



TM Series • 10 Base-T Single Port SMD Transformer Modules

Features

- Low profile and light weight 10 Base-T modules facilitate pick and place compatibility and speed of placement
- Meets requirements of IEEE 802.3
- Consistent and reliable coplanarity
- Excellent quality at extremely competitive price due to high volume production
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C



Electrical Specifications @ 25°C

Minimum isolation voltage: 1500 Vrms
 Operating Temperature Range: -40°C to +85°C
 Storage Temperature: -40°C to +125°C

Test Frequency: Inductance, Interwinding Capacitance and Leakage Inductance measured @ 100kHz/20mVrms

Standard Packing: Tape and Reel

Quality and consistency are guaranteed through 100% testing of the specified parameters for primary inductance, leakage inductance, turns ratio, DC resistance and interwinding capacitance. This ensures that the return loss and pulse wave shape requirements can be fully maintained. Additionally, all parts are tested for 1500V minimum isolation.

Applications

Talema 10Base-T transformer modules contain transmit and receive isolation transformers to maintain consistent wave shape and suppression of common mode noise while providing equipment isolation per IEEE 802.3. High impedance common mode quad chokes for additional EMI suppression have been added on some models as required for FCC and CISPR 22 Class B certification.

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| Part Number | Turns Ratio ±5% | | Pri. OCL (µH Min) | L _L (µH Max) Pri / Sec | C _{WW} (pF Max) Pri / Sec | DCR (Ohms Max.) | | | | V _P (Vrms) | Schematic |
|-------------|----------------------------|-------------|----------------------|---|--|--------------------|-------|---------------|------|--------------------------|-----------|
| | 1-3:16-14 | 6-8:11-9 | | | | 1-3 | 16-14 | 6-8 | 11-9 | | |
| | Pri. Winding: Sec. Winding | | | | | Pri. Windings | | Sec. Windings | | | |
| TM__100A1-J | 1ct:1ct | 1ct:1ct | 100 | 0.25 | 9 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TM__100A6-J | 2ct:1ct | 1ct:1ct | 100 | 0.25 | 12 | 0.60 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TM__112A3-J | 1ct:1ct | 1ct:2ct | 112 | 0.30 | 8 | 0.30 | 0.30 | 0.30 | 0.60 | 1500 | A |
| TM__140A2-J | 1ct:1ct | 1ct:1.414ct | 140 | 0.20 | 12 | 0.30 | 0.30 | 0.30 | 0.45 | 1500 | A |
| TM__140A3-J | 1ct:1ct | 1ct:2ct | 140/25 | 0.30 | 12 | 0.30 | 0.30 | 0.30 | 0.45 | 1500 | A |
| TM__150A6-J | 2ct:1ct | 1ct:1ct | 150 | 0.20 | 12 | 0.60 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TM__200A1-J | 1ct:1ct | 1ct:1ct | 200 | 0.20 | 10 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TM__200A2-J | 1ct:1ct | 1ct:1.414ct | 200 | 0.50 | 15 | 0.30 | 0.30 | 0.30 | 0.45 | 1500 | A |
| TM__200A4-J | 1ct:1ct | 1ct:2.5ct | 200/35 | 0.40 | 15 | 0.30 | 0.30 | 0.30 | 0.80 | 1500 | A |
| TM__200A5-J | 1ct:2ct | 1ct:1ct | 50/200 | 0.20 | 12 | 0.30 | 0.60 | 0.30 | 0.30 | 1500 | A |
| TM__140B1-J | 1:1 (4x) | | 140 | 0.20 | 12 | 0.30 | | 0.30 | | 1500 | B |
| | 1:1.41(4x) | | | | | 0.30 | | 0.45 | | | |
| TM__140B2-J | 1:1.41(4x) | | 140 | 0.20 | 12 | 0.30 | | 0.45 | | 1500 | B |

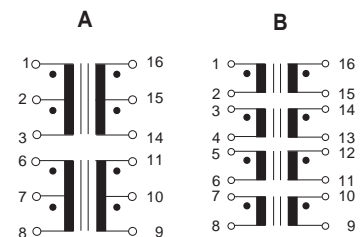
Ordering Information:

TM_*-XXX-X X-J * Specify desired Package Style "S" or "M".
 "S" = Chip style surface mount, 0.100" (2,54mm) terminal spacing.
 "M" = Chip style miniature surface mount, 0.050" (1,27mm) terminal spacing.

Example: Without choke, "S" style package and schematic "A" - TMS-100 **A1**
 Without choke, "M" style package and schematic "B" - TMM-140 **B2**.
 With choke, "S" style package, Schematic "B" - TMCs-110 **B2**
 With choke, "M" style package, Schematic "A" - TMCm-100 **A1**

See next page for electrical specifications for modules with common mode chokes for EMI noise suppression and for packaging styles, dimensions and schematics.

