

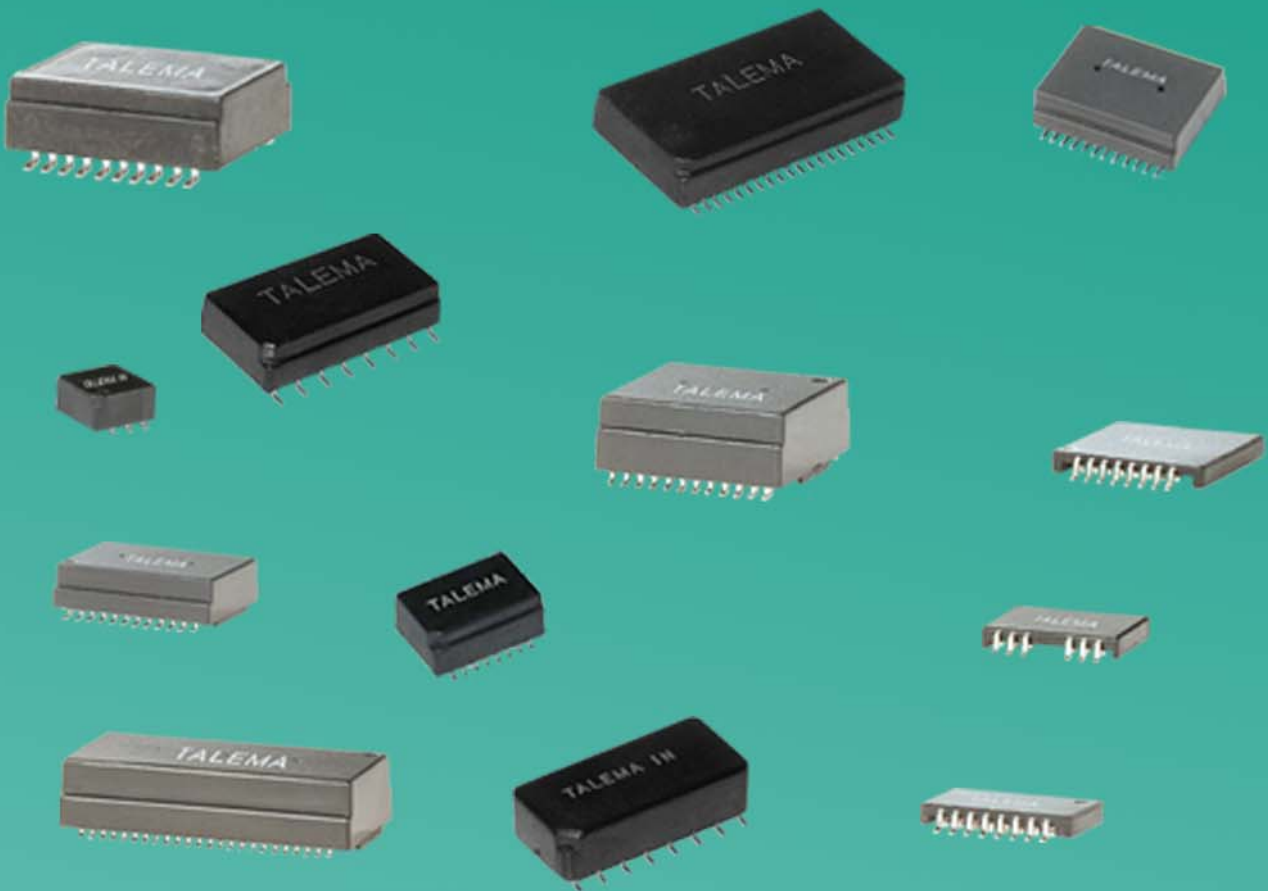


talemagroup

10 Base-T Single Port SMD Transformer Modules •
10/100 Base-T Single Port Transformer Modules •

SECTION 7

LAN Magnetic Components Interface Transformers and Chokes for Ethernet & Telecom Applications



Magnetic Components for ISDN / xDSL / LAN Data Communications

TALEMA PROFILE

Founded in 1975, The TALEMA International Group has established itself as a world leader in the Design & Manufacture of toroidal transformers and related magnetic components. Our strong technical engineering expertise has contributed to the growth of our current workforce to over 700 employees in manufacturing locations in the Czech Republic and India.

Over the years The Talema Group has succeeded in designing, producing and delivering in excess of 50 million transformers to its customers. The recent incorporation of xDSL technology into our extensive range of Telecom and LAN magnetics offerings, such as ISDN, Ethernet transformers for 10Base-T/100Base-T/1000Base-T, has broadened our market offering to an even higher level.

QUALITY

The TALEMA Group has a total commitment to quality and employs Lean Six Sigma training for engineering, production and administrative staff to help achieve a goal of zero defects. All facilities maintain very stringent Quality Control and Quality Assurance procedures and are certified to and manufacture in accordance with ISO 9001:2008, ISO/TS 16949:2009 and meet a broad range of International Standards including UL, VDE, IEC, and EN.

ENVIRONMENT

All TALEMA International Group manufacturing facilities are RoHS & REACH Compliant and all Transformers, Chokes, Inductors and HF Components are produced in an Environment Management System (EMS) facility certified to ISO 14001:2004



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Visit our websites for detailed electrical and mechanical specifications for Talema's extensive line of magnetic components for Power Conversion, Toroidal Transformers & Telecom Applications:

www.talema.com
 www.nuvotem.com
 www.ntmagnetics.cz

IC Selection Guide for 10Base-T Isolation Transformer Modules

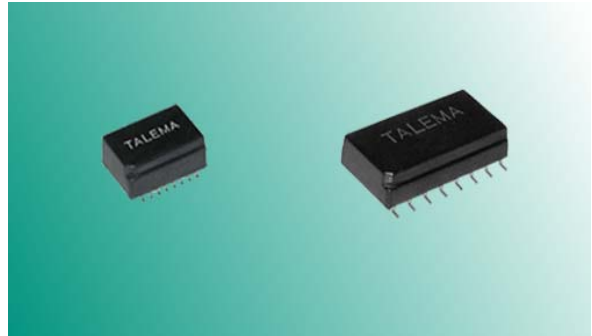
Talema manufactures a broad range of Isolation Transformer Modules for 10Base-T, 100Base-T, 1000Base-T, AUI and ATM applications. Many of the modules include a common mode choke for noise attenuation matched to the specified transceiver and are designed for extended temperature range (-40°C to +85°C) applications. All parts are fullyRoHS compliant and manufactured in an ISO-14001:2004 certified Talema factory.

