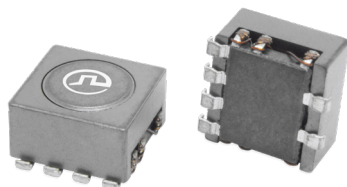


# High Frequency Wire Wound Transformers

MiniFlyback Platform - SMT - PH9585.XXXNL



- Ⓟ **Power Range:** Up to 3 W
- Ⓟ **Height:** 3.6 mm Max
- Ⓟ **Footprint:** 6.4 mm x 6.2 mm Max
- Ⓟ **Topology:** Flyback

| Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C |               |                             |                            | Schematic |
|--------------------------------------------------------------------------|---------------|-----------------------------|----------------------------|-----------|
| PH9585.001NL                                                             | INDUCTANCE    | 1-2                         | 95 ±25% $\mu$ H            |           |
|                                                                          | Ldc           | 1-2                         | 65 $\mu$ H MIN. AT 0.27ADC |           |
|                                                                          | LK.INDUCTANCE | 1-2 WITH 3, 4, 5, 6 SHORTED | 1.7 $\mu$ H MAX            |           |
|                                                                          | DCR           | 1-2                         | 1.63 $\Omega$ MAX          |           |
|                                                                          |               | 3-4                         | 0.80 $\Omega$ MAX          |           |
|                                                                          |               | 5-6                         | 0.63 $\Omega$ MAX          |           |
|                                                                          | HIPOT         | 1,2,3,4 TO 5,6              | 2250 VDC, 5S, 0.5mA MAX    |           |
|                                                                          |               | 1,2 TO 3,4                  | 500 VDC, 5S, 0.5mA MAX     |           |
| PH9585.002NL                                                             | INDUCTANCE    | 1-2                         | 95 ±25% $\mu$ H            |           |
|                                                                          | Ldc           | 1-2                         | 65 $\mu$ H MIN. AT 0.27ADC |           |
|                                                                          | LK.INDUCTANCE | 1-2 WITH 3, 4, 5, 6 SHORTED | 2.5 $\mu$ H MAX            |           |
|                                                                          | DCR           | 1-2                         | 1.63 $\Omega$ MAX          |           |
|                                                                          |               | 3-4                         | 0.58 $\Omega$ MAX          |           |
|                                                                          |               | 5-6                         | 0.35 $\Omega$ MAX          |           |
|                                                                          | HIPOT         | 1,2,3,4 TO 5,6              | 2250 VDC, 5S, 0.5mA MAX    |           |
|                                                                          |               | 1,2 TO 3,4                  | 500 VDC, 5S, 0.5mA MAX     |           |
| PH9585.003NL                                                             | INDUCTANCE    | 1-2                         | 95 ±25% $\mu$ H            |           |
|                                                                          | Ldc           | 1-2                         | 65 $\mu$ H MIN. AT 0.27ADC |           |
|                                                                          | LK.INDUCTANCE | 1-2 WITH 3, 4, 5, 6 SHORTED | 1.8 $\mu$ H MAX            |           |
|                                                                          | DCR           | 1-2                         | 1.63 $\Omega$ MAX          |           |
|                                                                          |               | 3-4                         | 0.60 $\Omega$ MAX          |           |
|                                                                          |               | 5-6                         | 0.63 $\Omega$ MAX          |           |
|                                                                          | HIPOT         | 1,2,3,4 TO 5,6              | 2250 VDC, 5S, 0.5mA MAX    |           |
|                                                                          |               | 1,2 TO 3,4                  | 500 VDC, 5S, 0.5mA MAX     |           |
| PH9585.004NL                                                             | INDUCTANCE    | 1-2                         | 95 ±25% $\mu$ H            |           |
|                                                                          | Ldc           | 1-2                         | 65 $\mu$ H MIN. AT 0.27ADC |           |
|                                                                          | LK.INDUCTANCE | 1-2 WITH 3, 4, 5, 6 SHORTED | 1.8 $\mu$ H MAX            |           |
|                                                                          | DCR           | 1-2                         | 1.63 $\Omega$ MAX          |           |
|                                                                          |               | 3-4                         | 0.45 $\Omega$ MAX          |           |
|                                                                          |               | 5-6                         | 1.1 $\Omega$ MAX           |           |
|                                                                          | HIPOT         | 1,2,3,4 TO 5,6              | 2250 VDC, 5S, 0.5mA MAX    |           |
|                                                                          |               | 1,2 TO 3,4                  | 500 VDC, 5S, 0.5mA MAX     |           |

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## Notes:

1. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
2. For flyback topology applications, it is necessary to ensure that the transformer will not saturate in the application. The peak flux density (Bpk) should remain below 260mT. To calculate the peak flux density use the following formula:  

$$B_{pk} (mT) = 950 * I_{pk}(A)$$
3. In high volt-μsec applications, it is important to calculate the core loss of the transformer. Approximate transformer core loss can be calculated as:  

$$Core Loss (W) = 8.80E-13 * (Freq\_kHz)^{1.28} * (\Delta B\_mT)^{2.36}$$
 where ΔB can be calculated as:  
 For Flyback Topology:  $\Delta B\_mT = 950 * \Delta I(A)$

