## Broadband PLC Transformers:

<table>
<thead>
<tr>
<th>devolo P/N</th>
<th>Model</th>
<th>Rev.</th>
<th>Turn Ratio PL:RX:TX</th>
<th>Overvoltage Category</th>
<th>Hi-Pot Test</th>
<th>Footprint</th>
<th>MOQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>81752</td>
<td>TMS61518CS (Tray)</td>
<td>F</td>
<td>1:1:1</td>
<td>II</td>
<td>3 kVac</td>
<td>SMD</td>
<td>567</td>
</tr>
<tr>
<td>83369</td>
<td>TMS61518CS (Tape &amp; Reel)</td>
<td>F</td>
<td>1:1:1</td>
<td>II</td>
<td>3 kVac</td>
<td>SMD</td>
<td>1000</td>
</tr>
<tr>
<td>81025</td>
<td>TMS61088CT</td>
<td>D</td>
<td>1:1:1</td>
<td>II</td>
<td>3 kVac</td>
<td>PTH</td>
<td>160</td>
</tr>
<tr>
<td>82033</td>
<td>UTB01808S-A</td>
<td>A0</td>
<td>3:3:1</td>
<td>II</td>
<td>3.75 kVac</td>
<td>SMD</td>
<td>600</td>
</tr>
<tr>
<td>82977</td>
<td>UT11359</td>
<td>A0</td>
<td>1:5:4</td>
<td>II</td>
<td>3.75 kVac</td>
<td>PTH</td>
<td>2288</td>
</tr>
<tr>
<td>81246</td>
<td>TMS61290CT</td>
<td>C</td>
<td>1:1:1</td>
<td>III</td>
<td>5.6 kVac</td>
<td>PTH</td>
<td>1440</td>
</tr>
<tr>
<td>81099</td>
<td>TMS61158CT</td>
<td>B</td>
<td>1:1:1</td>
<td>IV</td>
<td>6 kVdc (10 kVdc safety tested)</td>
<td>PTH</td>
<td>432</td>
</tr>
</tbody>
</table>

Operating temperature range for all transformers: -40°C – 105°C

Recommended transformers for [dLAN® Green PHY Module](#) applications:

- Mains coupling: 82977, 82033
- Control Pilot coupling: 81752 / 83369, 81025

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1. DIMENSIONS (UNIT mm)

A: 12.5 ± 0.5
B: 10.9 ± 0.1
C: 11.5 ± 0.5
D: 2.5 ± 0.3
E: 7.5 ± 0.5
F: 4.4 ± 0.2
G: 9.9 ± 0.2

2. SCHEMATIC

3. ELECTRICAL CHARACTERISTIC: At 25°C
a) INDUCTANCE: @1KHz, 1V
   L(1-4): 10.9 uH ± 10%
   L(8-7): 10.9 uH ± 10%
   L(6-5): 10.9 uH ± 10%
b) DC RESISTANCE:
   DCR(1-4): 30 mOhm MAX
   DCR(8-7): 30 mOhm MAX
   DCR(6-5): 30 mOhm MAX
c) HI-POT:
   PINS 1, 4, 6, 5, 8, 7: 5mA MAX @3.0kVac, 60 sec, 60Hz

4. CONSTRUCTIONS

<table>
<thead>
<tr>
<th>NO.</th>
<th>Winding</th>
<th>Terminal</th>
<th>Wire</th>
<th>Turns</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N1</td>
<td>1-4</td>
<td>TRWF 0.02mm (Blue)</td>
<td>5Tns</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>N2</td>
<td>6-7</td>
<td>TRWF 0.05mm (Yellow)</td>
<td>5Tns</td>
<td>Parallel Winding</td>
</tr>
<tr>
<td>3</td>
<td>N3</td>
<td>5-6</td>
<td>TRWF 0.02mm (Red)</td>
<td>5Tns</td>
<td></td>
</tr>
</tbody>
</table>

5. MATERIAL LIST

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUPPLIER</th>
<th>UL NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIRE</td>
<td>TRWF 0.022mm (Yellow)</td>
<td>GREAT LSUFLEX</td>
<td>ED110060</td>
</tr>
<tr>
<td>WIRE</td>
<td>TRWF 0.022mm (Blue)</td>
<td>GREAT LSUFLEX</td>
<td>ED110080</td>
</tr>
<tr>
<td>WIRE</td>
<td>TRWF 0.022mm (Red)</td>
<td>GREAT LSUFLEX</td>
<td>ED110080</td>
</tr>
<tr>
<td>CASE</td>
<td>8.5x14x8.2 PM9830</td>
<td>SUMITOMO</td>
<td>E414320</td>
</tr>
</tbody>
</table>

6. NOTES:
Remove PIN2, 3
PACKING INSTRUCTION:
1. Put the products into the hole of carrier tape(S/N3) one by one, the first 10 holes are empty.
2. Paste with cover tape(S/N4). 250pcs/reel, the last 15pcs holes are empty.
3. Wrap 2Ts protect tape.
4. Put the reel full with products into foam bag(S/N5) and put two bags desiccant(S/N6).
5. Put foam bag with reel into inner box(S/N7);
6. Put 4 inner boxes into carton (S/N1), 1000pcs/carton.