| IC Manufacturer | IC Part Number | Turns Ratio | | Talema Part Number |
|--------------------------------|---|-------------|---------|---|
| | | Transmit | Receive | Miniature Single Port 12.8x9.6x6.0 |
| AMD | AM79C984 AM79C985 AM79C988 AM79C989 | 1ct:1ct | 1ct:1ct | TMM-100A1-J TMCM-100A1-J TMCM-200A1-J |
| Cirrus Logic (Crystal) | CS8900A-CQ/IQ, CS8904-CM5 CS8920 | 1ct:1.414ct | 1ct:1ct | TMCM-200A2-J TMCM-140A2-J TMM-140A2-J |
| | CS8900A-CQ3/IQ3 CS8904-CM3 | 1ct:2.5ct | 1:1 | TMM-200A4-J TMCM-200A4-J |
| Fujitsu | MB86951 MB86961 MB86964 MB86965B | 1ct:1.414ct | 1ct:1ct | TMCM-200A2-J TMCM-110B2-J TMM-140A2-J |
| Intel (Level One) | LXT901, LXT901A LXT907, 914, 915 LXT916, 917, 944 | 1ct:1.414ct | 1ct:1ct | TMCM-200A2-J TMCM-110B2-J TMM-140A2-J |
| | LXT905 LXT908 | 1ct : 2ct | 1ct:1ct | TMCM-140A3-J TMCM-120A3-J |
| µLinear | ML2652, ML2653 ML4652, ML4658 | 2ct:1ct | 1ct:1ct | TMCM-140A6-J TMM-100A6-J |
| National Semi-conductor | DP83953 DP83907 DP83924A | 1ct:2ct | 1ct:1ct | TMCM-140A3-J TMCM-120A3-J TMCM-200A5-J |
| Realtek | RTL8301 80C24 | 2ct:1ct | 1ct:1ct | TMCM-140A6-J TMM-100A6-J |
| Texas Instruments | TNETE100A | 1ct:1.414ct | 1ct:1ct | TMCM-200A2-J TMCM-110B2-J TMM-140A2-J TMCM-140A2-J |
| | TNETE2004 | 1ct:1.414ct | 1ct:1ct | TMCM-200A2-J TMCM-110B2-J TMM-140A2-J |
| | TNETE2008 | 1ct:1ct | 1:1 | TMM-100A1-J TMCM-100A1-J TMCM-200A1-J |

TMM 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 9001:2008, ISO/TS 16949:2009 and ISO 14001:2004 certified Talema facility
- Fully RoHS & REACH 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/20mV

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.

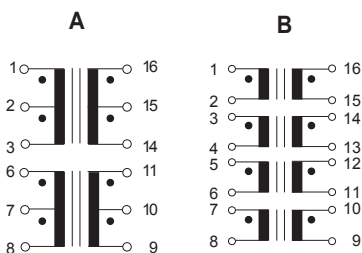
Applications:

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.

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

| 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 | | | |
| TMM-100A1-J | 1ct:1ct | 1ct:1ct | 100 | 0.25 | 9 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMM-100A6-J | 2ct:1ct | 1ct:1ct | 100 | 0.25 | 12 | 0.60 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMM-112A3-J | 1ct:1ct | 1ct:2ct | 112 | 0.30 | 8 | 0.30 | 0.30 | 0.30 | 0.60 | 1500 | A |
| TMM-140A2-J | 1ct:1ct | 1ct:1.414ct | 140 | 0.20 | 12 | 0.30 | 0.30 | 0.30 | 0.45 | 1500 | A |
| TMM-140A3-J | 1ct:1ct | 1ct:2ct | 140/25 | 0.30 | 12 | 0.30 | 0.30 | 0.30 | 0.45 | 1500 | A |
| TMM-150A6-J | 2ct:1ct | 1ct:1ct | 150 | 0.20 | 12 | 0.60 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMM-200A1-J | 1ct:1ct | 1ct:1ct | 200 | 0.20 | 10 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMM-200A2-J | 1ct:1ct | 1ct:1.414ct | 200 | 0.50 | 15 | 0.30 | 0.30 | 0.30 | 0.45 | 1500 | A |
| TMM-200A4-J | 1ct:1ct | 1ct:2.5ct | 200/35 | 0.40 | 15 | 0.30 | 0.30 | 0.30 | 0.80 | 1500 | A |
| TMM-200A5-J | 1ct:2ct | 1ct:1ct | 50/200 | 0.20 | 12 | 0.30 | 0.60 | 0.30 | 0.30 | 1500 | A |
| TMM-140B1-J | 1:1 (4x) | | 140 | 0.20 | 12 | Pri. Windings | | Sec. Windings | | 1500 | B |
| | | | | | | 0.30 | 0.30 | | | | |
| TMM-140B2-J | 1:1.41(4x) | | 140 | 0.20 | 12 | 0.41 | | 0.60 | | 1500 | B |

Schematics without Choke



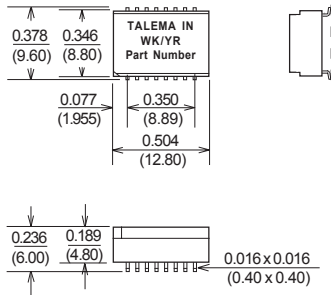
See next page for electrical specifications for modules with common mode chokes for EMI noise suppression and for dimensions and **schematics with choke**.

