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## 300B-25 Mesh Data Sheet

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### Description



The EML 300B-25 mesh is a **direct** replacement for the 2A3 tube. It features 2.5 Volt heater.

**Warning:** This tube can not be used in a classical 300B amplifier. For testing with a tube tester, you need to use 2A3 settings

[High Resolution](#)

### Guarantee program for first owner.

The first owner can register the tube within 4 weeks after receipt, at the Emission Labs ® website, to participate in the 5 years guarantee program, which is additional to the legal obligations of the seller.

[Our Guarantee conditions](#)

[Register here for the 5years guarantee](#)

### Features

This is a 300B-Mesh tube, with the 2.5V heater of the 2A3.

### Sound Character of the EML 300B-25

Users of 2A3 tubes, so far have a limited choice of tubes to use. There was only 2A3 and 2A3-Mesh. With the 300B-25 we offer an alternative tube. The idea is to get a slightly different sound, and possible a small gain in output power for any amplifier.

It is interesting to see, electrical data of the 300B tube at the operating point of 2A3 is very similar, and apart from the heater voltage, a 300B could replace the 2A3. So we have put the heater of the 2A3 tube inside a 300B, to get a 300B tube with heater specifications of the 2A3. We have called this tube 300B-25 ('25' stands for 2.5V heater).

### Some customer feedback:

*Hello Jac, It has been 3 weeks since I got my new Emission Labs 300B 2.5V. From the very beginning it became obvious to me how good they are. It is not surprising that after 21 days they are even better. They deliver incredibly razor sharp three-dimensional images I have never ever got from my speakers. The realism of presentation, richness and beauty of the music, harmony, emotions, the thrill of the listening - all of them are top notch. Really addictive tubes. The best of all 300B/2A3 hybrids I have ever used in my amp. I am really looking forward to mesh Anode version. P.S. If you want, you can quote my feedback on your new and very nice page.*

**\*Placed here with the kind permission of Krzysztof Leonarcik**

**TABLE**

|                                        | <u>Plate<br/>Voltage</u><br>Volts | <u>Grid<br/>Bias</u><br>Volts | <u>Plate<br/>Current</u><br>Milliamperes | <u>Load<br/>Resistance</u><br>Ohms | <u>Power<br/>Output</u><br>Watts | <u>Second<br/>Harmonic</u><br>db | <u>Third<br/>Harmonic</u><br>db |
|----------------------------------------|-----------------------------------|-------------------------------|------------------------------------------|------------------------------------|----------------------------------|----------------------------------|---------------------------------|
| Recommended<br>Operating<br>Conditions | 200                               | — 42                          | 30                                       | 2000                               | 3.0                              | 20                               | 31                              |
|                                        | 200                               | — 39                          | 40                                       | 2500                               | 2.6                              | 26                               | 38                              |
|                                        | 200                               | — 37                          | 50                                       | 2500                               | 2.5                              | 30                               | 45                              |
|                                        | 250                               | — 55                          | 30                                       | 2000                               | 4.9                              | 18                               | 27                              |
|                                        | 250                               | — 55                          | 30                                       | 4500                               | 3.2                              | 27                               | 40                              |
|                                        | 250                               | — 52                          | 40                                       | 3000                               | 4.0                              | 26                               | 36                              |
|                                        | 250                               | — 50                          | 50                                       | 2500                               | 4.4                              | 26                               | 39                              |
|                                        | 250                               | — 48                          | 60                                       | 2000                               | 4.7                              | 26                               | 38                              |
|                                        | 250                               | — 48                          | 60                                       | 2700                               | 4.1                              | 30                               | 45                              |
|                                        | 250                               | — 45                          | 80                                       | 1500                               | 5.0                              | 26                               | 41                              |
|                                        | 300                               | — 65                          | 40                                       | 2500                               | 6.7                              | 20                               | 30                              |
|                                        | 300                               | — 63                          | 50                                       | 2000                               | 7.2                              | 21                               | 29                              |
|                                        | 300                               | — 63                          | 50                                       | 3000                               | 6.1                              | 26                               | 37                              |
|                                        | 300                               | — 61                          | 60                                       | 2400                               | 6.6                              | 26                               | 37                              |
|                                        | 300                               | — 61                          | 60                                       | 3400                               | 5.6                              | 30                               | 44                              |
|                                        | 300                               | — 58                          | 80                                       | 1700                               | 7.5                              | 26                               | 37                              |
|                                        | 350                               | — 76                          | 50                                       | 3600                               | 7.8                              | 26                               | 38                              |

The above table shows three working points from the 1930's Western Electric 300B data sheet. The last working point shows 250V, 60mA, -45V bias. This is identical to the 2A3 tube. This means the tube will bias normally in any 2A3 auto bias circuit. Yet dynamic parameters are slightly different, which indicates sound will be slightly different as well. Due to the somewhat higher load (2A3 is loaded with 2k5 normally, vs. 2k7 required here for the 300B) the output power may be slightly increased accordingly. Also it can be seen, the 300B works in a range with the lowest distortion here, 30dB 2nd harmonics and even 45 dB 3rd, harmonics. Such good numbers can also be expected from the 300B-25.

**Filament Ratings (See note 5)**

|                               |                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------|
| Filament Voltage              | 2.5Volt (AC or DC)                                                                                    |
| Electronic heater modules     | Only voltage source                                                                                   |
| Tolerance on filament voltage | 4%<br>2.4 ... 2.6V at Tube pins<br>2.5 ... 2.7V at Socket pins<br><a href="#">See also this graph</a> |
| Filament Current              | 2.5Ampere                                                                                             |

**All other Data**

[See 300B Mesh](#)