



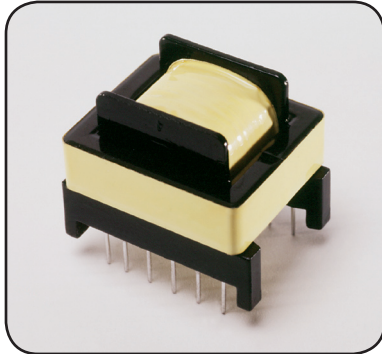
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SMPS Xfmr

T0 Series



Designed in conjunction with ON-Semi, the T0 Series of transformers work with the ON Semiconductor NCP1207 PWM current-mode controller with quasiresonant (QR) switching capability.

Standard designs for 5V and 12V single outputs in power levels ranging from 25W to 85W will get your prototypes up and running fast. Just contact ICE Components to request samples or to discuss a **custom version** to meet your specific requirement.

Electrical Specifications

Part Number	Output Power Range (W)	V _{out} (V _{DC})	I _{out max} (A)	L _{PRI} (μH)	I _{PK} (A)	Input Bulk Cap (μF)	Core Type
TO-05300	25-30	5.0	6.0	471.4	1.80	68	EFD30
TO-05400	31-40	5.0	8.0	351.8	2.46	82	ER28
TO-05500	41-50	5.0	10.0	289.7	3.09	120	ER28
TO-05650	51-65	5.0	13.0	224.9	3.89	150	PQ32/20
TO-05800	66-80	5.0	16.0	182.9	4.81	180	ERL28
TO-12300	25-30	12.0	2.5	384.4	1.93	68	EF25
TO-12400	31-40	12.0	3.33	288.4	2.63	82	EFD30
TO-12600	41-60	12.0	5.0	194.4	3.97	120	ER28
TO-12850	61-85	12.0	7.1	139.5	5.55	180	ERL28

1. Measured at 100 kHz, 1 Vrms.
2. Electrical specifications at 25°C.
3. Meets UL 94V-0.
4. Operating temperature range: -40°C to +130°C. Operating temperature is the sum of ambient temperature plus temperature rise.
5. Transformer inductance values calculated using ON Semi-conductor's "QR Inductance Calculation" spreadsheet, available at http://www.onsemi.com/pub/collateral/QR_IND_CALC.xls. Certain design assumptions were necessary to develop core and bobbin choices:
 - A. Input bulk capacitor sized at 2 μF/W, rounded up to the first commercially available value.
 - B. Universal input voltage, with 265 VAC as the upper limit. The lower limit input voltage was adjusted to cause the input bulk capacitor value to be a commercially available value.

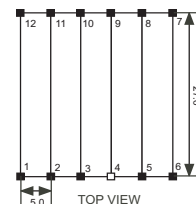
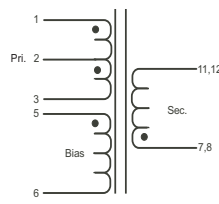
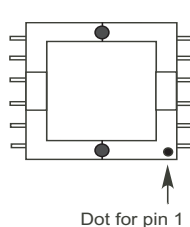
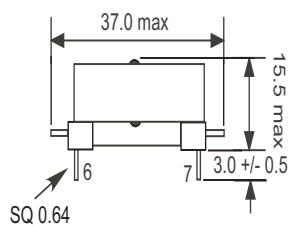
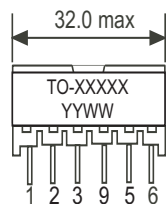
- C. Maximum switching frequency: 100 kHz.
 - D. Maximum duty cycle: <50%.
 - E. Efficiency set at 87%.
 - F. Output diode drop set at 0.4 V.
 - G. Turns ratios are as follows:
 1. 5V: 1:0.08
 2. 12V: 1:0.20
 - H. Estimated total drain capacitance set at 100 pF.
 - I. BMAX set at 0.250 T.
 - J. Wire sized for <40°C temperature rise at low input line voltage and full output load at 25°C.
6. Constructed using UL Class B insulation system.
 7. Hi-Pot Test: 3750 VAC primary to secondary, and 2500 VAC windings to core.



