Moving Mass (Mms) (gm)</b>                          | 3.4   |
| <b>Suspension Compliance (Cms) (mm/N)</b>              | 0.14  |
| <b>Mechanical Resistance (Rms) (kg/s)</b>              | 1.61  |
| <b>Surface Area of Diaphragm (Sd) (cm<sup>2</sup>)</b> | 64.3  |
| <b>Compliance Equivalent Volume (Vas) (L)</b>          | 0.81  |
| <b>Maximum Linear Excursion (Xmax) (mm)</b>            | 1.00  |
| <b>Coil Winding Height (mm)</b>                        | 4.9   |
| <b>Magnetic Gap Height (mm)</b>                        | 2.78  |
| <b>Motor Force Factor (BL) (T•M)</b>                   | 3.5   |
| <b>Efficiency (<math>\eta_0</math>) (%)</b>            | 0.75  |
| <b>Efficiency Bandwidth Product (EBP) (Fs/Qes)</b>     | 181.7 |

### Material Descriptions

|                                   |               |
|-----------------------------------|---------------|
| <b>Basket Type</b>                | Stamped steel |
| <b>Terminal Size (mm)</b>         | Solder lugs   |
| <b>Voice Coil Diameter (mm)</b>   | 19.38         |
| <b>Voice Coil Wire Material</b>   | Copper        |
| <b>Voice Coil Former Material</b> | Aluminum      |
| <b>Magnet Material</b>            | Neodymium     |
| <b>Magnet Weight (g)</b>          | 11.62         |
| <b>Cone Body Material</b>         | Paper         |
| <b>Cone Surround Material</b>     | Treated cloth |

**Dust Cap Material**

Paper