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

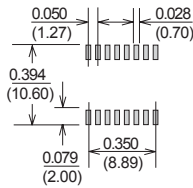
| Part Number | Turns Ratio ±5% | | Pri. OCL (μH Min) | L _L (μH Max) Pri / Sec | C _{WW} (pF Max) Pri / Sec | DCR (Ohms Max.) | | | | V _P (Vrms) | Schematic |
|--------------|--------------------|-------------|----------------------|---|--|--------------------|-------|------|------|--------------------------|-----------|
| | 1-3:16-14 | 6-8:11-9 | | | | 1-3 | 16-14 | 6-8 | 11-9 | | |
| TMCM-100A1-J | 1ct:1ct | 1ct:1ct | 100 | 0.30 | 8 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMCM-110B2-J | 1ct:1ct | 1ct:1.414ct | 110 | 0.40 | 15 | 0.30 | 0.30 | 0.30 | 0.90 | 1500 | B |
| TMCM-112B3-J | 1ct:1ct | 1ct:2ct | 112 | 0.30 | 8 | 0.40 | 0.40 | 0.40 | 1.10 | 1500 | B |
| TMCM-120A3-J | 1ct:1ct | 1ct:2ct | 120/20 | 0.40 | 9 | 0.90 | 0.90 | 0.90 | 0.90 | 1500 | A |
| TMCM-140A2-J | 1ct:1ct | 1ct:1.414ct | 140 | 0.40 | 20 | 0.40 | 0.40 | 0.40 | 0.40 | 1500 | A |
| TMCM-140A3-J | 1ct:1ct | 1ct:2ct | 140 | 0.2 | 12 | 0.30 | 0.30 | 0.30 | 0.90 | 1500 | A |
| TMCM-140A6-J | 2ct:1ct | 1ct:1ct | 140 | 0.3 | 12 | 0.60 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMCM-150A6-J | 2ct:1ct | 1ct:1ct | 150 | 0.90 | 10 | 0.70 | 0.35 | 0.35 | 0.35 | 1500 | A |
| TMCM-200A1-J | 1ct:1ct | 1ct:1ct | 200 | 0.25 | 10 | 0.30 | 0.30 | 0.30 | 0.30 | 1500 | A |
| TMCM-200A2-J | 1ct:1ct | 1ct:1.414ct | 200 | 0.5 | 12 | 0.30 | 0.30 | 0.30 | 0.75 | 1500 | A |
| TMCM-200A4-J | 1ct:1ct | 1ct:1.25ct | 200 | 0.5 | 15 | 0.30 | 0.30 | 0.30 | 1.05 | 1500 | A |
| TMCM-200A5-J | 1ct:2ct | 1ct:1ct | 200 | 0.3 | 8 | 0.30 | 0.90 | 0.30 | 0.30 | 1500 | A |
| TMCM-350A4-J | 1ct:1ct | 1ct:2.5ct | 350 | 0.8 | 30 | 0.30 | 0.30 | 0.30 | 1.05 | 1500 | A |

Dimensions

Miniature Module - TMM & TMCM



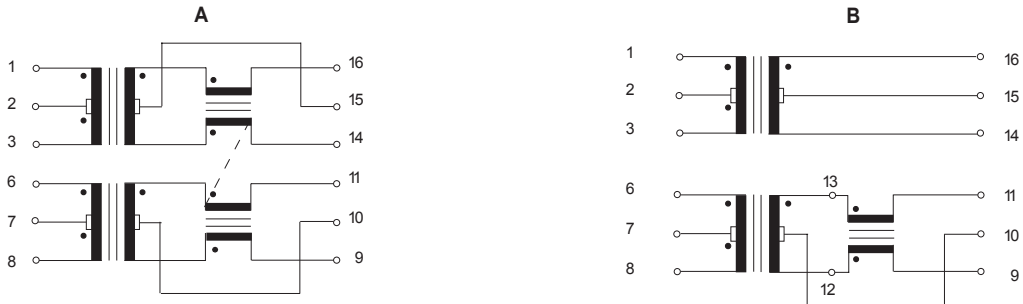
Suggested Pad Layout



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

Packing Method: Tape & Reel; Qty/Reel: 600Pcs

Schematics with Choke



IC Selection Guide for 10/100 Base-T Isolation Transformer Modules

| IC Manufacturer | IC Part Number | Turns Ratio | | Talema part Number | |
|--|--|-------------|---------|---|--------------------------|
| | | Transmit | Receive | Miniature Single Port 12.8 x 9.6 x 6.0 | |
| ADMtek | LET406 | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| | ADM9511, ADM9513, AN983, AN985 | 1ct:1ct | 1ct:1ct | TEM-300D-J | |
| AMD | AM79C874 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300K-J | |
| | am79c874(NetPHY-1LP) | 1.25ct:1ct | 1:1 | TEM-302D-J | |
| | AM79C971 (PCnet-Fast) | 1ct:1ct | 1:1 | TEM-300A-J | |
| | AM79C973 (PCnet-FAST III) | 1ct:1.41ct | 1ct:1ct | TEM-300B-J | |
| | AM79C976, AM79C977 | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| Broadcom | BCM5201, BCM5220, BCM5221, BCM5222, BCM5912(Dual) | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300D-J | |
| Broadcom (Altima) | AH101 | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| Broadcom (Davicom) | DM9101, DM9102, DM9111, DM9131, DM9161, DM9181, DM9301, DM9601 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300H-J | |
| Cirrus Logic (Crystyl) | CS8952 | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| ICS | ICS1890, ICS1891 ICS1892, ICS1893 | 1ct:1ct | 1ct:1ct | TEM-300H-J TEM-300D-J | |
| Intel | S82555, S82558 S82559, S82562 | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| Intel (Level One) | LXT970A, LXT971, LXT972, LXT973, LXT9761, LXT9762, LXT9781(Hex/Octal RMII), LXT9782(Hex/Octal SMII) | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300D-J | |
| SIS | SiS960 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300B-J TEM-300D-J | |
| SMSC | LAN83C180, LAN83C183, LAN83C190 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300B-J TEM-300D-J | |
| Sundance Technology | ST100 (100BTX PMD PHY) ST101 (Fast Ethernet Media Converter) | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| TDK | TSC78Q2120 | 1ct:1ct | 1ct:1ct | TEM-300A-J | |
| Texas Instruments | TNETE2101, TNETE2104 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300D-J | |
| ATM Network Interface Transformer Modules | | | | | |
| National | 155 ATM | 83223 | 1ct:1ct | 1ct:1ct | TEM-300H-J |
| µLinear | | ML6674 | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| PMC Sierra | | PM5350 | 1ct:1ct | 1ct:1ct | TEM-300H-J TEM-300A-J |

