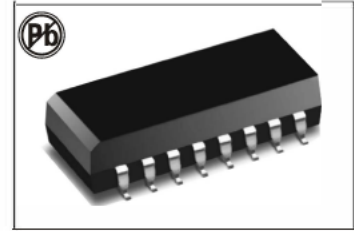


E1/T1 /ISDN-PRI TRANSFORMER T-100 SERIES



FEATURES:

- Mini SWT SO package
- Extended Temperature Range
- 1500 Vrms Isolation

OPTIONS:

- Tape & Reel is Standard
- Custom design available

COMMON APPLICATIONS:

- E1/T1/CEPT/ISDN- Pri Transformer

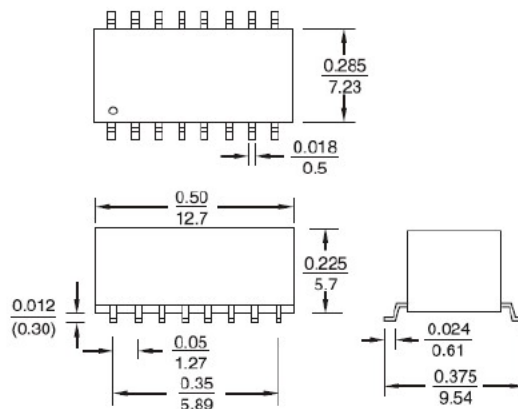
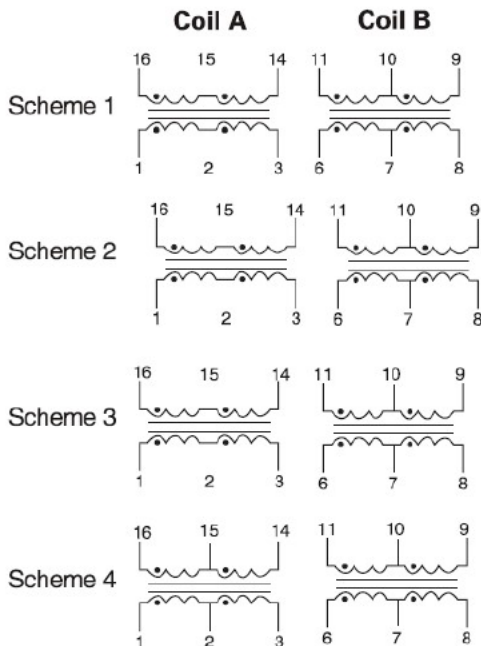
STANDARD SPECIFICATIONS

| Part Number | Turns Ratio $\pm 2\%$ | | Lp (mHJ (Min)) | Cww (μ FJ (Max)) | L _L (μ HMax) A/B | DCR (OMax) | | SCH | Primary Pins | |
|-------------|-----------------------|------------|----------------|-----------------------|----------------------------------|------------|-----------|-----|--------------|--------|
| | Coil A | Coil B | | | | A:PrVSec | B:Pri/Sec | | Coil A | Coil B |
| T-101 | 1CT:2CT | 1CT:2CT | 1.5 | 45/45 | 0.6/0.6 | 1.0/2.0 | 1.0/2.0 | 1 | 16-14 | 6-8 |
| T-102 | 1CT:2CT | 1CT:2CT | 1.5 | 45/45 | 0.5/0.5 | 1.0/2.0 | 1.0/1.0 | 1 | 1-3 | 11-9 |
| T-103 | 1CT:1.41CT | 1CT:1.41CT | 1.28 | 30/30 | 0.8/0.8 | 0.7/0.9 | 0.7/0.9 | 1 | 1-3 | 11-9 |
| T-104 | 1CT:1.15CT | 1CT:1.15CT | 1.5 | 45/45 | 0.5/0.5 | 1.0/1.0 | 1.0/1.0 | 1 | 1-3 | 11-9 |
| T-105 | 1:1.15CT | 1:2CT | 1.5 | 40/40 | 0.5/0.5 | 0.7/0.9 | 0.7/0.9 | 2 | 16-14 | 6-8 |
| T-106 | 1CT:1.25CT1.15 | 1CT:2CT | 1.5 | 40/40 | 0.5/0.5 | 0.7/0.9 | 0.7/0.9 | 1 | 16-14 | 6-8 |
| T-107 | 1CT:2CT | 1CT:2CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/1.0 | 0.7/1.0 | 1 | 16-14 | 6-8 |
| T-108 | 1CT:1CT | 1CT:1.36CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/0.7 | 0.7/0.7 | 1 | 16-14 | 6-8 |
| T-109 | 1CT:1.15CT | 1CT:1.15CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/0.5 | 0.7/0.75 | 1 | 1-3 | 6-8 |
| T-110 | 1:1.15CT | 1:2CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/0.75 | 0.7/1.0 | 3 | 16-14 | 6-8 |
| T-111 | 1CT:1.41CT | 1CT:1.41CT | 1.0 | 30/30 | 0.6/0.6 | 0.7/0.9 | 0.7/0.9 | 1 | 16-14 | 11-9 |
| T-112 | 1CT:2.42CT | 1CT:2.42CT | 1.2 | 25/25 | 0.6/0.6 | 0.7/1.2 | 0.7/1.2 | 1 | 1-3 | 6-8 |
| T-113 | 1CT:2CT | 1CT:1.36CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/1.2 | 0.7/0.8 | 4 | 16-14 | 6-8 |
| T-114 | 1:1.36CT | 1:2CT | 1.5 | 35/40 | 0.5/0.5 | 0.9/1.3 | 0.9/1.3 | 2 | 16-14 | 6-8 |
| T-115 | 1CT:2.4CT | 1CT:1CT | 1.0 | 30/30 | 0.8/0.8 | 0.85/1.5 | 0.85/0.85 | 1 | 1-3 | 11-9 |
| T-116 | 1:1/1.26 | 1:1/2CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/0.8 | 0.7/1.0 | 3 | 16-14 | 6-8 |
| T-117 | 1CT:1CT | 1CT:1.5CT | 1.0 | 30/30 | 0.6/0.6 | 0.7/0.7 | 0.7/1.0 | 1 | 16-14 | 6-8 |
| AT-118 | 1CT:2CT | 1CT:1.36CT | 1.2 | 30/30 | 0.6/0.6 | 0.7/1.0 | 0.7/0.8 | 4 | 16-14 | 6-8 |

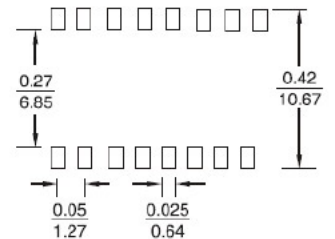
Note: 1. K = $\pm 10\%$, M = $\pm 20\%$

TECHNICAL INFORMATION & PHYSICAL CHARACTERISTICS

NOTE: (Extend Temperature -40°C to 85°C , OCL is 0.6 mH min @ -40°C)



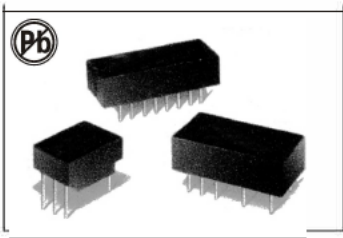
Dimension: Inch/mm



Recommended Pad Layout

- Soldering methods: Wave, Reflow
- Operating Temperature: 0°C to 70°C (-40°C to 85°C Extended)
- Storage Temperature: -55°C to 125°C

Note: All specifications subject to change without notice.



T1/E1/ISDN-PRI TRANSFORMER MODULES

T-6000 SERIES

FEATURES:

- Low Profile 6PIN DIP Package
- Low Leakage Inductance
- Low Interwinding Capacitance
- High Isolation Voltage
- Meets MIL-STD21038

OPTIONS:

- Tape & Reel is Standard
- Custom design available

APPLICATIONS:

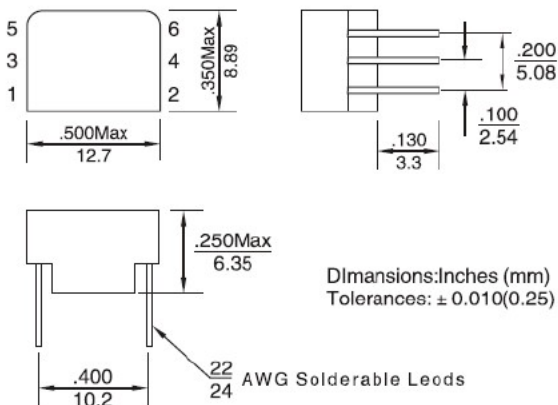
- Lan.WDN
- Computers
- SMPS Control Circuits
- T1/E1/ISDN-PRI

SPECIFICATIONS @ 250C:

