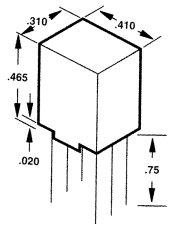
# Audio Transformers

## Mil-T-27E




Red Spec
(MIL-T-27E)

### :: Description

Triad high reliability audio transformers provide the durability and precision required in today's demanding designs. These transformers are available for a wide variety of applications. The line of Red Spec audio transformers is designed and constructed to meet the rigid requirements of MIL-T-27E. These transformers feature an epoxy molded case, gold plated leads and exceptional operation from 300 Hz to 100 kHz.

### :: Specifications

**Frequency Response Ranges:** 300 Hz to 100 kHz

### :: Red Spec Printed Circuit Audio Transformers

| Section | Type No. | Mil Type No. | Power Level in mW | Matching Impedance Primary | Matching Impedance Secondary | Max. Ma DC Unbalanced in Primary | DC Resistance Primary | DC Resistance Secondary | Overall Turns Ratio | Figure No. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | **SP-4** | TF5S21ZZ | 10 | 200,000 CT | 1,000 CT | 0.0 | 5,300.0 | 100.0 | 14.1:1.0 | 3 |
| B | **SP-5** | TF5S21ZZ | 25 | 50,000 CT | 1,000 CT | 0.0 | 3,800.0 | 75.0 | 7.1:1.0 | 3 |
| C | **SP-13** | TF5S21ZZ | 40 | 25,000 CT/20,000 CT | 1,000/800 CT | 0.5 | 1,700.0 | 115.0 | 5.0:1.0 | 3 |
| D | **SP-20** | TF5S21ZZ | 50 | 10,000 CT | 1,200 CT | 1.0 | 1,050.0 | 200.0 | 2.88:1.0 | 3 |
| | **SP-21** | TF5S21ZZ | 50 | 10,000 CT | 2,000 CT | 1.0 | 1,050.0 | 330.0 | 2.24:1.0 | 3 |
| | **SP-22** | TF5S21ZZ | 50 | 10,000 | 2,000 CT/500§ | 1.0 | 1,050.0 | 146.0/168.0§ | 4.48:1.0:1.0 | 4 |
| | **SP-29** | TF5S21ZZ | 50 | 10,000 CT | 500 CT | 1.0 | 1,050.0 | 80.0 | 4.47:1.0 | 3 |
| | **SP-33** | TF5S21ZZ | 50 | 1,000 | 50 | 3.0 | 145.0 | 8.0 | 4.4:1.0 | 1 |
| | **SP-42** | TF5S21ZZ | 50 | 150 CT | 12 | 10.0 | 18.0 | 2.7 | 3.54:1.0 | 2 |
| | **SP-48** | TF5S21ZZ | 50 | 7,500 CT | 12 | 1.0 | 796.0 | 2.9 | 25.0:1.0 | 2 |
| | **SP-49** | TF5S21ZZ | 50 | 300 CT | 600 | 7.0 | 41.0 | 98.0 | 1.0:1.42 | 2 |
| | **SP-50** | TF5S21ZZ | 50 | 500 CT | 600 | 3.0 | 67.0 | 98.0 | 1.0:1.1 | 2 |
| | **SP-51** | TF5S21ZZ | 50 | 900 CT | 600 | 4.0 | 104.0 | 96.0 | 1.22:1.0 | 2 |
| | **SP-52** | TF5S21ZZ | 50 | 1,500 CT | 600 | 3.0 | 168.0 | 92.0 | 1.58:1.0 | 2 |
| | **SP-66** | TF5S21ZZ | 50 | 10,000 CT | 10,000 CT | 1.0 | 1,000.0 | 1,300.0 | 1.0:1.0 | 3 |
| | **SP-67** | TF5S21ZZ | 50 | 600 CT | 600 CT | 3.0 | 72.0 | 92.0 | 1.0:1.0 | 3 |
| | **SP-68** | TF5S21ZZ | 50 | 10,000 | 10,000 CT/2,500§ | 1.0 | 1,000.0 | 565.0/650.0§ | 2.1:1.0 | 4 |
| | **SP-69** | TF5S21ZZ | 50 | 600 | 600 CT/150§ | 3.0 | 72.0 | 40.0/45.0§ | 2.0:1.0:1.0 | 4 |
| | **SP-70** | TF5S21ZZ | 50 | 600 | 600 | 3.0 | 72.0 | 92.0 | 1.0:1.0 | 1 |
| E | **SP-128**<br>**SP-310** | TF5S21ZZ<br>Shield Only | • | 0.1H | • | 5.0 | 15.0 | • | • | 5 |

*CT = Center Tap  § Split secondary*

### :: Outline Dimensions

**Technical Notes**

1. Plug-in terminals are precision spaced to provide fixed mounting centers.
2. Red Spec transformers are hi-pot tested at 1,000 VRMS.
3. 150 VDC working voltage.
4. Red Spec transformers feature small footprint base dimensions of .310 by .410 inch.
5. Pin diameter = .020 inch.

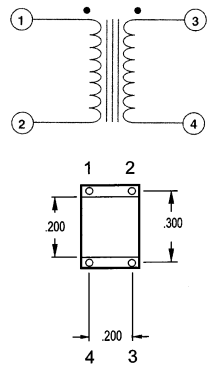



Figure 1

CT Primary

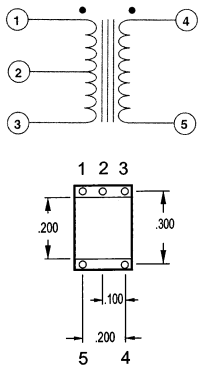



Figure 2

Tap Primary - Tap Secondary

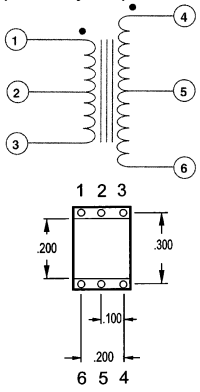



Figure 3

Split Windings

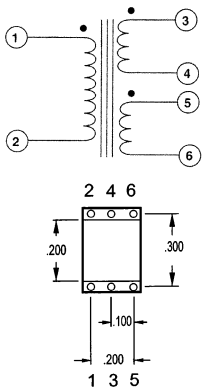



Figure 4

Inductor

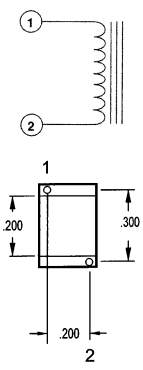



Figure 5