IC Selection Guide for 10/100 Base-T Isolation Transformer Modules

| IC Manufacturer | IC Part Number | Turns Ratio | | Talema part Number |
|-------------------------------|---|------------------|---------|---|
| | | Transmit | Receive | Miniature Single Port 12.8 x 9.6 x 6.0 |
| Kendin | KS8728 (2.5V Octal PHY) KS8735 (3.3V Quad HUB) KS8737 (3.3V PHY MII) KS8761 (5V PHY) KS8995 (2.5V, Port Switch) | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300D-J TEM-300H-J |
| | KS8995E | 1ct:1ct | 1ct:1ct | TEM-300D-J |
| Lucent (Enable) | LUC3X04, LUCWX14, LUC3X24, LUC3X51 | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| | LU6612, T8301 (5V), T8302 (3.3V) - VoIP | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| | LU3X31FT-J80, LU3X31FT-TE80, LU3X31T-T64, LU3X32FT-SE128, LU3X34FT-J160, LU3X36FTR (Hex) | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| Macronix | MX715 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300B-J |
| Marvell | 88E3061, 88E3081, 88E6050 | 1ct:1ct | 1ct:1ct | TEM-300D-J |
| | 88E6051, 88E6052 | 1ct:1ct | 1ct:1ct | TEM-300D-J |
| MicroLinear | ML6651 | 1ct:1ct | 1ct:1ct | TEM-300H-J |
| | ML6673 | 1ct:1ct | 1ct:1ct | TEM-300H-J |
| | ML6692, ML6694 | 2ct:1ct | 1:1:1ct | TEM-304G-J |
| | ML6697, ML6698 | 2ct:1 | | TEM-304J-J |
| Mitel (Plessy) | NWK937, NWK939, NWK954 | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| Myson | MTD971 | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300B-J |
| Mysticom | MystiPHY110 | 1ct:1ct | 1ct:1ct | TEM-300B-J TEM-300D-J |
| National Semiconductor | DP83843(Phyter), DP83815 (MacPhyter), DP83846A (DsPhyter) | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| Realtek | RTL8139, RTL8201 | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| | RTL8139B | 1ct:1ct | 1ct:1ct | TEM-300A-J TEM-300B-J |
| | RTL8139C (3.3 V) | 1ct:1ct | 1ct:1ct | TEM-300B-J |
| | RTL8305S, RTL8100B | 1ct:1ct | 1ct:1ct | TEM-300A-J |
| | RTL8150 | 1ct:1ct | 1ct:1ct | TEM-300D-J |
| LSI (SEEQ) | 80220, 80221 | 2ct:1 2ct:1ct | 1ct:1ct | TEM-304F-J TEM-304D-J |
| | 80223, 80225 | 1ct:1ct | 1ct:1ct | TEM-300B-J TEM-300D-J |

TEM Series • 10/100 Base-T Single Port Transformer Modules

Features

- Low profile and light weight 10/100 BaseT modules facilitate pick and place compatibility and speed of placement
- Meets requirements of IEEE 802.3u and ANSIX3.263
- Consistent and reliable coplanarity
- Excellent quality at extremely competitive price due to high volume production
- Manufactured in an ISO 9001:2008, ISO/TS 16949:2009 and ISO 14001:2004 certified Talema facility
- Fully RoHS & REACH Compliant and meets Lead free reflow level J-STD-020C



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

Electrical Specifications @ 25°C

Inductance: 350µH minimum @ 100KHz/100mV, 8mA

Leakage Inductance: 0.4µH @ 1MHz

C_{ww}: 15pF typical

Quality and consistency is 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.

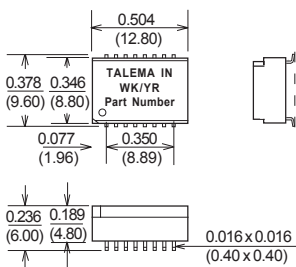
Applications:

Talema 10/100Base-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.

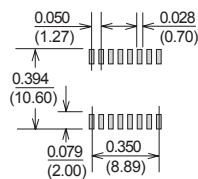
TEM Series - 10/100Base-T Single Port Isolation Transformer Modules

| Part Number | Turns Ratio (Pri:Sec) | | Insertion Loss (dB Max) | Return Loss (dB Min @ 100 Ohm) | | | | Differential to Common Mode Rejection (dB Min) | | | Crosstalk (dB Typ) | | | Schematic |
|-------------------|-----------------------|---------|-------------------------|--------------------------------|---------|-------|-------|--|-------|-------|--------------------|-------|-------|-----------|
| | Tx | Rx | | 0.1 - 100MHz | 1-30MHz | 40MHz | 60MHz | 80MHz | 30MHz | 60MHz | 100MHz | 30MHz | 60MHz | |
| TEM-300A-J | 1ct:1ct | 1ct:1ct | -1.0 | -20 | -20 | -18 | -14 | -42 | -36 | -33 | -50 | -40 | -40 | A |
| TEM-300B-J & B1-J | 1ct:1ct | 1ct:1ct | -1.0 | -22 | -20 | -18 | -12 | -42 | -38 | -32 | -50 | -40 | -40 | B |
| TEM-300D-J | 1ct:1ct | 1ct:1ct | -1.0 | -22 | -20 | -18 | -12 | -45 | -40 | -35 | -50 | -40 | -40 | D |
| TEM-304D-J | 2ct:1ct | 1ct:1ct | -1.1 | -20 | -20 | -14 | -11.5 | -42 | -37 | -33 | -45 | -40 | -35 | D |
| TEM-305D-J | 1.89ct:1ct | 1ct:1ct | -1.1 | -18 | -16 | -14 | -12 | -30 | -30 | -30 | -35 | -35 | -35 | D |
| TEM-300E-J | 1ct:1ct | 1ct:1ct | -1.0 | -18 | -16 | -14 | -12 | -42 | -37 | -32 | -45 | -40 | -35 | E |
| TEM-304F-J | 2ct:1 | 1ct:1ct | -1.0 | -16 | -16 | -16 | -12 | -35 | -35 | -32 | -40 | -40 | -35 | F |
| TEM-304G-J | 2ct:1ct | 1:1:1ct | -1.0 | -16 | -16 | -16 | -12 | -35 | -35 | -32 | -40 | -40 | -35 | G |
| TEM-300H-J & H1-J | 1ct:1ct | 1ct:1ct | -1.0 | -20 | -18 | -18 | -14 | -45 | -40 | -35 | -45 | -40 | -35 | H |
| TEM-304J-J | 2ct:1 | 1:1:1ct | -1.0 | -16 | -16 | -16 | -12 | -35 | -35 | -32 | -40 | -40 | -35 | J |
| TEM-300K-J & K1-J | 1ct:1 | 1ct:1ct | -1.0 | -16 | -13.4 | -11.5 | -10 | -45 | -40 | -35 | -40 | -38 | -35 | K |
| TEM-300L-J | 1ct:1ct | 1ct:1ct | -0.9 | -18 | -14 | -12 | -11 | -40 | -35 | -30 | -45 | -45 | -37 | L |
| TEM-300M-J | 1ct:1ct | 1ct:1ct | -1.0 | -20 | -17 | -17 | -14 | -40 | -40 | -40 | -40 | -40 | -40 | M |
| TEM-300N-J | 1ct:1ct | 1ct:1ct | -1.0 | -20 | -17 | -17 | -14 | -40 | -40 | -40 | -40 | -40 | -40 | N |
| TEM-300P-J | 1ct:1ct | 1ct:1ct | -1.1 | -18 | -16 | -14 | -12 | -42 | -37 | -35 | -40 | -40 | -35 | P |