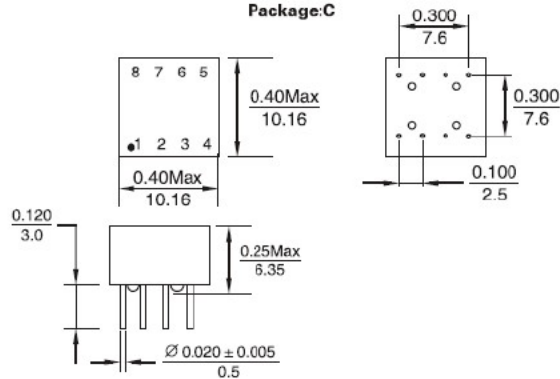
| Part Number | TURNS RATIO (t50%) | PULSE INDUCTANCE (μH, 20%) | LEAKAGE INDUCTANCE (μHMAX) | PRIMARY ET-CONSTANT TV-US MINI | PRI/SEC CW/W (PFMAX) | PRIMARY DCR (OHMS MAX) | SECONDARY DCR (OHMS MAX) | TERTIARY DCR (OHMS MAX) | HI-POT (VRMSMIN) | PACKAGE |
|-------------|--------------------|----------------------------|----------------------------|--------------------------------|----------------------|------------------------|--------------------------|-------------------------|------------------|---------|
| T-6001 | 1:1 | 10 | 0.3 | 32 | 18 | 0.9 | 0.9 | - | 500 | A/B |
| T-6002 | 1:1 | 50 | 0.4 | 5.0 | 21 | 0.9 | 0.9 | - | 500 | A/B |
| T-6003 | 1:1 | 500 | 0.5 | 8.5 | 32 | 1.3 | 1.3 | - | 500 | A/B |
| T-6004 | 1:1 | 2000 | 0.8 | 16.0 | 37 | 2.5 | 2.5 | - | 500 | A/B |
| T-6005 | 1CT:1CT | 50 | 0.3 | 5.0 | 18 | 0.9 | 0.9 | - | 500 | A/B |
| T-6006 | 1CT:1CT | 200 | 0.4 | 5.2 | 18 | 1.3 | 1.3 | - | 500 | A/B |
| T-6007 | 1CT:1CT | 500 | 0.5 | 8.5 | 32 | 1.3 | 1.3 | - | 500 | A/B |
| T-6008 | 1CT:1CT | 2000 | 0.8 | 16.0 | 37 | 2.5 | 2.5 | - | 500 | A/B |
| T-6009 | 2:1:1 | 20 | 0.8 | 5.0 | 8 | 0.9 | 0.5 | 0.5 | 500 | A/B/C |
| T-6010 | 3:1:1 | 200 | 1.3 | 5.0 | 7 | 0.9 | 0.4 | 0.4 | 500 | A/B/C |
| T-6011 | 4:2:1 | 500 | 0.9 | 8.5 | 13 | 1.4 | 0.8 | 0.5 | 500 | A/B/C |
| T-6012 | 4:2:1 | 2000 | 2.5 | 16.0 | 20 | 2.5 | 1.4 | 0.8 | 500 | A/B/C |

TECHNICAL INFORMATION & PHYSICAL CHARACTERISTICS

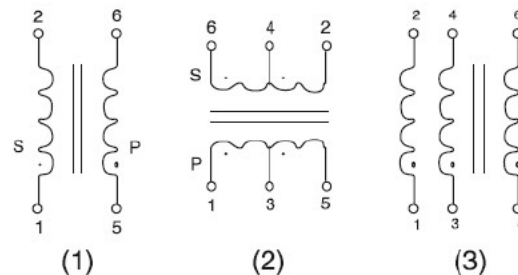
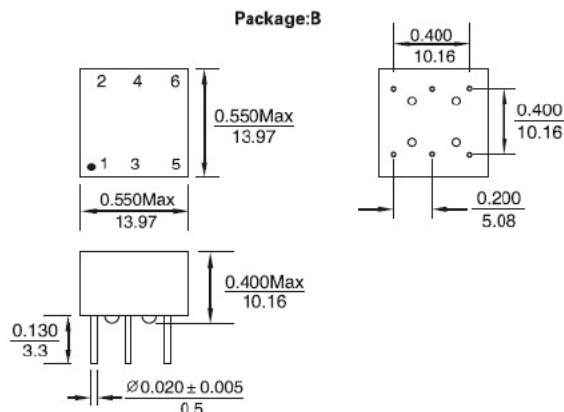
Package:A



Package:C



Package:B



- Operating Temperature: 0°C to 85°C
- Storage Temperature: -25°C to 85°C
- Note: All specifications subject to change without notice.

Suggested Land Pattern

FIG1

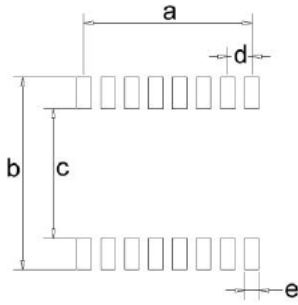
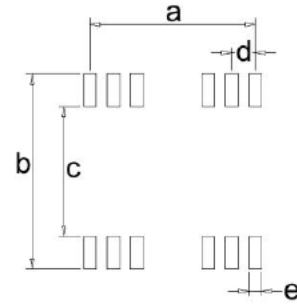


FIG2

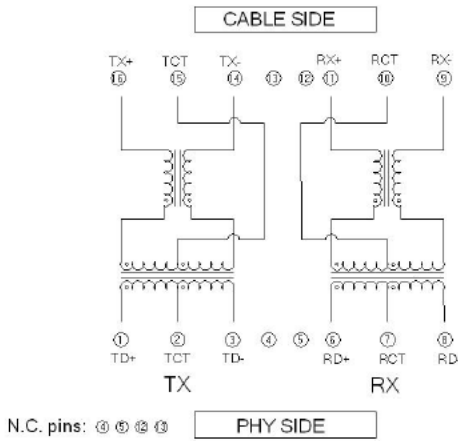


Dimensions in mm

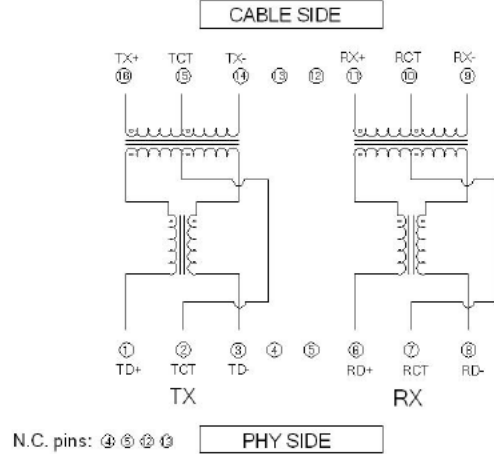
| TYPE | FIG | a | b | c | d | e |
|------------------|-----|------|-------|------|------|------|
| HS00DIS016M1xSCx | 1 | 8.89 | 10.2 | 6.86 | 1.27 | 0.76 |
| HS00DIS016M11SCB | 1 | 8.89 | 10.65 | 6.83 | 1.27 | 0.76 |
| HS00DIS016M11SCL | 2 | 8.89 | 10.65 | 6.83 | 1.27 | 0.76 |

Schematics

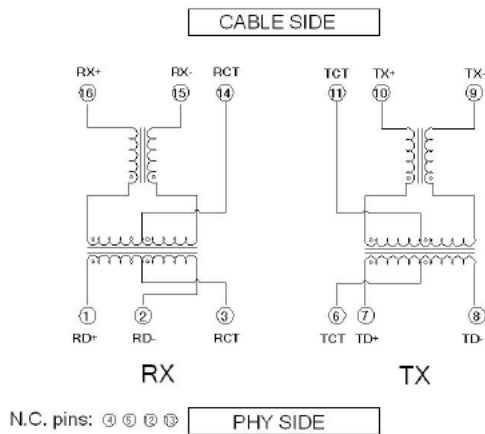
HS00DIS016M11SC1~2• 4• 6~7• B~G• J~K• M



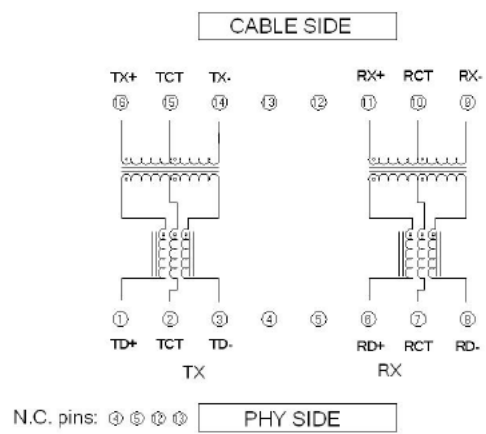
HS00DIS016M11SC3• 5• CH



HS00DIS016M11SCL



HS00DIS016M13SC1~2



Electrical Characteristics

Inductance @ Phy side (OCL)