Temperature rise can be calculated as:

$$Temperature Rise (^{\circ}C) = 150 * (Core Loss(W) + Copper Loss (W))$$

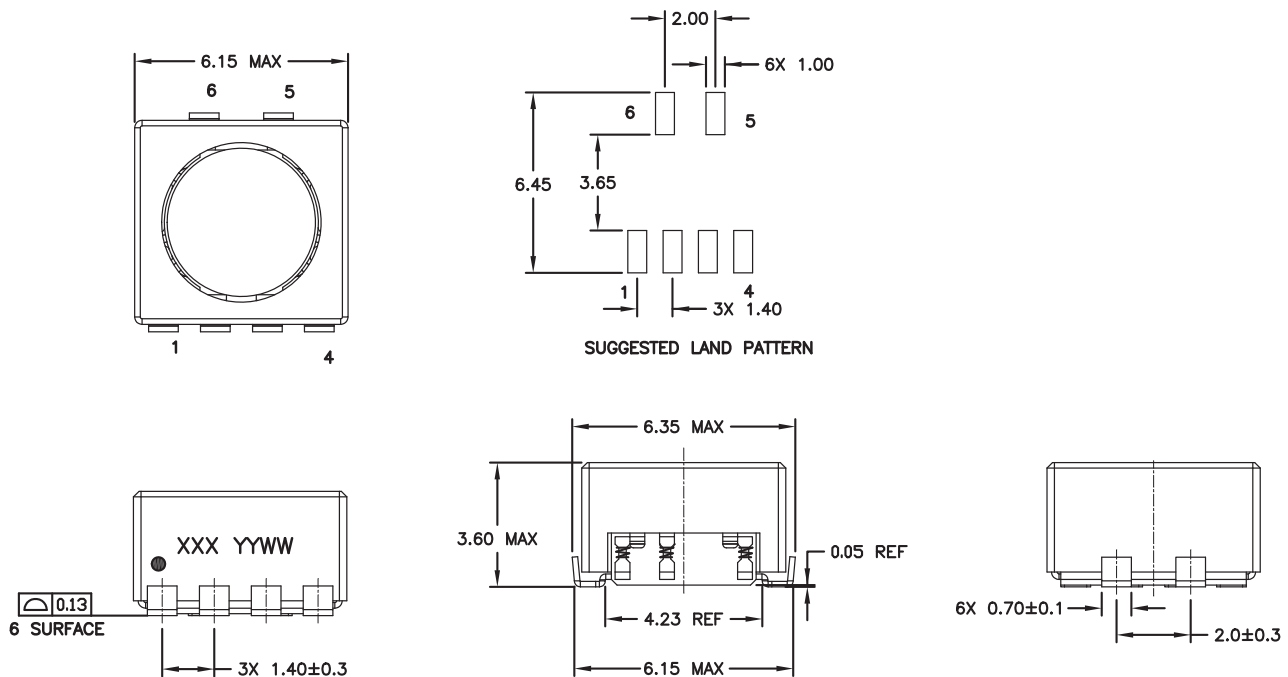
where Copper Loss can use the following formula:

$$Copper Loss (W) = I_{rms\_Primary}^2 * DCR\_Primary + I_{rms\_Secondary}^2 * DCR\_Secondary$$

4. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. (PH9585.001NL becomes PH9585.001NLT). Pulse complies with industry standard tape and reel specification EIA481. The tape and reel for this product has a width (W=16mm), pitch (P<sub>1</sub>=12mm) and depth (K<sub>0</sub>=3.6mm).

## Mechanical

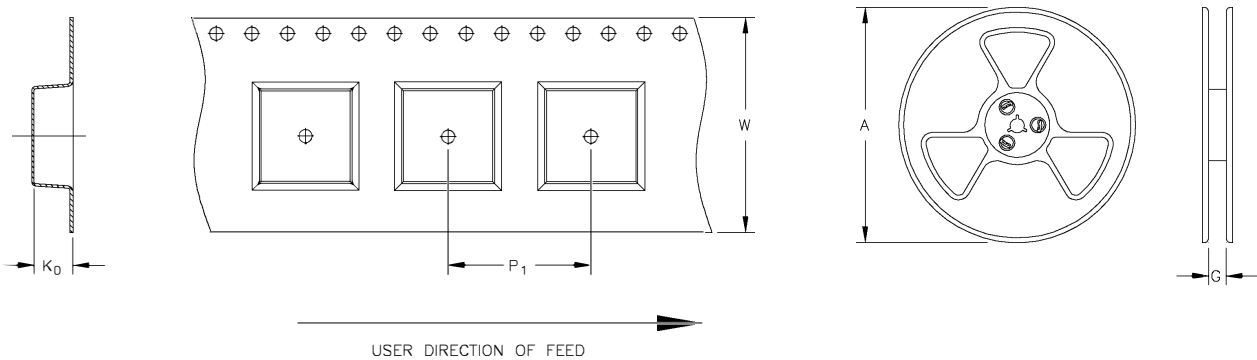
PH9585.XXXNL



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MiniFlyback Platform - SMT - PH9585.XXXNL

## TAPE & REEL INFO



| SURFACE MOUNTING TYPE, REEL/TAPE LIST |                |    |                |    |                |          |
|---------------------------------------|----------------|----|----------------|----|----------------|----------|
| PART NUMBER                           | REEL SIZE (mm) |    | TAPE SIZE (mm) |    |                | QTY      |
|                                       | A              | G  | P <sub>1</sub> | W  | K <sub>0</sub> | PCS/REEL |
| PH9585.XXXNL                          | Ø330           | 12 | 12             | 16 | 3.6            | 1200     |

### For More Information:

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