

PAYTON 10kW SMPS TRANSFORMER

Functional specs

Date : 03/12/18

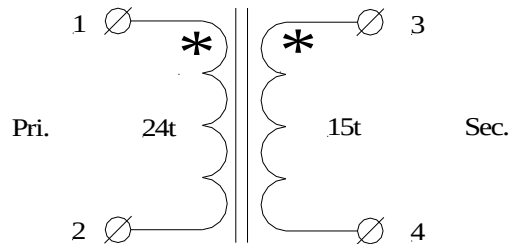
1. Generic Type : T1000AC-24-15.
2. Total output power : 10000W (500Vdc/20Adc ÷ 200Vdc/50Adc).
3. Operating frequency of transformer : 100 ÷ 200 kHz.
4. Input voltage of power stage : 700 ÷ 800Vdc link.
5. Input voltage of transformer : 800V (Vout = 500V), Bipolar Square waveform;
320V (Vout = 200V), Bipolar Square waveform.
6. Topology : Dual Active Bridge.
7. Operating duty cycle, max. : 1.0 (0.5 x 2)
8. Volt-second product, max. : 8000V-μsec -- for Vout = 500V, 100 kHz;
3200V-μsec -- for Vout = 200V, 100 kHz;
4000V-μsec -- for Vout = 500V, 200 kHz;
1600V-μsec -- for Vout = 200V, 200 kHz.
9. Pri. to Sec. ratio : 24 : 15.
10. Primary current, max : 13.5Arms (20A peak) -- for Vout = 500V;
34Arms (48A peak) -- for Vout = 200V.
11. Secondary current : 20Arms (30A peak) -- for Vout = 500V;
50Arms (70A peak) -- for Vout = 200V.
12. Dielectric strength
(Pri. to Sec.) : 5000Vdc.
(Pri., Sec. to Core) : 5000Vdc.
13. Ambient temperature range : - 40 ÷ 125°C.
14. Estimated power losses : 50W -- for Vout = 500V, 100 kHz;
70W -- for Vout = 200V, 100 kHz;
60W -- for Vout = 500V, 200 kHz;
85W -- for Vout = 200V, 200 kHz.
15. Estimated hot spot temperature
(with 70°C heat sink) : 135°C
16. Mechanical dimensions : Length - 130 mm.
(for reference only) : Width - 90 mm.
: Height - 52 mm.

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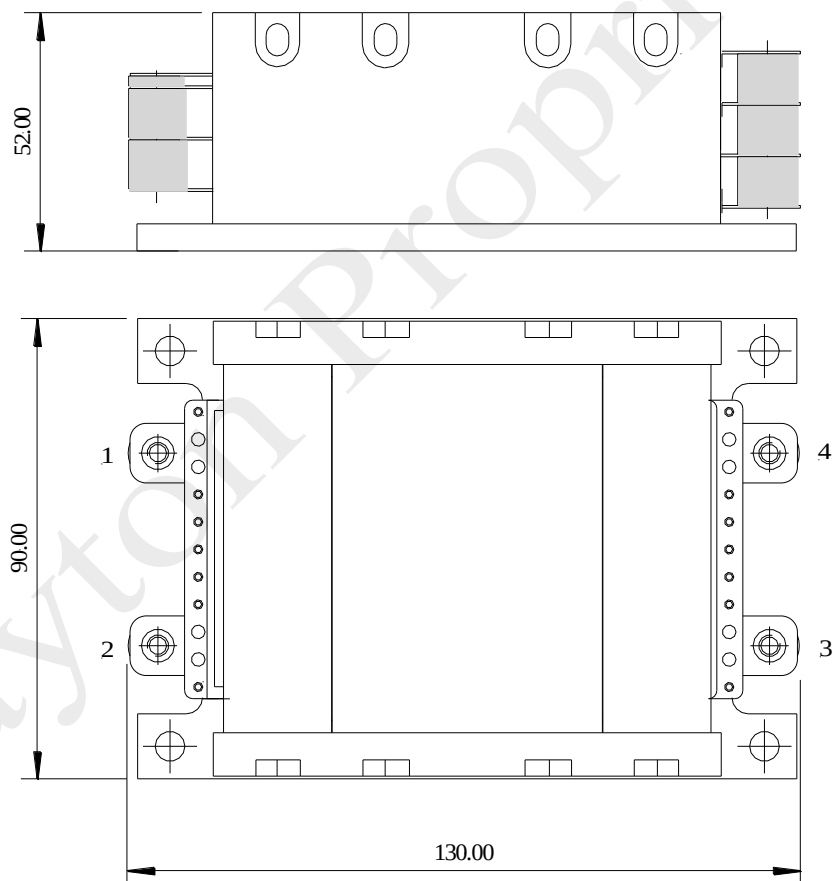
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Electrical diagram.



Terminals layout sketch (preliminary; side & top view; not to scale).



Note: Primary and secondary terminations made of copper strips with M3 screw thread for screw connections of the cable shoes.

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