100kHz, 0.1V, 8mA DC Bias 350uH Min

| Part Number | Turns Ratio | | Hipot Vrms, Sec Pri to Sec@60Hz,1mA |
|------------------|-------------|----|---|
| | TX | RX | |
| HS00DIS016M1xSCx | 1:1•3% | | 1500, 60 |

| Part Number | Speed Rated | Insertion Loss dB(Max) | Return Loss dB(Min) | | | | | | | DMCR dB(Min) | | | | Crosstalk dB(Min) | | |
|------------------|----------------|------------------------------|------------------------|-------|-------|-----|-------|-----|-----|-----------------|-----|-----|-----|----------------------|-----|-----|
| | | | 1~100 | 1~30 | 40 | 50 | 60 | 80 | 100 | 30 | 50 | 60 | 100 | 30 | 60 | 100 |
| MHz | | | | | | | | | | | | | | | | |
| HS00DIS016M11SC1 | 10/100 | -1.1 | -18 | -14.1 | -13.1 | -12 | -10 | -42 | -37 | - | -33 | -45 | -40 | -35 | | |
| HS00DIS016M11SCB | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCC | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCD | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCF | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCH | 10/100 | -1.1 | -18 | -14.1 | -13.1 | -12 | -10 | -42 | -37 | - | -33 | -45 | -40 | -35 | | |
| HS00DIS016M11SCJ | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCK | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCL | 10/100 | -1.1 | -20 | - | - | -14 | -11.5 | - | -42 | -37 | - | -33 | -45 | -40 | -35 | |

- Operating temperature range 0 • 70 •
- Storage temperature range 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

| Part Number | Speed Rated | Insertion Loss dB(Max) | Return Loss dB(Min) | | | | | | | DC Current Rating (Max) | DMCR dB(Min) | | | Crosstalk dB(Min) | | |
|------------------|----------------|------------------------------|------------------------|-------|-------|-----|-----|-----|------------------|----------------------------|-----------------|-----|-----|----------------------|-----|-----|
| | | | 1~100 | 1~30 | 40 | 50 | 60 | 80 | 100 | | 30 | 50 | 100 | 30 | 60 | 100 |
| MHz | | | | | | | | | | | | | | | | |
| HS00DIS016M11SC2 | 10/100 | -1.1 | -20 | - | - | -12 | -10 | - | 420mA DC at 57 V | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SC3 | 10/100 | -1.1 | -18 | -14.1 | -13.1 | -12 | -10 | - | - | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SC4 | 10/100 | -1.1 | -18 | - | - | -12 | -10 | - | - | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SC5 | 10/100 | -1.1 | -18 | -14.1 | -13.1 | -12 | -10 | - | - | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SC6 | 10/100 | -1.1 | -20 | - | - | -12 | -10 | - | 420mA DC at 57 V | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SC7 | 10/100 | -1.1 | -18 | - | - | -12 | -10 | - | - | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCG | 10/100 | -1.1 | -20 | - | - | -12 | -10 | - | 420mA DC at 57 V | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M11SCM | 10/100 | -1.1 | -18 | - | - | -12 | -10 | - | - | -42 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M13SC1 | 10/100 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57 V | -43 | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS016M13SC2 | 10/100 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57 V | -43 | -37 | -33 | -45 | *40 | -35 | |

- Operating temperature range -40 • 85 •
- Storage temperature range 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Shinhom approval. Please contact our sales department before ordering.

Mechanical Dimension

24Pins

FIG1

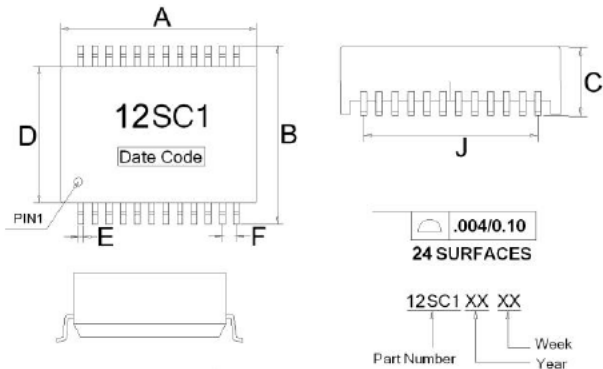


FIG2

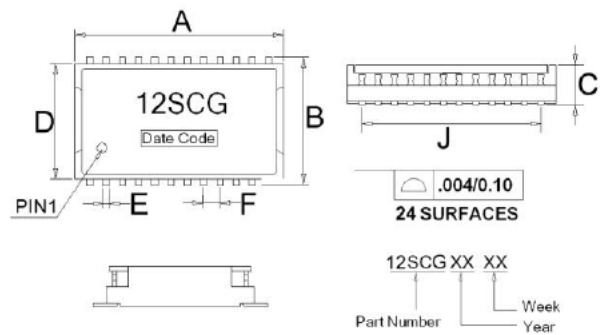


FIG3

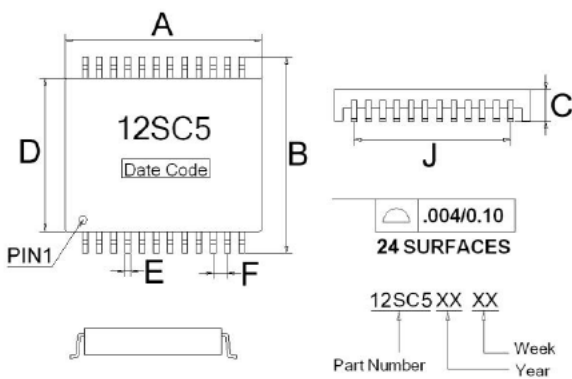
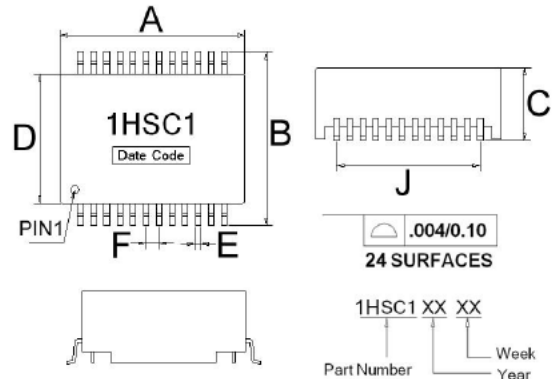


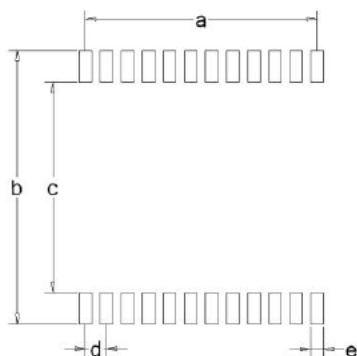
FIG4



Dimensions in mm

| TYPE | FIG | A | B | C | D | E | F | J |
|--------------------|-----|------------|-----------|----------|-----------|-----------|-----------|------------|
| HS00DIS024M12SCB-F | 1 | 15.1±0.25 | 10±0.25 | 4±0.25 | 7.1±0.25 | 0.38±0.13 | 1.0±0.13 | 11±0.13 |
| HS00DIS024M12SCG | 2 | 15.6±0.25 | 9.47±0.25 | 2.3±0.1 | 8.5±0.25 | 0.45±0.13 | 1.27±0.25 | 13.97±0.13 |
| HS00DIS024M1xSCx | 1 | 17.55±0.25 | 15.9±0.25 | 6±0.25 | 12.2±0.25 | 0.46±0.13 | 1.27±0.25 | 13.97±0.25 |
| HS00DIS024M12SC4-9 | 1 | 17.55±0.25 | 16±0.25 | 5.7±0.25 | 12.2±0.25 | 0.46±0.13 | 1.27±0.25 | 13.97±0.25 |
| HS00DIS024M14SC1-8 | 1 | 17.55±0.25 | 16±0.25 | 5.7±0.25 | 12.2±0.25 | 0.46±0.13 | 1.27±0.25 | 13.97±0.25 |
| HS00DIS024M1HSC1 | 4 | 13.6±0.15 | 15±0.2 | 6•0.15 | 12±0.15 | 0.41±0.05 | 0.99±0.05 | 10.9±0.25 |