TEM Miniature Module



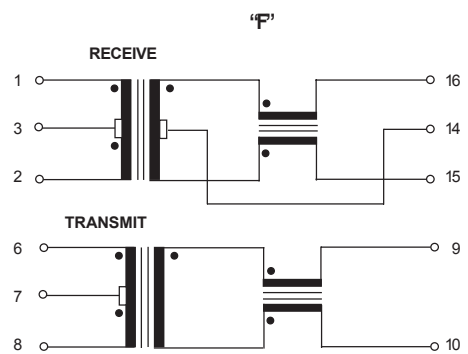
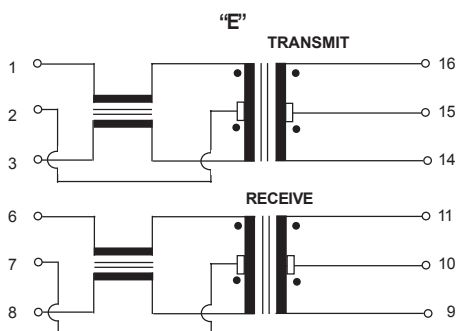
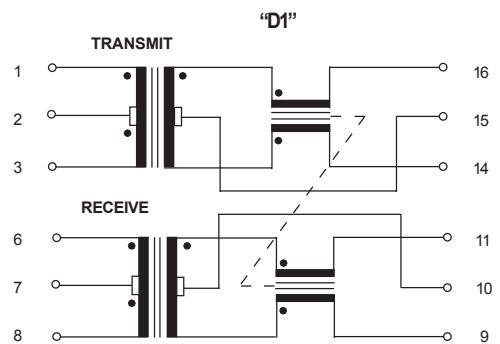
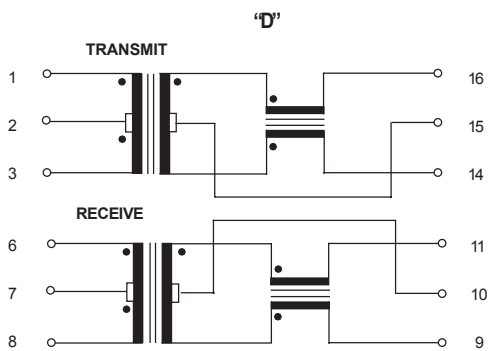
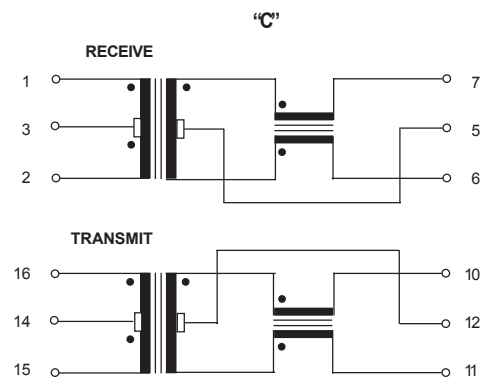
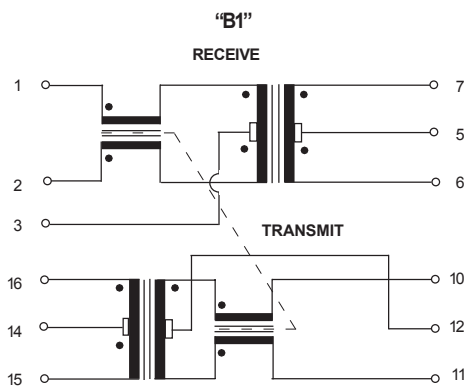
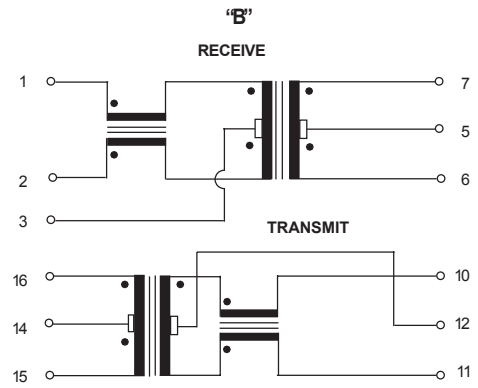
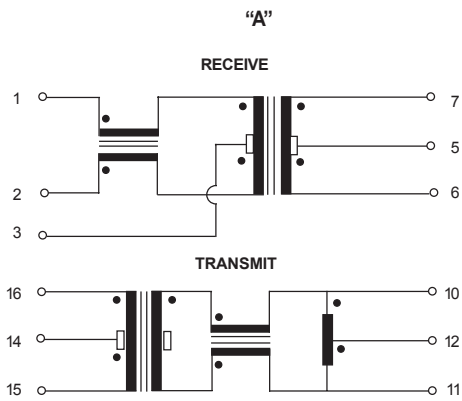
Suggested Pad layout



