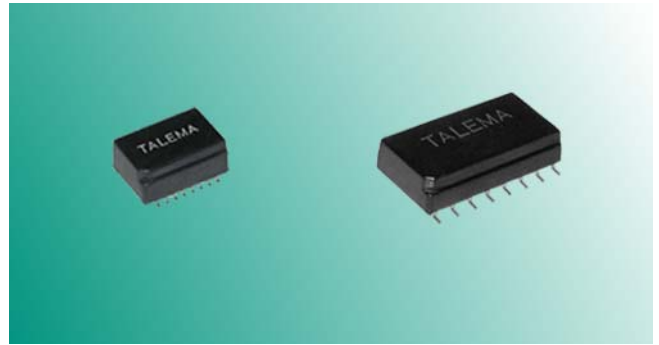




## TM Series • 10 Base-T Single Port SMD Transformer Modules

### 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.

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

Part Number	Turns Ratio ±5%		Pri. OCL (µH Min)	L <sub>L</sub> (µH Max) Pri / Sec	C <sub>WW</sub> (pF Max) Pri / Sec	DCR (Ohms Max.)				V <sub>P</sub> (Vrms)	Schematic
	1-3:16-14	6-8:11-9				1-3	16-14	6-8	11-9		
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	Pri. Winding:Sec. Winding		140	0.20	12	Pri. Windings		Sec. Windings		1500	B
	1:1 (4x)					0.30	0.30				
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

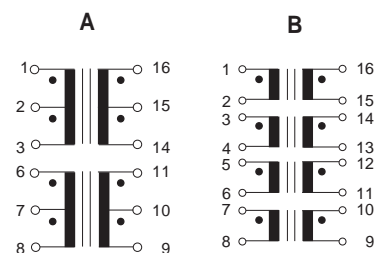
Without choke, "M" style package and schematic "B" - TMM-140 B2.

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.

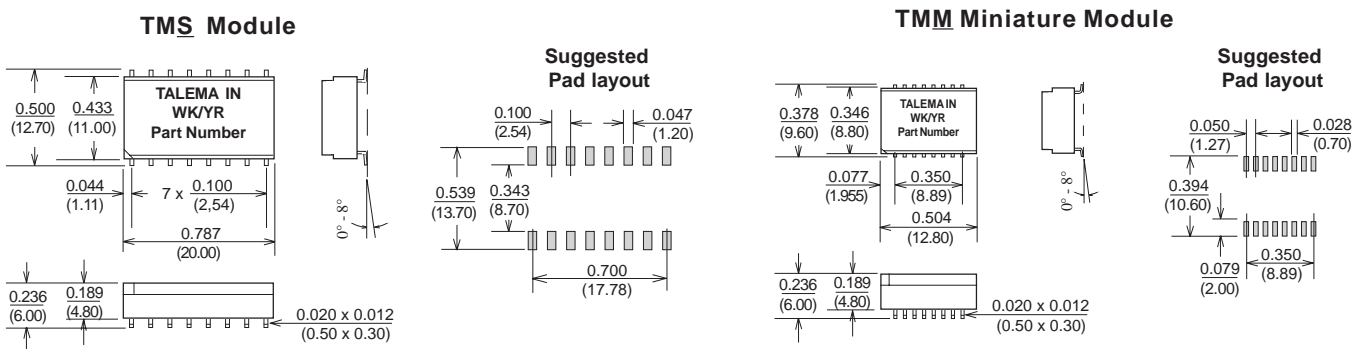
### Schematics without Choke



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

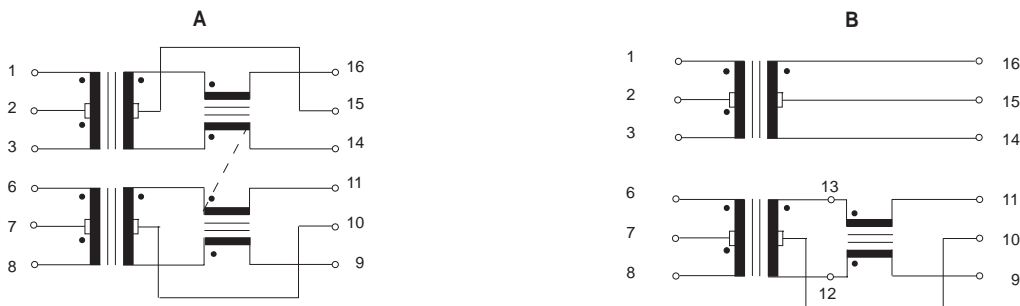
Part Number	Turns Ratio ±5%		Pri. OCL (µH Min)	L <sub>L</sub> (µH Max) Pri / Sec	C <sub>WW</sub> (pF Max) Pri / Sec	DCR (Ohms Max.)				V <sub>P</sub> (Vrms)	Schematic
	1-3:16-14	6-8:11-9				1-3	16-14	6-8	11-9		
TMC_-100A1-J	1ct:1ct	1ct:1ct	100	0.30	8	0.30	0.30	0.30	0.30	1500	A
TMC_-110B2-J	1ct:1ct	1ct:1.414ct	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:1.2.5ct	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



## Sales & Marketing, Design and Manufacturing Facilities

<http://www.talema-nuvotem.com>

**Eastern Europe & Czech Republic**  
 NT MAGNETICS s.r.o.  
 Chebská 27  
 322 00 Plzeň  
 Tel: Int. + 420 37 - 744 9303  
 Fax: Int. + 420 37 - 744 3697  
 Email: talema@talema.cz

**Germany**  
 TALEMA ELEKTRONIK GMBH  
 Sembdnerstr. 5, Postfach 2523  
 82110 Germering  
 Tel: Int. + 49 89 - 841 00 - 0  
 Fax: Int. + 49 89 - 841 00 25  
 Email: info@talema.de

**Ireland**  
 NUVO TEMTEO.  
 Crollý  
 Co. Donegal  
 Tel: Int. + 353 74 - 954 8666  
 Fax: Int. + 353 74 - 954 8139  
 Email: info@nuvotem.com

**India**  
 TALEMA ELECTRONIC PVT. LTD.  
 Opposite the SIDCO Industrial Estate  
 Gins Towers  
 4/5S.H/1, Omalur Main Road  
 Salem - 636 004, Tamil Nadu  
 Tel: Int. + 91 427 - 244 1325  
 Fax: Int. + 91 427 - 243 0034  
 E-mail: talema@talemaindia.com