Mechanical - EFD30

Packaging: Tray=24 pieces, Box=12 trays, Box=288 pieces

Foot Print

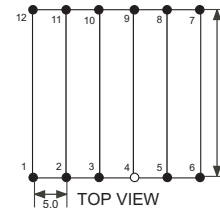
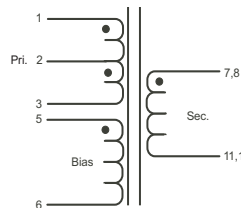
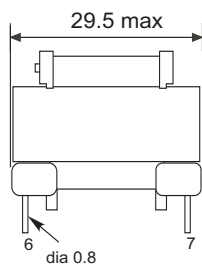
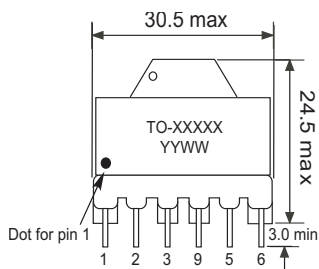


units: mm

Mechanical - ER28

Packaging: Tray=66 pieces, Box=5 trays, Box=330 pieces

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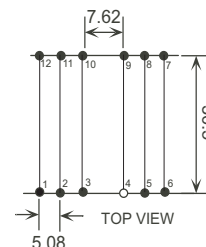
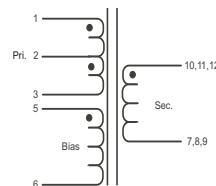
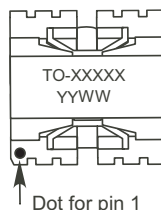
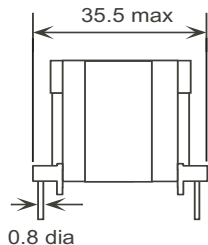
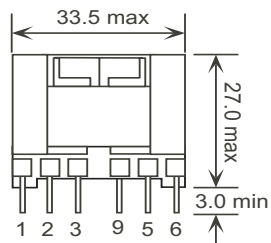


units: mm

Mechanical - PQ32/20

Packaging: Tray=40 pieces, Box=4 trays, Box=160 pieces

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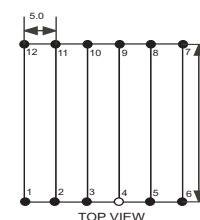
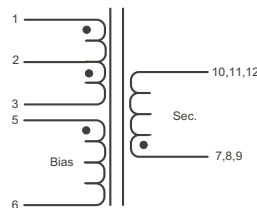
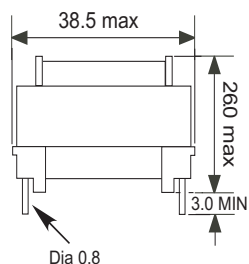
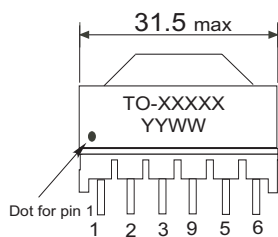


units: mm

Mechanical - ERL28

Packaging: Tray=48 pieces, Box=5 trays, Box=240 pieces

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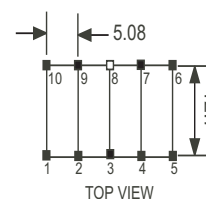
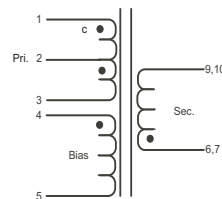
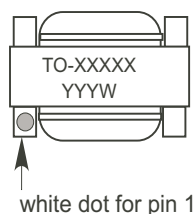
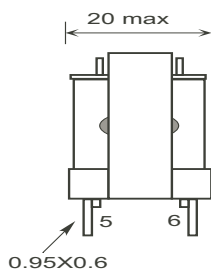
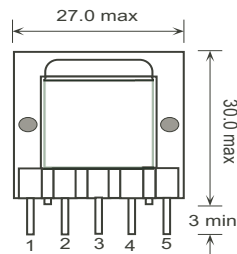


units: mm

Mechanical - EF25

Packaging: Tray=77 pieces, Box=5 trays, Box=385 pieces

Foot Print



units: mm