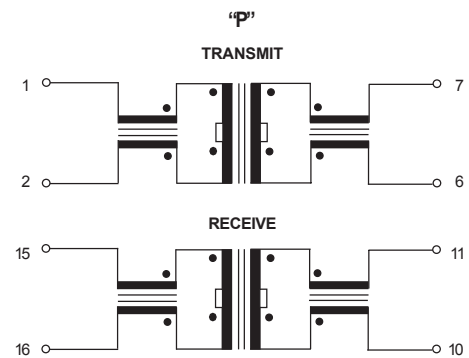
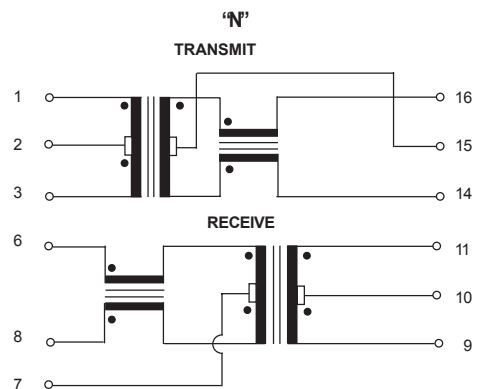
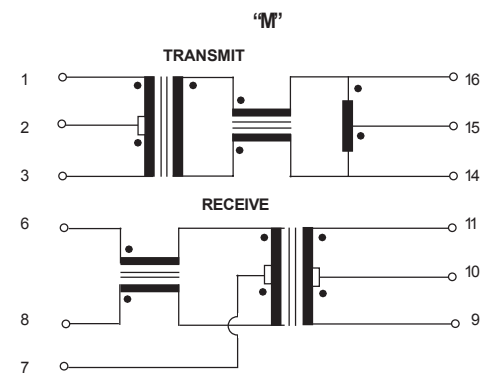
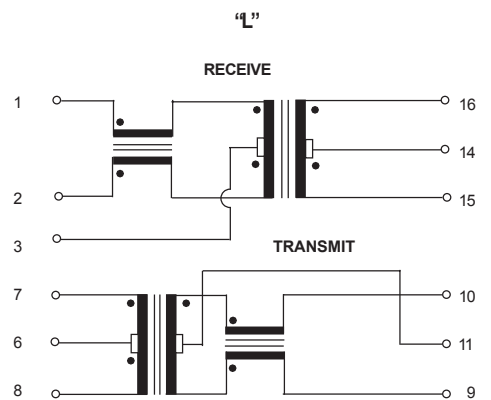
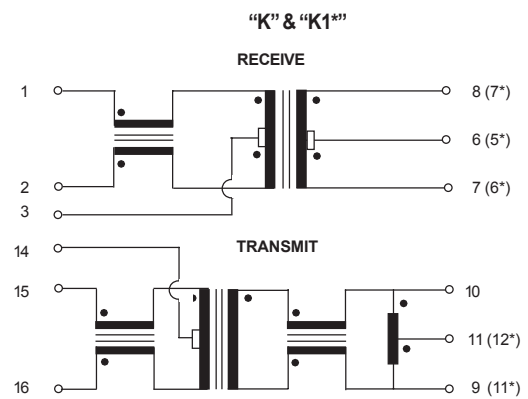
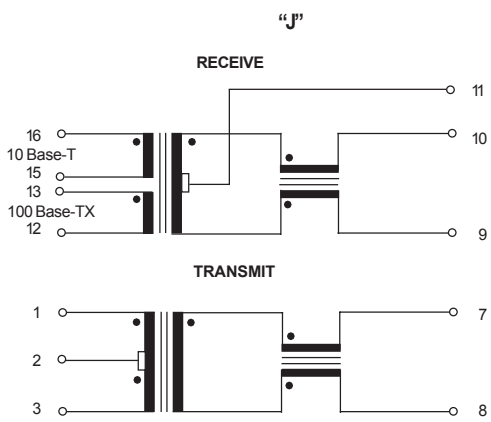
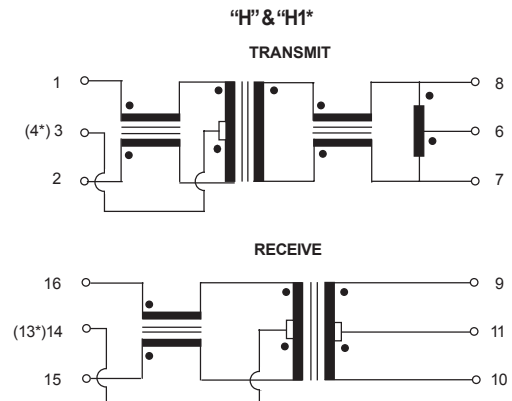
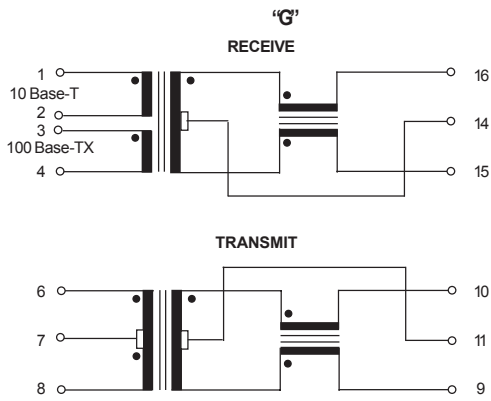
Dimensions: Inches (Millimeters)
 Tolerance: ±0.010 (0.25) unless specified otherwise
 Surface coplanarity will be 0.004 (0.01) maximum

Packing Method: Tape & Reel; Qty/Reel: 600Pcs

Schematics • TEM Series 10/100Base-T Single Port SMD Transformer Modules



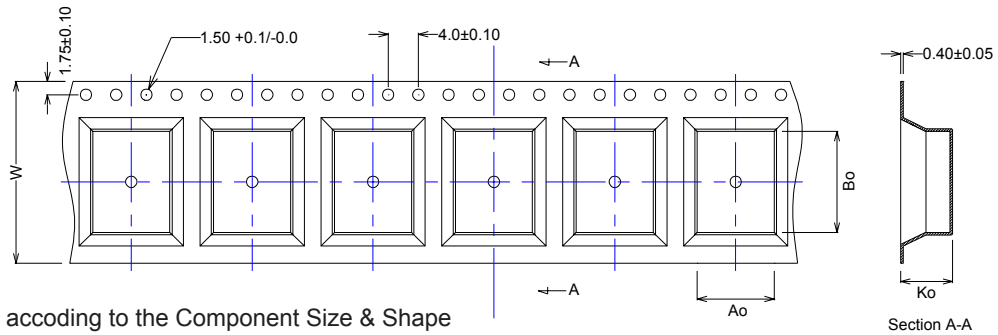
Schematics • TEM Series 10/100Base-T Single Port SMD Transformer Modules



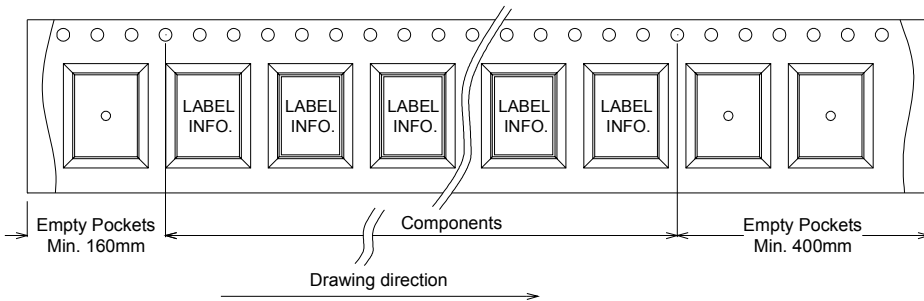
Tape & Reel Packaging and Dimensions

Carrier Tape - 1

Carrier Tape Dimensions (12.00mm, 16.00mm & 24.00mm)



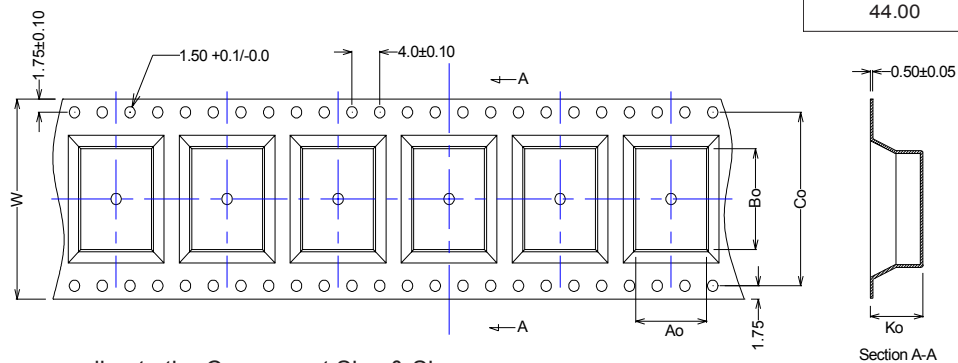
Ao , Bo & Ko - Vary according to the Component Size & Shape