Suggested Land Pattern

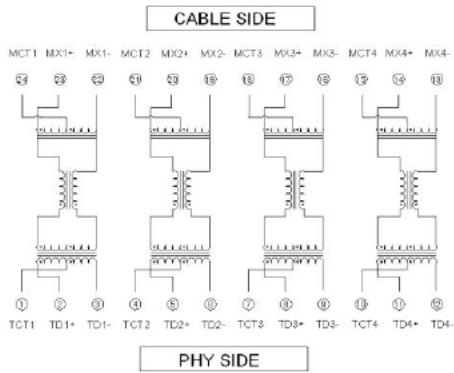


Dimensions in mm

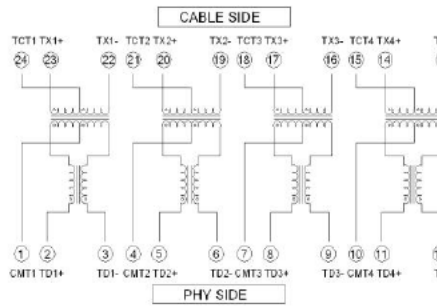
| TYPE | a | b | c | d | e |
|--------------------|-------|------|-------|------|------|
| HS00DIS024M1HSC1 | 10.9 | 16.5 | 13.5 | 0.99 | 0.6 |
| HS00DIS024M12SCB-F | 11 | 10.7 | 8 | 1 | 0.6 |
| HS00DIS024M1xSCx | 13.97 | 17 | 11.92 | 1.27 | 0.76 |
| HS00DIS024M12SCG | 13.97 | 10.5 | 7.4 | 1.27 | 0.8 |

Schematics

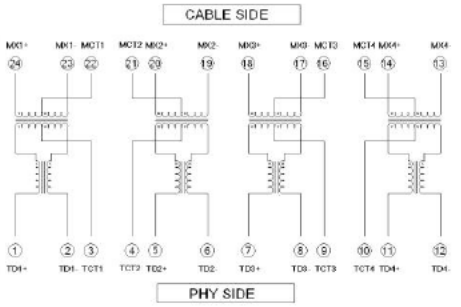
HS00DIS024M12SC1-3



HS00DIS024M12SCB-C 14SC1

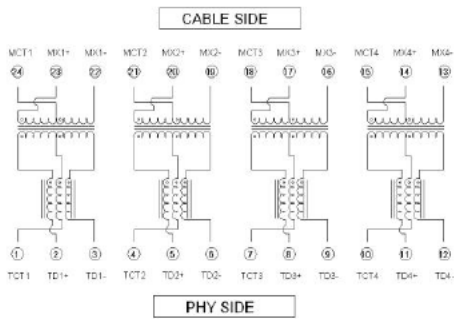


HS00DIS024M12SCG



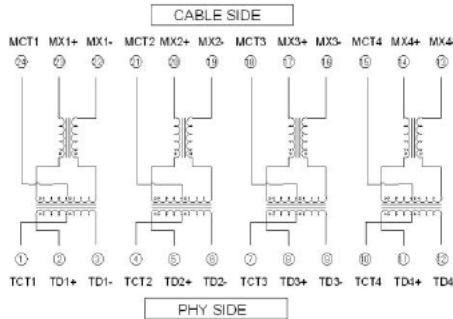
HS00DIS024M14SC4-6

HS00DIS024M1ASC1 1HSC1



HS00DIS024M12SC4 6~9 D-F

HS00DIS024M14SC2-3 8 1ASC2-4 1C(D G)SC1



Electrical Characteristics

Inductance @ Phy side (OCL)

100kHz, 0.1V, 8mA DC Bias 350uH Min

| Part Number | Turns Ratio | Hipot Vrms, Sec Pri to Sec@60Hz,1mA |
|------------------|-------------|---|
| | •8% | |
| HS00DIS024M1xSxx | 1:1 | 1500, 60 |

| Part Number | Speed Rated | Insertion Loss dB(Max) | | | Return Loss dB(Min) | | | | | | DMCR dB(Min) | | | | Crosstalk dB(Min) | | | |
|------------------|----------------|---------------------------|-------|-----|------------------------|-----|-----|-----|-----|-----|-----------------|-----|-----|-----|----------------------|-----|-----|-----|
| | | 0.1 | 1~100 | 125 | 1~30 | 40 | 50 | 60 | 80 | 100 | 2 | 30 | 60 | 100 | 1 | 30 | 60 | 100 |
| | Base-T | MHz | | | | | | | | | | | | | | | | |
| HS00DIS024M12SC2 | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -43 | -37 | -33 | |
| HS00DIS024M12SC3 | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -43 | -37 | -33 | |
| HS00DIS024M12SC4 | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -43 | -37 | -33 | |
| HS00DIS024M12SC6 | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -43 | -37 | -33 | |
| HS00DIS024M12SC9 | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -43 | -37 | -33 | |
| HS00DIS024M12SCB | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -42 | -35 | -32 | |
| HS00DIS024M12SCC | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -42 | -35 | -32 | |
| HS00DIS024M12SCD | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -42 | -35 | -32 | |
| HS00DIS024M12SCF | 1000 | - | -1.0 | - | -18 | -14 | -13 | -12 | -10 | - | -43 | -37 | -33 | - | -42 | -35 | -32 | |
| HS00DIS024M12SCG | 1000 | - | -1.0 | - | -16 | -16 | -16 | -12 | -10 | - | -43 | -37 | -33 | - | -45 | -40 | -35 | |
| HS00DIS024M14SC5 | 1000 | - | -1.0 | - | -18 | - | - | -14 | -12 | -10 | - | -43 | -37 | -33 | - | -45 | -40 | -35 |

- Operating temperature range 0 • 70 •
- Storage temperature range • 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

| Part Number | Speed Rated | Insertion Loss dB(Max) | Return Loss dB(Min) | | | | | | DC Current Rating (Max) | DMCR dB(Min) | | | | Crosstalk dB(Min) | | | |
|------------------|----------------|------------------------------|------------------------|-------|-------|-----|-----|-----------------|----------------------------|-----------------|-----|-----|-----|----------------------|-----|-----|-----|
| | | | 1~100 | 1~30 | 40 | 50 | 60 | 80 | | 100 | 30 | 50 | 60 | 100 | 30 | 60 | 100 |
| | Base-T | MHz | | | | | | | | | | | | | | | |
| HS00DIS024M12SC1 | 1000 | -1.0 | -18 | -14 | -13 | -12 | -10 | | | -43 | - | -37 | -33 | -43 | -37 | -33 | |
| HS00DIS024M12SC7 | 1000 | -1.0 | -18 | -14 | -13 | -12 | -10 | | | -43 | - | -37 | -33 | -43 | -37 | -33 | |
| HS00DIS024M14SC1 | 1000 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57V | -43 | - | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS024M14SC2 | 1000 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57V | -43 | - | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS024M14SC3 | 1000 | -1.0 | -18 | -14.4 | -13.1 | -12 | -10 | 720mA DC at 57V | -43 | - | -37 | -33 | -45 | -40 | -35 | | |
| HS00DIS024M14SC4 | 1000 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57V | -43 | - | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS024M14SC6 | 1000 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57V | -43 | - | -37 | -33 | -45 | -40 | -35 | |
| HS00DIS024M14SC8 | 1000 | -1.0 | -18 | - | - | -14 | -12 | -10 | 720mA DC at 57V | -43 | - | -37 | -33 | -45 | -40 | -35 | |

- Operating temperature range -40 • 85 •
- Storage temperature range • 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Shinhom approval. Please contact our sales department before ordering.

Electrical Characteristics

Inductance @ Phy side (OCL)

100kHz, 0.1V, DC Bias 180uH Min

| Part Number | Turns Ratio | Hipot Phy To Cable |
|------------------|-------------|-----------------------|
| | 3% | |
| HS00DIS024M1xSCx | 1:1 | 1500Vac, 60s |

| Part Number | Speed Rated | Insertion Loss dB(Max) | | | Return Loss dB(Min) | | DC Current Rating (Max) | DMCR dB(Min) | Crosstalk dB(Min) | |
|------------------|-------------|------------------------|--------|---------|---------------------|-----------------------------------|-------------------------|--------------|-------------------|-------|
| | Base-T | 1~50 | 50~125 | 125~200 | 1~40 | 40~200 | | | 1~200 | 1~150 |
| | | MHz | | | | | | | | |
| HS00DIS024M1ASC2 | 2.5G | -0.5 | -1.0 | -1.5 | -20 | -20+12.5*log ₁₀ (f/40) | 720mA DC at 57V | -45+f/35 | -30 | -20 |