NOTES:
Fill with EPE or Polyfoam for redundant space.

<table>
<thead>
<tr>
<th>Part</th>
<th>Part Number</th>
<th>Description</th>
<th>QTY</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5001004000</td>
<td>CARTON</td>
<td>1</td>
<td>2000</td>
</tr>
<tr>
<td>2</td>
<td>5007003000</td>
<td>REEL</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>3</td>
<td>5000904000</td>
<td>CARRIER TAPE</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>4</td>
<td>5006003000</td>
<td>COVER TAPE</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>5</td>
<td>5006001000</td>
<td>FOAM BAG</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>6</td>
<td>5014013000</td>
<td>DESCANT</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>7</td>
<td>5001004000</td>
<td>INNER BOX</td>
<td>1</td>
<td>250</td>
</tr>
</tbody>
</table>
SPECIFICATION

1. DIMENSIONS (UNIT: mm)

<table>
<thead>
<tr>
<th>No.</th>
<th>Winding</th>
<th>Terminal</th>
<th>Wire</th>
<th>Turns</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N1</td>
<td>1-4</td>
<td>TRW(B) Ø0.32mm (YELLOW)</td>
<td>4T5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>N2</td>
<td>2-7</td>
<td>TRW(B) Ø0.32mm (BLUE)</td>
<td>4T5</td>
<td>Parallel Wiring</td>
</tr>
<tr>
<td>3</td>
<td>N3</td>
<td>3-6</td>
<td>TRW(B) Ø0.32mm (RED)</td>
<td>4T5</td>
<td></td>
</tr>
</tbody>
</table>

2. SCHEMATIC:

3. ELECTRICAL CHARACTERISTIC: At 25°C

a) INDUCTANCE: @1kHz, 1V
   L(1-4): 7.0 µH ±30%
   L(2-7): 7.0 µH ±30%
   L(3-6): 7.0 µH ±30%
b) DC RESISTANCE:
   DCR(1-4): 30.0 mΩ_max MAX
   DCR(2-7): 30.0 mΩ_max MAX
   DCR(3-6): 30.0 mΩ_max MAX
c) HI-POT:
   WDG5 TO CORE: 5mA MAX @3.0 kV/μs, Insulation 60Hz
   PINS 1, 2, 7 TO 3, 6, 5mA MAX @3.0 kV/μs, Insulation 60Hz

4. CONSTRUCTIONS:

5. MATERIAL LIST

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE</td>
<td>TP-55SC TP5</td>
<td>TEG</td>
</tr>
<tr>
<td>WIRE</td>
<td>TRW(B) Ø0.32mm (YELLOW)</td>
<td>Great Holding</td>
</tr>
<tr>
<td>WIRE</td>
<td>TRW(B) Ø0.32mm (BLUE)</td>
<td>Great Holding</td>
</tr>
<tr>
<td>WIRE</td>
<td>TRW(B) Ø0.32mm (RED)</td>
<td>Great Holding</td>
</tr>
<tr>
<td>TUBE</td>
<td>heat shrink 11mm 125°C black</td>
<td>CHANG BAO</td>
</tr>
<tr>
<td>BASE</td>
<td>VP-BASE-001 TJ755</td>
<td>CHUANCHUN</td>
</tr>
</tbody>
</table>
Material List:

1. CORE: FERRITE CORE
2. CASE: DAP AM-113, UL FILE NO. E41429
   (SUMITOMO BAKELITE CO., LTD.)
   OR: PHENOLIC PM-9630, UL FILE NO. E41429
   (SUMITOMO BAKELITE CO., LTD.)
3. WIRE: POLYURETHANE ENAMELED COPPER WIRE CLASS 180°C/SFHW,
   UL FILE NO. E174837
   (JUNG SHING WIRE CO., LTD.)
4. WIRE: CAT. NO. UTWA-3X FOR REINFORCED INSULATION, RATED 180°C (CLASS H),
   600 VOLTS PEAK FOR INFORMATION TECHNOLOGY, UL FILE NO. E211989
   (GREAT LEOFON INDUSTRIAL CO., LTD.)
5. TAPE: POLYESTER FILM INSULATING TAPE, #74, CTI GROUP I, UL FILE NO. E17385
   (3M CO., LTD.)
6. EPOXY: 471-5LL-HV, UL FILE NO. E100866
   (ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC)
7. SOLDER: Sn/Ag/Cu
8. INK: 112, WHITE
   (TSAUI MINING INDUSTRIAL CO., LTD.)
Constructions:

1. CORE
2. CASE
3. WIRE
4. TRIPLE INSULATED WIRE
5. TAPE
6. EPOXY
7. SOLDER

On core bottom 1mm min.
On core top 5mm min.