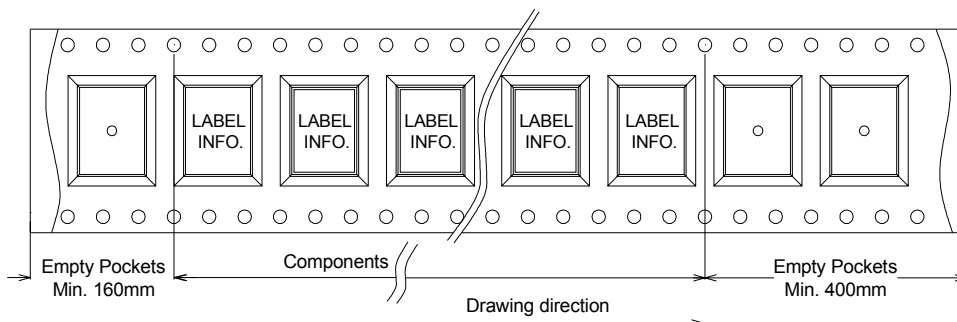
Carrier Tape - 2

Carrier Tape Dimensions (32.00mm & 44.00mm)

| Carrier Tape Dimensions in mm | |
|-------------------------------|----------------|
| Type | Pitch (Co) |
| 32.00 | 28.50 |
| 44.00 | 40.50 |

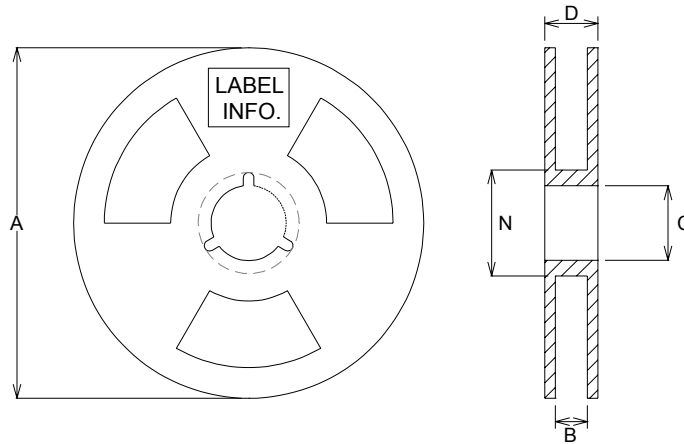


Ao , Bo , Co & Ko - Vary according to the Component Size & Shape



Tape & Reel Packaging and Dimensions

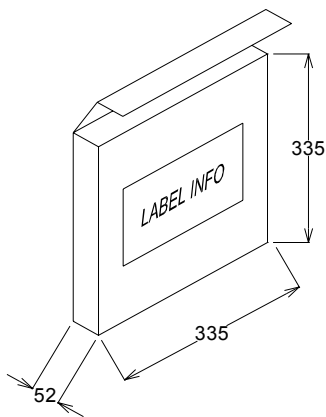
Reel Drawing



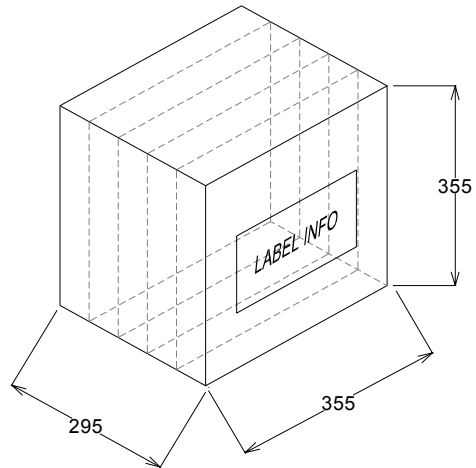
| Reel Dimensions in "mm" | | | | | |
|-------------------------|------|----|-------|----|------|
| Type | A | B | C | D | N |
| 13.00mm | Ø330 | 13 | Ø20.2 | 17 | Ø100 |
| 16.00mm | Ø330 | 16 | Ø20.2 | 20 | Ø100 |
| 24.00mm | Ø330 | 24 | Ø20.2 | 28 | Ø100 |
| 32.00mm | Ø330 | 32 | Ø20.2 | 36 | Ø100 |
| 44.00mm | Ø330 | 44 | Ø20.2 | 48 | Ø100 |

| Tape and Reel Dimensions | | | | |
|--------------------------|-----------|----------------------|---------------------|----------------------|
| Name of the Series | Reel Type | No. of Inside Carton | Quantity (Pcs/Reel) | Quantity (Ree/Cased) |
| TMM | 24.00mm | 5 | 600 | 5/600 |
| TMC | 24.00mm | 5 | 600 | 5/600 |
| TEM | 24.00mm | 5 | 600 | 5/600 |

Inside Carton



Outer Carton



Regional Locations - Design, Manufacturing, Sales & Marketing

Talema Group Regional Offices

North America

United States (Sales & Marketing)

Talema Group, LLC
 PO Box 935
 900 Innovation Drive
 Suite 120, Rolla
 Missouri 65402
 Tel: +1 573-303-3675
 E-Mail:
sales@talemagroup.com
 Web: www.talema.com

Asia

India (Design, Manufacturing, Sales & Marketing)

Administrative Office
Talema Electronic India Private Limited
 Door No. 221, 1st and 2nd Floor
 KJ Plaza, Opp.to Vidya Mandir School
 Meyanur Main Road
 Salem - 636 004 Tamil Nadu INDIA.
 Tel: +91 427 - 243 3100
 Fax: +91 427 - 243 3109
 E-Mail: talema@talemaindia.net
 Web: www.talema.com

Factory Premises
Talema Electronic India Private Limited
 No. 31 & 31, Electronic Industrial Estate
 Suramangalam Post
 Salem - 636 005 Tamil Nadu INDIA
 Tel: +91 427 - 243 3000
 E-Mail: talema@talemaindia.net
 Web: www.talema.com

Europe

Germany (Design, Sales & Marketing)

Talema Elektronik GmbH
 Sembdnerstr. 5
 82110 Germering
 Tel: +49 89 - 841 00 - 0
 Fax: +49 89 - 841 00 25
 E-Mail: info@talema.de
 Web: www.talema.com