•• Operating temperature range 0 •• 70 ••

•• Storage temperature range 25 •• 105 ••

•• Electrical Specification @25 •• Humidity 65% RH

| Part Number | Speed Rated | Insertion Loss dB(Max) | | | | | | Return Loss dB(Min) | | | | |
|------------------|-------------|------------------------|--------|---------|---------|-------|---------|---------------------|------|-----------------------------------|-----|-----|
| | Base-T | 1~50 | 50~125 | 125~200 | 125~250 | 1~100 | 100~400 | 400~500 | 1~40 | 40~200 | 250 | 500 |
| | | MHz | | | | | | | | | | |
| HS00DIS024M1ASC1 | 2.5G | -0.5 | -1.0 | -1.5 | - | - | - | - | -20 | -20+12.5*log ₁₀ (f/40) | - | - |
| HS00DIS024M1ASC3 | 2.5G | -0.5 | -1.0 | -1.5 | - | - | - | - | -20 | -20+12.5*log ₁₀ (f/40) | - | - |
| HS00DIS024M1ASC4 | 2.5G | -0.5 | -1.0 | -1.5 | - | - | - | - | -20 | -20+12.5*log ₁₀ (f/40) | - | - |
| HS00DIS024M1CSC1 | 5G | -0.5 | -1.0 | - | 1.5 | - | - | - | -20 | -20+12.5*log ₁₀ (f/40) | - | - |
| HS00DIS024M1DSC1 | 5G | -0.5 | -1.0 | - | 1.5 | - | - | - | -20 | -20+12.5*log ₁₀ (f/40) | - | - |
| HS00DIS024M1GSC1 | 10G | - | - | - | - | -1.0 | -1.5 | -1.8 | -20 | -20+10*log(f/40) | - | - |
| HS00DIS024M1HSC1 | 10G | - | - | - | - | -1.0 | -1.5 | -1.8 | -20 | -20+10*log(f/40) | - | - |

| Part Number | Speed Rated | DC Current Rating (Max) | DMCR dB(Min) | | | | Crosstalk dB(Min) | | | | |
|------------------|-------------|-------------------------|-----------------------------------|-------|-------|---------|-------------------|-------|---------|---------|---------|
| | Base-T | | 1~100 | 1~200 | 1~250 | 100~300 | 300~500 | 1~150 | 150~200 | 150~250 | 150~500 |
| | | MHz | | | | | | | | | |
| HS00DIS024M1ASC1 | 2.5G | 720mA DC at 57V | -45+f/35 | - | - | - | - | -30 | -20 | - | - |
| HS00DIS024M1ASC3 | 2.5G | 720mA DC at 57V | -45+f/35 | - | - | - | - | -30 | -20 | - | - |
| HS00DIS024M1ASC4 | 2.5G | 420mA DC at 57V | -45+f/35 | - | - | - | - | -30 | -20 | - | - |
| HS00DIS024M1CSC1 | 5G | - | -(45-20*log ₁₀ (f/50)) | | | - | - | -30 | - | -20 | - |
| HS00DIS024M1DSC1 | 5G | 720mA DC at 57V | -45+f/35 | | - | - | - | -30 | - | -20 | - |
| HS00DIS024M1GSC1 | 10G | - | -40 | - | - | -30 | -25 | -30 | - | - | -20 |
| HS00DIS024M1HSC1 | 10G | 720mA DC at 57V | -40 | - | - | -30 | -25 | -30 | - | - | -20 |

•• Operating temperature range -40 •• 85 ••

•• Storage temperature range 25 •• 105 ••

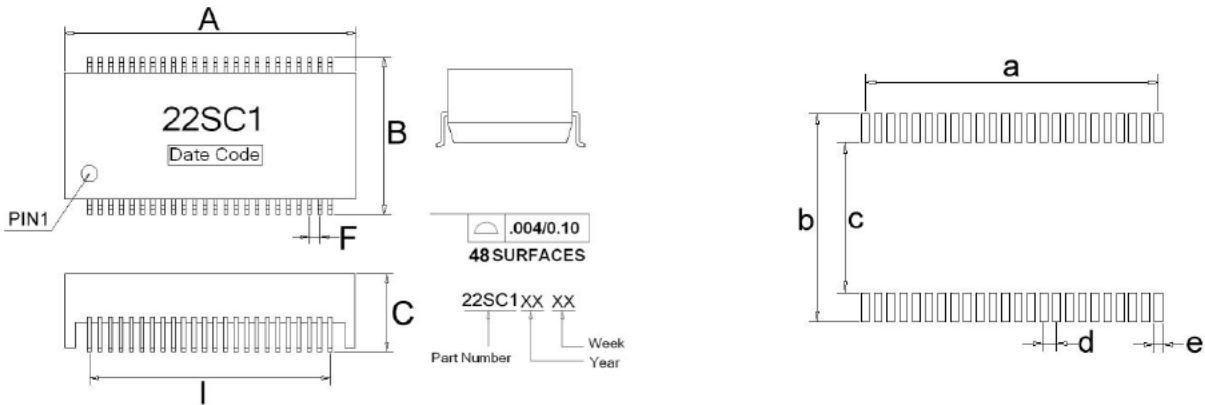
•• Electrical Specification @25 •• Humidity 65% RH

Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Shinhom approval. Please contact our sales department before ordering.

Mechanical Dimension

Suggested Land Pattern

48Pins



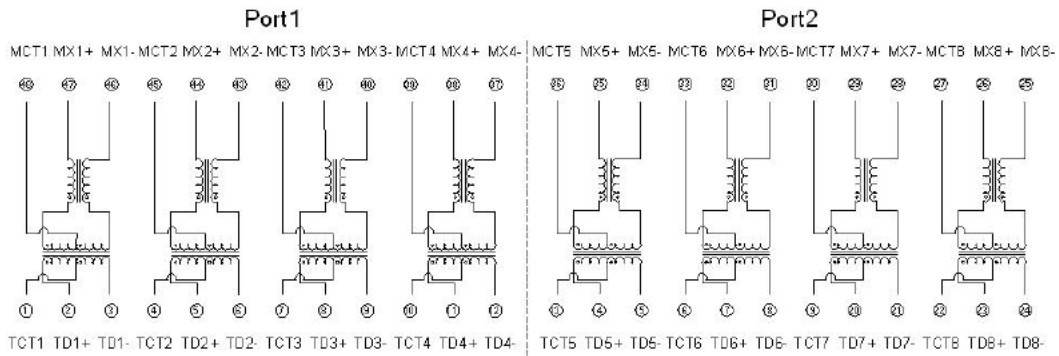
Dimensions in mm

| TYPE | A | B | C | F | I | a | b | c | d | e |
|------------------|-----------|-----------|-----------|-----------|------------|-------|------|------|------|------|
| HS00DIS048M22SCx | 27.8±0.51 | 15.2±0.25 | 7.25±0.25 | 1.02±0.25 | 23.46±0.25 | 23.46 | 15.9 | 12.5 | 1.02 | 0.64 |

Schematics

HS00DIS048M22SC1-3

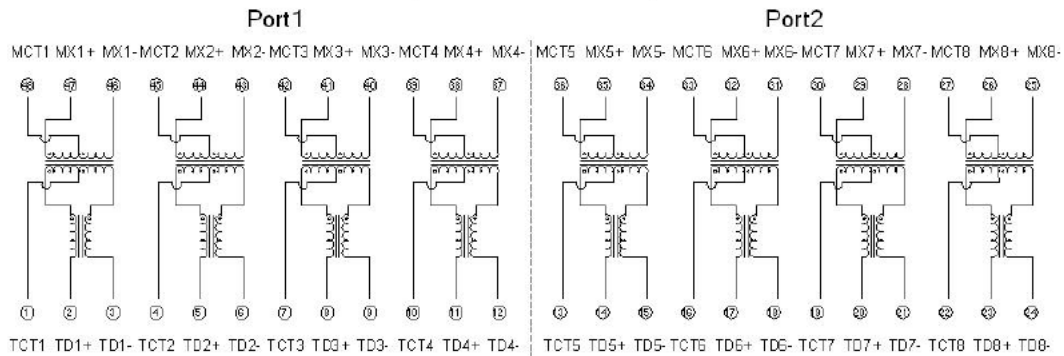
CABLE SIDE



PHY SIDE

HS00DIS048M22SC4

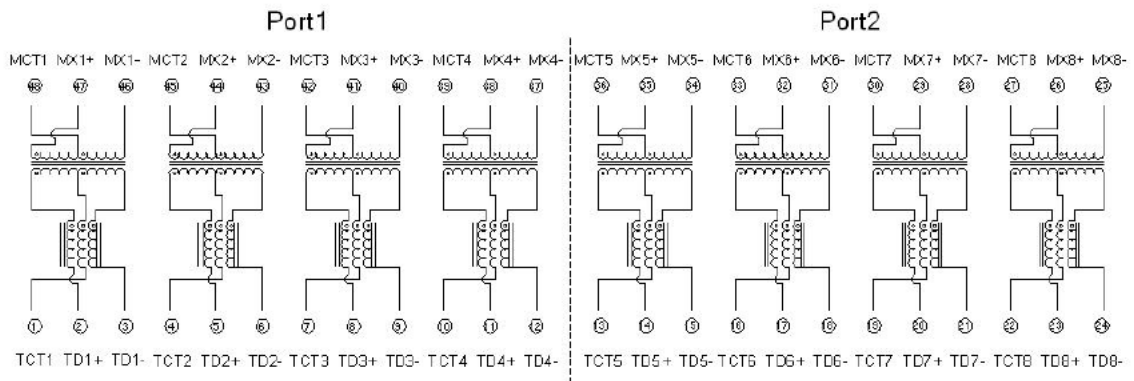
CABLE SIDE



PHY SIDE

HS00DIS048M22SC6-7

CABLE SIDE



PHY SIDE

Electrical Characteristics**Inductance @ Phy side (OCL)****100kHz, 0.1V, 8mA DC Bias 350uH Min**

| Part Number | Turns Ratio | Hipot Vrms, Sec Pri To Sec |
|------------------|-------------|----------------------------------|
| | 3% | |
| HS00DIS048M22SCx | 1:1 | 1500, 60 |

