

Synchro, Torque Differential Transmitter, Type 23TDX4C

FSC 5990

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# SAE AS20708/48

This specification is approved for use by all Departments and Agencies of the Department of Defense. The requirements for acquiring the Synchros described herein shall consist of this specification and the latest issue of MIL-S-20708.

TABLE I. Requirements.

| Requirement                                    | Value     | Unit                       | Tolerance |
|------------------------------------------------|-----------|----------------------------|-----------|
| Frequency                                      | 400       | Hz                         | ±1%       |
| Primary Voltage                                | 78        | volts                      | ±1%       |
| Primary Current                                | 866.0     | milliamps                  | maximum   |
| Primary Power                                  | 7.0       | watts                      | maximum   |
| Impedance:                                     |           |                            |           |
| Z <sub>so</sub>                                | 90-112    | ohms                       | min.-max. |
| Z <sub>rs</sub>                                | 11.0-15.0 | ohms                       | min.-max. |
| Impedance Angle:                               |           |                            |           |
| Z <sub>so</sub>                                | 84.0-88.0 | degrees                    | min.-max. |
| Z <sub>rs</sub>                                | 47.0-53.0 | degrees                    | min.-max. |
| Transformation Ratio                           | 1.154     | -----                      | ±2%       |
| Phase Shift (Lead)                             | 2.0       | degrees                    | ±1.0      |
| Electrical Error                               | 8.0       | minutes                    | maximum   |
| Torque Gradient                                | 0.16      | ounce-inches<br>per degree | minimum   |
| Friction Torque                                | 0.20      | ounce-inches               | maximum   |
| Radial Play                                    | 0.0010    | inches                     | maximum   |
| End Play                                       | 0.0025    | inches                     | ±0.0020   |
| Temperature Rise                               | 25.0      | degrees (C)                | maximum   |
| Variation of Voltage<br>(+10%) and Freq. (-5%) | 7.84      | watts                      | maximum   |