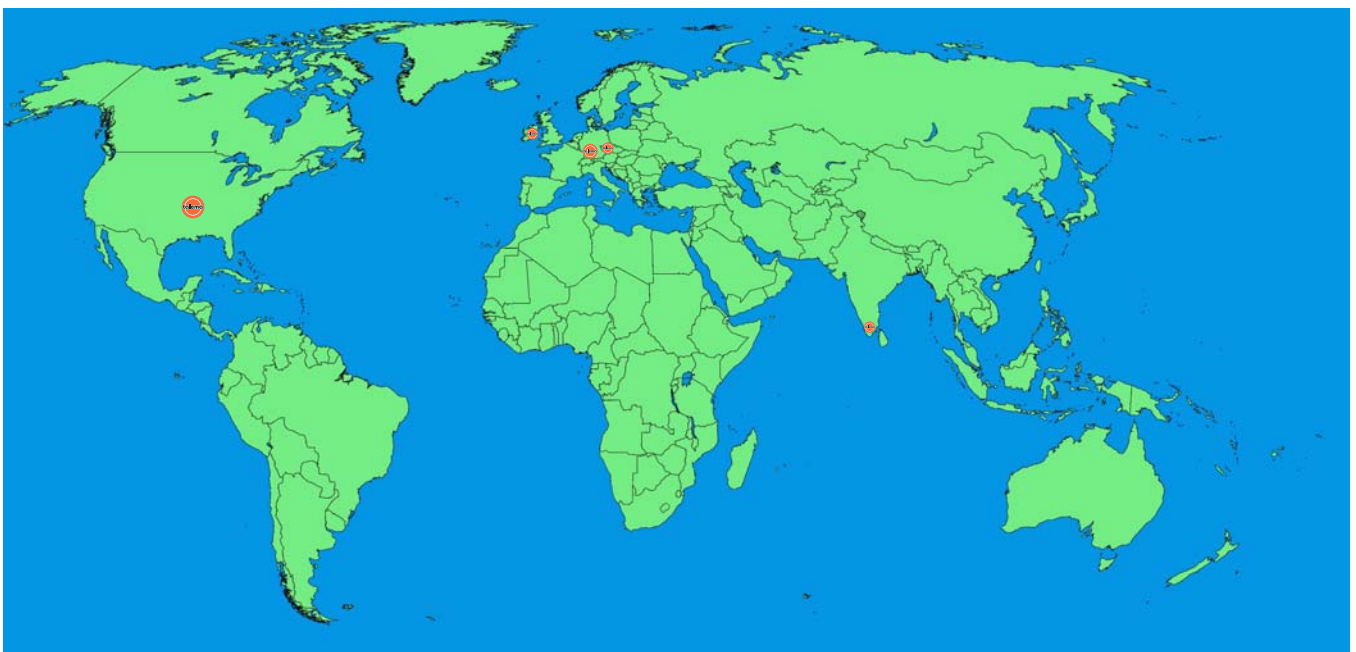
Ireland (Design, Sales & Marketing)

Nuvotem TEO
 Units W & X, Gweedore Business Park
 Derrybeg, Letterkenny, Co. Donegal
 Tel: +353 (0) 74 95 48666
 Fax: +353 (0) 74 95 48139
 E-Mail: info@nuvotem.com
 Web: www.nuvotem.com

Czech Republic (Design, Manufacturing, Sales & Marketing)

NT Magnetics s.r.o.
 Chebská 27
 322 00 Plzeň
 Tel: +420 377 - 338 351
 Fax: +420 377 - 338 350
 E-Mail: talema@talema.cz
 Web: www.ntmagnetics.cz

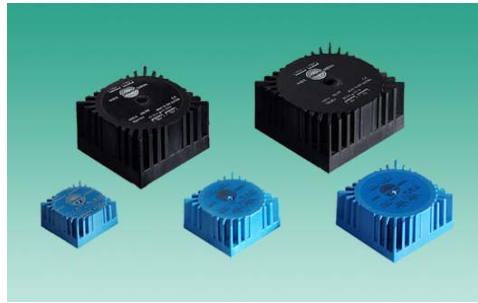
Locations of Talema Group Regional Offices



Summary TOTAL PROGRAM

SECTION 1

- TOROIDAL 50/60Hz TRANSFORMERS,
TOROIDAL PCB TRANSFORMERS &
MEDICAL GRADE ISOLATION TRANSFORMERS



SECTION 2

- CURRENT SENSE TRANSFORMERS &
INDUCTORS



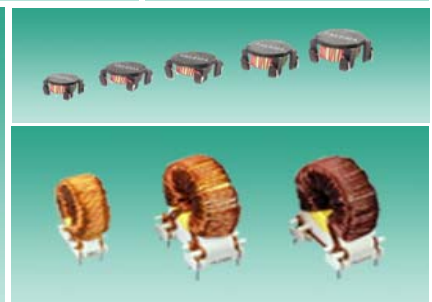
SECTION 3

- CHOKES, INDUCTORS AND TRANSFORMERS
FOR POWER APPLICATIONS



SECTION 4

- Transformers & Inductors FOR
SMPS MAGNETICS REQUIREMENTS



SECTION 6

- CURRENT COMPENSATED EMI NOISE
SUPPRESSION CHOKES



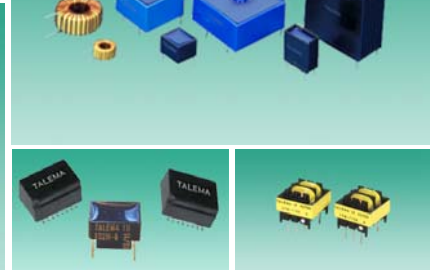
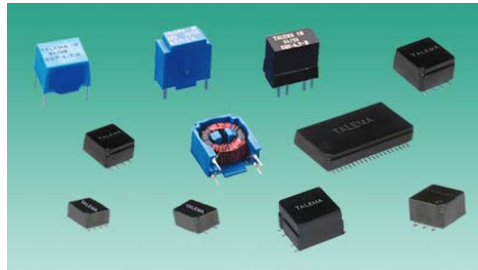
SECTION 7

- LAN MAGNETIC COMPONENTS FOR
ETHERNET APPLICATIONS



SECTION 8

- T1/E1/CEPT-PRI - T3/DS3/E3/STS-1 FOR
TELECOMMUNICATION PRODUCTS



SECTION 9

- TRANSFORMERS FOR BROADBAND ACCESS
AND FIBRE CHANNEL INTERFACE

SECTION 10

- THE TALEMA GROUP BROCHURE
OVERALL PRODUCTS - AN OVERVIEW