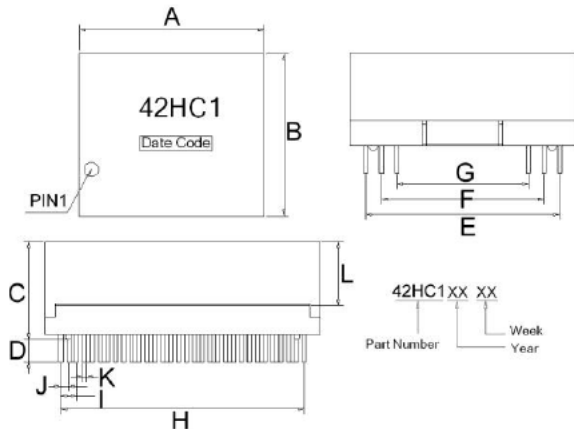
| Part Number | Speed Rated | Insertion Loss dB(Max) | Return Loss dB(Min) | | | | | | DMCR dB(Min) | | | Crosstalk dB(Min) | | |
|------------------|----------------|------------------------------|------------------------|-------|-------|-----|-----|-----|-----------------|-----|-----|----------------------|-----|-----|
| | | | 1~100 | 1~30 | 40 | 50 | 60 | 80 | 100 | 30 | 60 | 100 | 30 | 60 |
| | Base-T | MHz | | | | | | | | | | | | |
| HS00DIS048M22SC2 | 1000 | -1.1 | -20 | -14.4 | -13.1 | -12 | -10 | -45 | -40 | -35 | -40 | -35 | -33 | |
| HS00DIS048M22SC3 | 1000 | -1.0 | -18 | -14.4 | -13.1 | -12 | -10 | -45 | -40 | -35 | -40 | -35 | -33 | |
| HS00DIS048M22SC4 | 1000 | -1.0 | -18 | -14.4 | -13.1 | -12 | -10 | -43 | -37 | -33 | -40 | -35 | -33 | |
| HS00DIS048M22SC6 | 1000 | -1.1 | -20 | - | - | -14 | -12 | -10 | -42 | -37 | -32 | -45 | -40 | -35 |

- Operating temperature range 0 • 70 •
- Storage temperature range 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

| Part Number | Speed Rated | Insertion Loss dB(Max) | Return Loss dB(Min) | | | | | | DC Current Rating (Max) | DMCR dB(Min) | | | Crosstalk dB(Min) | | |
|------------------|----------------|------------------------------|------------------------|-------|-------|-----|-----|-----|----------------------------|-----------------|-----|-----|----------------------|-----|-----|
| | | | 1~100 | 1~30 | 40 | 50 | 60 | 80 | | 100 | 30 | 60 | 100 | 30 | 60 |
| | Base-T | MHz | | | | | | | | | | | | | |
| HS00DIS048M22SC1 | 1000 | -1.0 | -18 | -14.4 | -13.1 | -12 | -10 | - | -45 | -40 | -35 | -40 | -35 | -33 | |
| HS00DIS048M22SC7 | 1000 | -1.1 | -20 | - | - | -14 | -12 | -10 | 420mA DC at 57V | -42 | -37 | -32 | -45 | -40 | -35 |

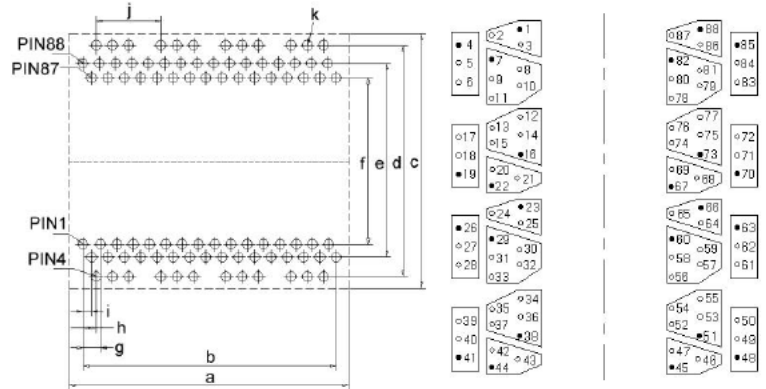
- Operating temperature range -40 • 85 •
- Storage temperature range 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

Mechanical Dimension



Suggested Land Pattern

88Pins

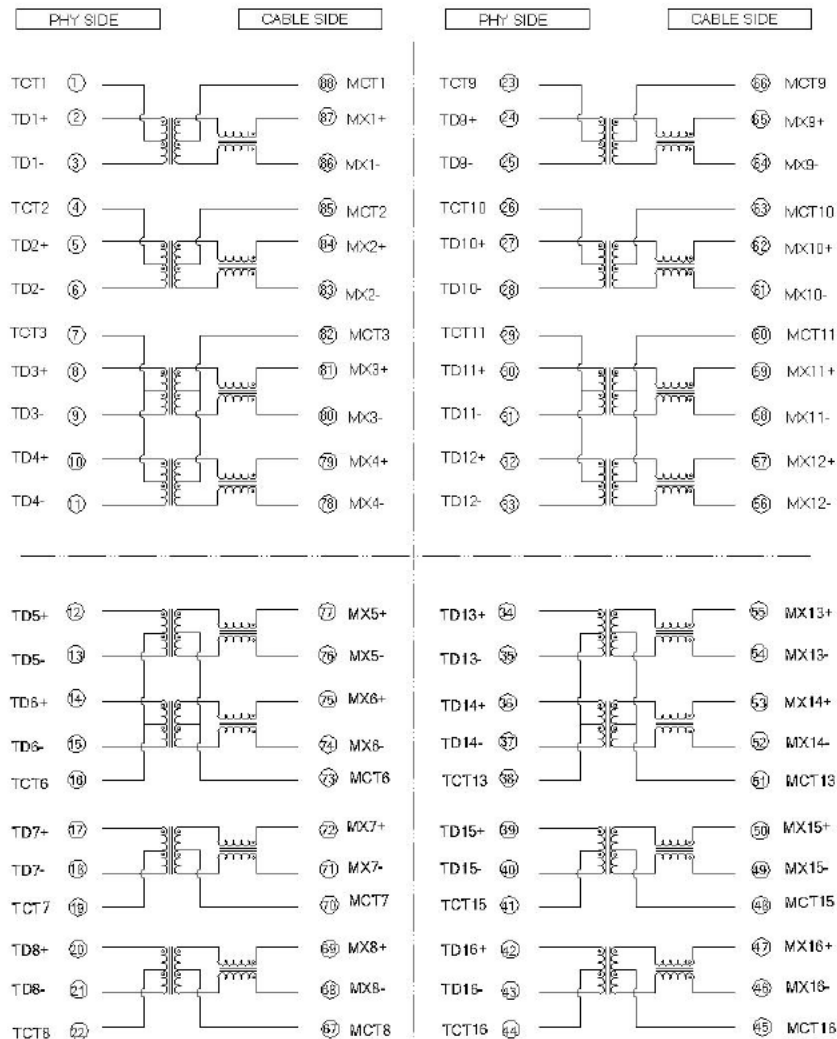


Dimensions in mm

| TYPE | A | B | C | D | E | F | G | H | I | J | K | L |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HS00DIS088M4xHCx | 29.1 | 26.5 | 13.0 | 2.8 | 24.1 | 19.5 | 15.5 | 25.58 | 1.65 | 0.825 | • 0.4 | 12.5 |
| | ±0.25 | ±0.25 | ±0.25 | ±0.25 | ±0.25 | ±0.25 | •0.25 | •0.25 | •0.25 | •0.05 | | ±0.25 |
| | a | b | c | d | e | f | g | h | i | j | k | |
| | 29.1 | 25.58 | 26.5 | 24.1 | 19.5 | 15.5 | 1.65 | 1.238 | 0.825 | 6.6 | • 0.9 | |

Schematics

HS00DIS088M4xHCx



Electrical Characteristics

Inductance @ Phy side (OCL)