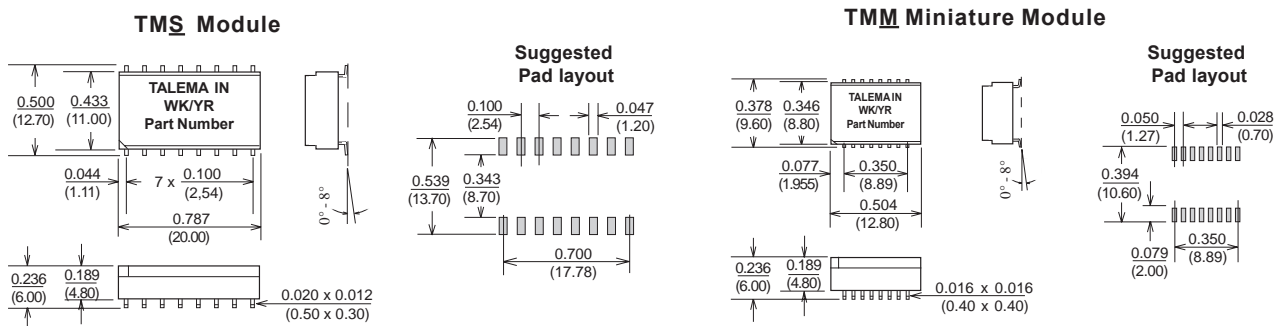
Schematics without Choke



TM Series • 10 Base-T Transformers with Common Mode Choke for EMI Suppression

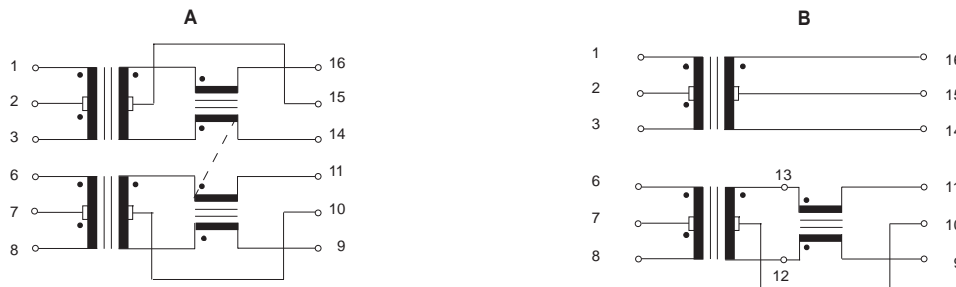
| Part Number | Turns Ratio ±5% | | Pri. OCL (µH Min) | L _L (µH Max) | C _{WW} (pF Max) | DCR (Ohms Max.) | | | | V _P (Vrms) | Schematic |
|--------------|--------------------|-------------|----------------------|----------------------------|-----------------------------|--------------------|-------|------|------|--------------------------|-----------|
| | 1-3:16-14 | 6-8:11-9 | | Pri / Sec | Pri / Sec | 1-3 | 16-14 | 6-8 | 11-9 | | |
| TMC_-100A1-J | 1ct:1ct | 1ct:1ct | 100 | 0.30 | 8 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMC_-110B2-J | 1ct:1ct | 1ct:1.414ct | 110 | 0.40 | 15 | 0.30 | 0.30 | 0.30 | 0.90 | 1500 | B |
| TMC_-112B3-J | 1ct:1ct | 1ct:2ct | 112 | 0.30 | 8 | 0.30 | 0.30 | 0.30 | 0.90 | 1500 | B |
| TMC_-120A3-J | 1ct:1ct | 1ct:2ct | 120/20 | 0.40 | 9 | 0.90 | 0.90 | 0.90 | 0.90 | 1500 | A |
| TMC_-140A2-J | 1ct:1ct | 1ct:1.414ct | 140 | 0.40 | 20 | 0.40 | 0.40 | 0.40 | 0.40 | 1500 | A |
| TMC_-140A3-J | 1ct:1ct | 1ct:2ct | 140 | 0.2 | 12 | 0.30 | 0.30 | 0.30 | 0.90 | 1500 | A |
| TMC_-140A6-J | 2ct:1ct | 1ct:1ct | 140 | 0.3 | 12 | 0.60 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMC_-150A6-J | 2ct:1ct | 1ct:1ct | 150 | 0.90 | 10 | 0.70 | 0.35 | 0.35 | 0.35 | 1500 | A |
| TMC_-200A1-J | 1ct:1ct | 1ct:1ct | 200 | 0.25 | 10 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMC_-200A2-J | 1ct:1ct | 1ct:1.414ct | 200 | 0.5 | 12 | 0.30 | 0.30 | 0.30 | 0.75 | 1500 | A |
| TMC_-200A4-J | 1ct:1ct | 1ct:1.25ct | 200 | 0.5 | 15 | 0.30 | 0.30 | 0.30 | 1.05 | 1500 | A |
| TMC_-200A5-J | 1ct:2ct | 1ct:1ct | 200 | 0.3 | 8 | 0.30 | 0.90 | 0.30 | 0.30 | 1500 | A |
| TMC_-350A4-J | 1ct:1ct | 1ct:2.5ct | 350 | 0.8 | 30 | 0.30 | 0.30 | 0.30 | 1.05 | 1500 | A |

Dimensions



Dimensions: Inches (Millimeters)
 Tolerance: ±0.010 (0.25) unless specified otherwise
 Surface coplanarity will be 0.004 (0.01) maximum

Schematics with Choke



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