For the clearance & creepage requirement between Sec. pin to enameled copper wire

4.7±0.1
Electrical specification at 25°C:
1. TURN RATIO: 1:1, 1-4/8-7, 50KHz, 1V, 2.0%.
   3:1, 1-4/6-5, 50KHz, 1V, 2.0%.
2. INDUCTANCE: 14μH min, 1-4, 10KHz, 100mV, Ls.
3. LEAKAGE INDUCTANCE: 225nH max, 1-4 (tie 8-7-6-5), 1MHz, 100mV, Ls.
4. INTERWINDING CAPACITANCE: 6pF max, 1-8 (tie 7-6), 100KHz, 100mV, Cs.
5. DC RESISTANCE : 0.35Ω max., 1-4.
   0.30Ω max., 8-7.
   0.15Ω max., 5-6.
6. HI-POT: 3750VAC, 1-8 (tie 7-6), 1s, 500uA max.
7. SAFETY: COMPLIES WITH IEC 60950-1, EN 60950-1, UL 60950-1, CAN/CSA-22.2 NO. 60950-1,
   AND AS/NZS 60950.1 REINFORCED INSULATION REQUIREMENTS AT WORKING VOLTAGES
   UP TO 250V.

Schematic diagram & Dimensions: (Unit: mm)

Note: For RoHS compliant products:
Date Code: XXXXCG of CHINA MANUFACTURE, XXXXG of TAIWAN MANUFACTURE,
Suffix to "G" for Green Product.
Transformers Packaging Information Tape And Reel: TBD

**Direction of packing**

<table>
<thead>
<tr>
<th>CARRIER TAPE</th>
<th>PLASTIC REEL</th>
<th>PARTS PER REEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEM NO.</td>
<td>W</td>
<td>A</td>
</tr>
<tr>
<td>K8S-8P</td>
<td>24.0</td>
<td>8.8</td>
</tr>
</tbody>
</table>

per weight: approx. 0.88g

NOTE: The packaging boxes would be marked with a green label that indicates that no lead (Pb) is present in the components and components are applicable to Lead-Free process.

Green Product

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All, please! This document is discussing the packaging of transformers, providing details on dimensions and count per reel. It highlights that the boxes are marked with a green label indicating compliance with Lead-Free standards. As always, please ensure all relevant guidelines are followed for accurate and safe handling.
<table>
<thead>
<tr>
<th>UM MODEL NO.:</th>
<th>SPECIFICATIONS</th>
<th>REV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UT11359</td>
<td>PLC Coupling Transformer For Qualcomm #QCA7000 (Doc. No.20005422)</td>
<td>A0 2012/16</td>
</tr>
</tbody>
</table>

**Electrical specification at 25°C:**

1. **TURNS RATIO & POLARITY**: 1.5:4 ±5% at 50KHz 100mV, PIN(2-3):(1-4):(5-6)
2. **TX INDUCTANCE**: 1.3uH Typ., 2MHz 100mV, PIN(2-3)
3. **RX INDUCTANCE**: 34.7uH Typ., 2MHz 100mV, PD(1-4)
4. **PL INDUCTANCE**: 22.2uH Typ., 2MHz 100mV, PD(5-6)
5. **TX LEAKAGE INDUCTANCE**: 15uH Typ., 2MHz 100mV, PIN(2-3),(5-6)shorted
6. **FREQUENCY RANGE**: 2 to 30 MHz
7. **HI-POT**: 3750Vac, 2s, Leakage current 1mA max., Between Windings
8. **SAFETY**: Complies with IEC 60950-1, EN 60950-1, UL 60950-1, CAN/CSA-22.2 No. 60950-1, and AS/NZS 60950.1 Reinforced Insulation requirements at working voltages up to 250V.

**ALL ELECTRICAL SPECIFICATIONS ARE AT 25°C UNLESS NOTED OTHERWISE.**

### Schematic diagram & Dimension:

![Schematic diagram](image)

**NOTE:**
1. For RoHS compliant products:
   a) Ordering code (Manufacturer Part Number): TG-UT11359
   b) Data Code suffix to “G” (xxxxG).
   c) Solder: Sn/Cu
2. Specifications are subject to change without prior notice.

**UNIT:** mm

**Tolerances:** ±0.25mm