100kHz, 0.1V, 8mA DC Bias 350uH Min

| Part Number | Turns Ratio 100kHz | | Hipot Vrms, Sec Phy To Cable |
|------------------|-----------------------|----|------------------------------------|
| | TX | RX | |
| HS00DIS088M4xHC1 | 1:1•5% | | 1500, 60 |

| Part Number | Speed Rated | Insertion Loss dB(Max) | Return Loss dB(Min) | | | | | DMCR dB(Min) | | | Crosstalk dB(Min) | | |
|------------------|----------------|------------------------------|------------------------|------|--------|-------|-------|-----------------|-----|-----|----------------------|-----|-----|
| | | | 1~100 | 1~30 | 40 | 50 | 60~80 | 100 | 30 | 50 | 100 | 30 | 60 |
| MHz | | | | | | | | | | | | | |
| HS00DIS088M42HC1 | 1000 | -1.0 | -18 | -16 | -14.08 | -12.5 | -10 | -43 | -37 | -33 | -40 | -35 | -30 |
| HS00DIS088M44HC1 | 1000 | -1.0 | -18 | -16 | -14.08 | -12.5 | -10 | -43 | -37 | -33 | -40 | -35 | -30 |

| Part Number | Speed Rated | DC Resistance (mΩ)Max | DC Current Rating |
|------------------|----------------|---------------------------|-------------------|
| | | 1/2 Winding at Cable Side | (Max) |
| HS00DIS088M42HC1 | 1000 | - | - |
| HS00DIS088M44HC1 | 1000 | 1200 | 720mA DC at 57V |

- Operating temperature range -40 • 85 •
- Storage temperature range • 25 • 105 •
- Electrical Specification @25 • Humidity 65% RH

Electrical Characteristics

Inductance @ Phy side (OCL)

100kHz, 0.1V, 10.8mA DC Bias 150uH Min

| Part Number | Turns Ratio 100kHz | Hipot Vrms, Sec Phy To Cable |
|------------------|-----------------------|------------------------------------|
| | •2% | |
| HS00DIS088M4xHCx | 1:1 | 1500, 60 |

| Part Number | Speed Rated | Insertion Loss dB(Max) | | | Return Loss dB(Min) | | DMCR dB(Min) | CMRR dB(Min) | Crosstalk dB(Min) | |
|------------------|----------------|---------------------------|--------|---------|------------------------|----------------------------|-----------------|-----------------|----------------------|---------|
| | Base-T | 1~50 | 50~125 | 125~200 | 1~40 | 40~200 | 1~200 | 1~200 | 1~150 | 150~200 |
| HS00DIS088M47HC1 | 2.5G | -0.5 | -1.0 | -1.5 | -20 | $-20+12.5*\log_{10}(f/40)$ | $-45+f/35$ | -30 | -30 | -20 |

•• Operating temperature range 0 •• 70 ••

•• Storage temperature range • 25 •• 105 ••

•• Electrical Specification @25 •• Humidity 65% RH

| Part Number | Speed Rated | Insertion Loss dB(Max) | | | Return Loss dB(Min) | | DMCR dB(Min) | CMRR dB(Min) | Crosstalk dB(Min) | |
|------------------|----------------|---------------------------|--------|---------|------------------------|----------------------------|-----------------|-----------------|----------------------|---------|
| | Base-T | 1~50 | 50~125 | 125~200 | 1~40 | 40~200 | 1~200 | 1~200 | 1~150 | 150~200 |
| HS00DIS088M47HC2 | 2.5G | -0.5 | -1.0 | -1.5 | -20 | $-20+12.5*\log_{10}(f/40)$ | $-45+f/35$ | -30 | -30 | -20 |
| HS00DIS088M4AHC1 | 2.5G | -0.5 | -1.0 | -1.5 | -20 | $-20+12.5*\log_{10}(f/40)$ | $-45+f/35$ | -30 | -30 | -20 |
| HS00DIS088M4AHC2 | 2.5G | -0.5 | -1.0 | -1.5 | -20 | $-20+12.5*\log_{10}(f/40)$ | $-45+f/35$ | -30 | -30 | -20 |

| Part Number | Speed Rated | DC Current Rating |
|------------------|----------------|-------------------|
| | Base-T | (Max) |
| HS00DIS088M47HC2 | 2.5G | - |
| HS00DIS088M4AHC1 | 2.5G | 420mA DC at 57V |
| HS00DIS088M4AHC2 | 2.5G | 420mA DC at 57V |

•• Operating temperature range -40 •• 85 ••

•• Storage temperature range • 25 •• 105 ••

•• Electrical Specification @25 •• Humidity 65% RH

T1/E1/CEPT PULSE INTERFACE TRANSFORMER

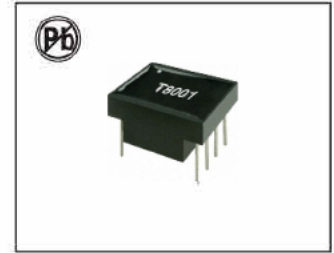
TSO SERIES

FEATURES:

- RoHS compliant
- PCB mounting
- UL 94V-0 Package materials
- Low profile 6Pin/8Pin Dip package
- Low leakage inductance
- Low interwinding capacitance
- High isolation voltage
- Meets MIL-STD21038
- IEEE 802.3 Compliant

APPLICATIONS:

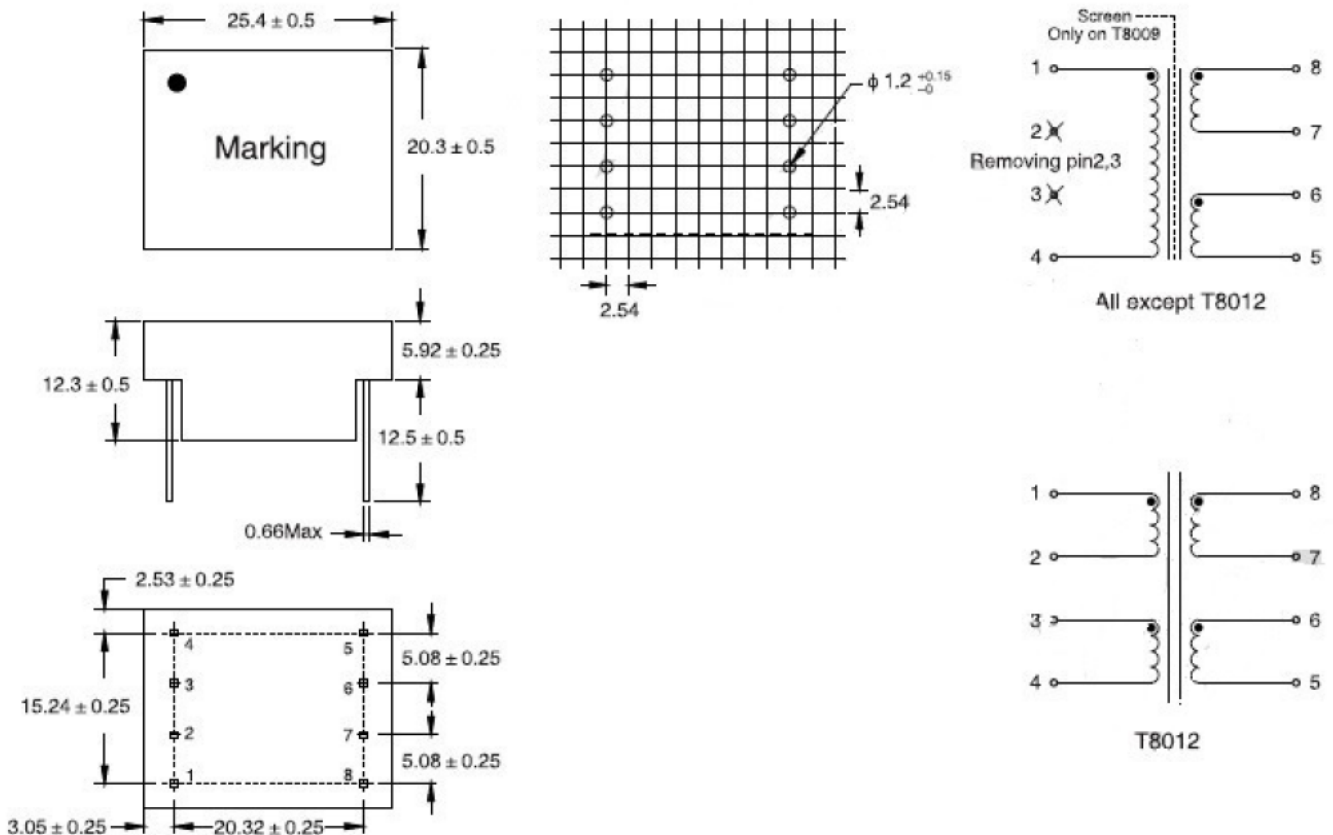
- LAN, WDN
- Computers
- SMPS Control circuits
- T1/E1/CEPT
- Pulse interface transformer
- Power transformer



ELECTRICAL CHARACTERISTICS@25°C

| Part Number | T8001 | T8002 | T8003 | T8004 | T8005 | T8006 | T8007 | T8008 | T8009 | T8010 | T8011 | T8012 | Units |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|
| Turns ratio | 1:1 | 2:1 | 1:1 | 1:1 | 1:1 | 2:1 | 1:1 | 2:1 | 1:1 | 2:1 | 1:1 | 1:1 | |
| Pri Inductance (Min.) | 1.0 | 1.0 | 4.0 | 4.0 | 16.3 | 16.3 | 1.0 | 1.0 | 4.0 | 4.0 | 16.3 | 1.0 | mH |
| Pri Et Constant (Min.) | 120 | 120 | 240 | 240 | 482 | 482 | 120 | 120 | 240 | 240 | 482 | 120 | V _{us} |
| Leakage Inductance (Max.) | 3.0 | 3.0 | 5.0 | 11 | 40 | 40 | 2.0 | 3.5 | 11 | 11 | 18 | 3.0 | uH |
| Interwinding Capacitance (Max.) | 40 | 30 | 55 | 35 | 40 | 40 | 50 | 30 | 18 | 35 | 65 | 40 | pF |
| Pri DCR (Max.) | 0.25 | 0.24 | 0.86 | 0.9 | 3.6 | 3.5 | 0.25 | 0.24 | 0.9 | 0.84 | 3.5 | 0.25 | Ω |
| Sec DCR(Max.) | 0.22 | 0.12 | 0.83 | 0.76 | 3.1 | 1.6 | 0.23 | 0.12 | 0.76 | 0.38 | 3.4 | 0.22 | Ω |
| Sec2 DCR(Max.) | 0.28 | 0.15 | — | 11 | 4.2 | 2.0 | — | 0.15 | 11 | 0.5 | — | 0.28 | Ω |
| Sec3 DCR(Max.) | — | — | — | — | — | — | — | — | — | — | — | 0.36 | Ω |
| Isolation voltage (1 second) | 2.5 | 4.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | KVrms |

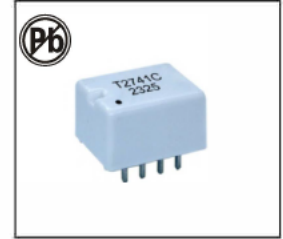
PHYSICAL CHARACTERISTICS & WINDING



Notes

- Operating temperature range: 0°C to +70°C.
- Storage temperature range: 0°C to +70°C.
- Isolation voltage: 4000Vrms
- Electrical specifications at 25°C.
- All specifications subject to change without notice.

T1/E1 THROUGH HOLE SHIELDED TRANSFORMERS T2741 SERIES



FEATURES:

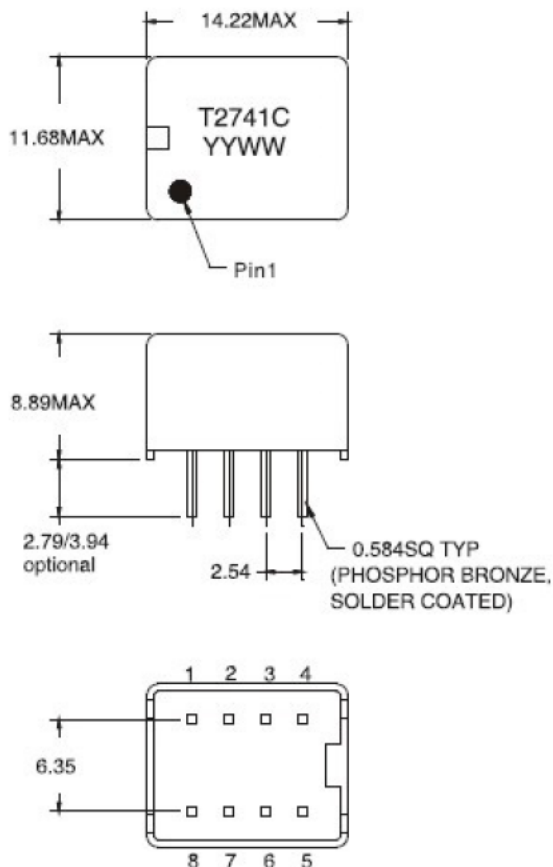
- * Designed for DS1, DS1 C, and CEPT applications
- * Electrostatic shield provides improved longitudinal signal suppression and EMI reduction
- * Maximum inductance unbalance of center-tapped windings is 0.1 %
- * Operating temperature range: -40°C to +85°C
- * Meets IEC 695, 2-2 flammability requirements
- * PWB Process Capability: standard printed wiring board assembly techniques, total-immersion cleaning
- * Reliability testing: Shock, vibration, temperature cycling, temperature - humidity - bias

ELECTRICAL CHARACTERISTICS @25°C:

| Part No. | Turns ratio ±2% | Pri. Inductance (mH) Min 10KHz,0.1V | Leakage Inductance (uH) Max | OCR (Q) Max | | Interwinding Capacitance (pF) Max | Minimum Interwinding Breakdown Voltage (Vrms) |
|----------|--------------------|---|-----------------------------------|----------------|------|---|---|
| | | | | Pri | Sec | | |
| T2741B | 1CT:2CT | 4.5 | 4.5 | 3.7 | 7.2 | 10 | 1000 |
| T2741G | 1CT:2CT | 3.15 | 6.5 | 1.9 | 4.4 | 5 | 850 |
| T2741C | 1CT:1.36CT | 0.92 | 1.1 | 0.75 | 1.05 | 10 | 1000 |
| T2741H | 1CT:1.37CT | 0.92 | 2.5 | 0.83 | 1.43 | 5 | 850 |

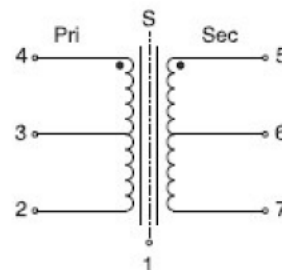
TECHNICAL INFORMATION & PHYSICAL CHARACTERISTICS:

DIMENSIONS: mm

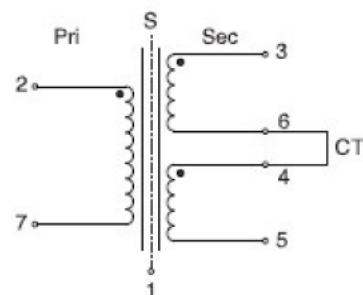


SCHEMATICS

T2741B
T2741G



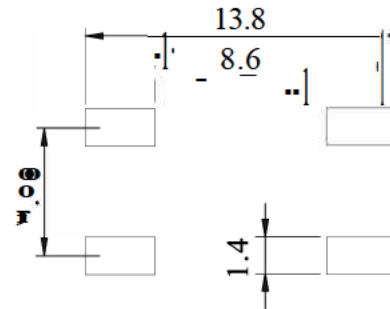
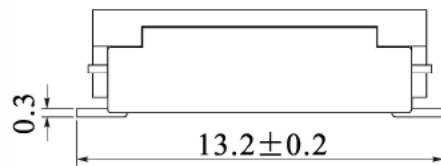
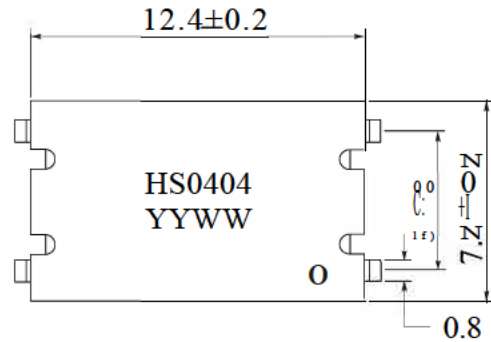
T2741C
T2741H



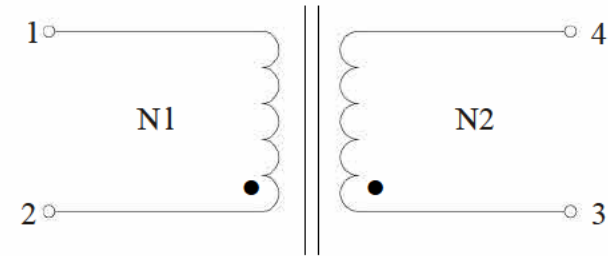
- With terminal 1 grounded
- There is an internal connection to terminal 8

| Rev. | Description | Date |
|------|-------------|------------|
| AO | New release | 2024.03.08 |
| | | |
| | | |

1. PHYSICAL CHARACTERISTICS(mm)



2. ELECTRONICAL SCHEMATIC



3. ELECTRONICAL SPECIFICATIONS

Turns ratio: N1:N2=1: 1

Inductance(2-1): 350uH Min@100KHz,0.1 V

Lk(2-1): 1.0uH Max@100KHz,0.1 V,Short 3,4

RDC(N1=N2): 0.55 Q Max

Interwinding capacitance: 20pF Max@100KHz, 1V

Hi-Pot: 3.0KV,1mA,60S Coil to Coil

Operating temperature: -0 °C to +70 °C

Storage temperature: -55 °C to +125 °C

| | | | |
|---------------|-----------------|------------|------------|
| NAME: | LAN transformer | | |
| CUSTOMER P/N: | | DATE: | 2024-03-08 |
| | | REV: AO | PAGE |
| DRAWN BY | CHECKED BY | APPROVE BY | |