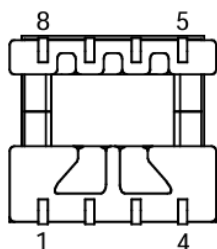
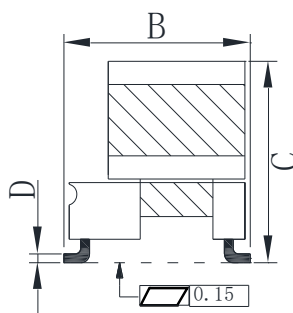
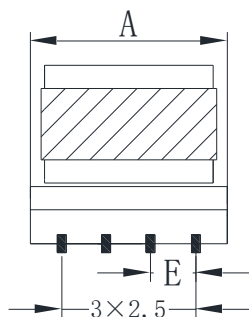




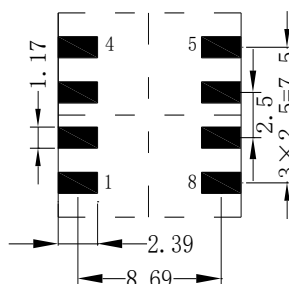
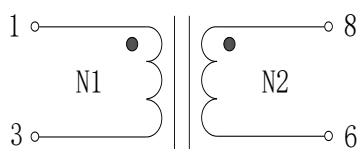
OLE WOLFF



Schematic:

Recommended Pad:

Recommended PCB Layout
(Top View)



➤ DIMENSIONS OF OWTR-EP07U160 EP07 Type SMD Gate Drive Transformer

OW Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	a(mm) Ref	b(mm) Ref	c(mm) Ref	d(mm) Ref	Coplanarity All Pins
OWTR-EP07U160	11.3 Max.	10.95 Max.	12.50 Max.	0.5 Typ.	2.5 Typ.	8.69	1.17	2.5	7.5	0.15mm Max

OWTR-EP07U160 EP 7 Type Series SMD Gate Drive Transformer Output: 13V 640mA

- Operation Temp: -40°C to +125°C(Including self-heating)
- Storage condition: 0-40°C and ≤70% (In original packaging)
- Test Condition: 10KHz, 0.1V
- Parameters test temperature: 25°C
- Reflow Soldering : 260°C for 10 sec Max,
- MSL 1

FEATURES

- Turns Ratio: 1: 1.67
- Input Voltage: 7.5V, 500KHz
- Output: 13V, 8.32W
- Auxiliary gate drive transformer
- Coplanarity for all Pins: 0.15mm Max.

APPLICATIONS

- IGBT & Mosfet driving Circuit.
- Isolated and switch voltage function circuit
- New energy , Eg. Solar, Energy storage system
- Industrial power supplies. Eg. UPS, data center
- OBC/DC -DC

CERTIFICATION

- RoHS Approval: Complaint 2011/65/EU & 2015/863
- REACH Approval: IEC1907/2006
- Halogen Free: IEC 61249-2-21
- AECQ-200 Grade 1: Suitable
- UL Approval : E489595(UL-1446)

NOTICE

- The kind of transformer ensures the safe and efficient operation of power devices through electrical isolation and signal transmission.
- This electronic component was designed and manufactured for use in general electronic equipment.
- Don't drop test or impact on the single component.
- Violation of the technical product specifications such as exceeding the nominal rated current may damage the product.



➤ **Design Typical Characteristics of OWTR-EP07U160 EP07 Type SMD Gate Drive Transformer**

Properties	Value
Input Voltage (V _{in})	7.5 Vdc
Switching Frequency (f _{switch})	500KHz
Output Voltage (V _{out})	13 V
Output Current (I _{out})	0.64 A
Voltage-μSecond(∫Udt)	36μVs(Bipolar waveform)
Working voltage	567Vac(800Vdcpk)
Note: The list shows typical LLC applications	

➤ **Electrical Characteristics of OWTR-EP07U160 EP07 Type SMD Gate Drive Transformer**

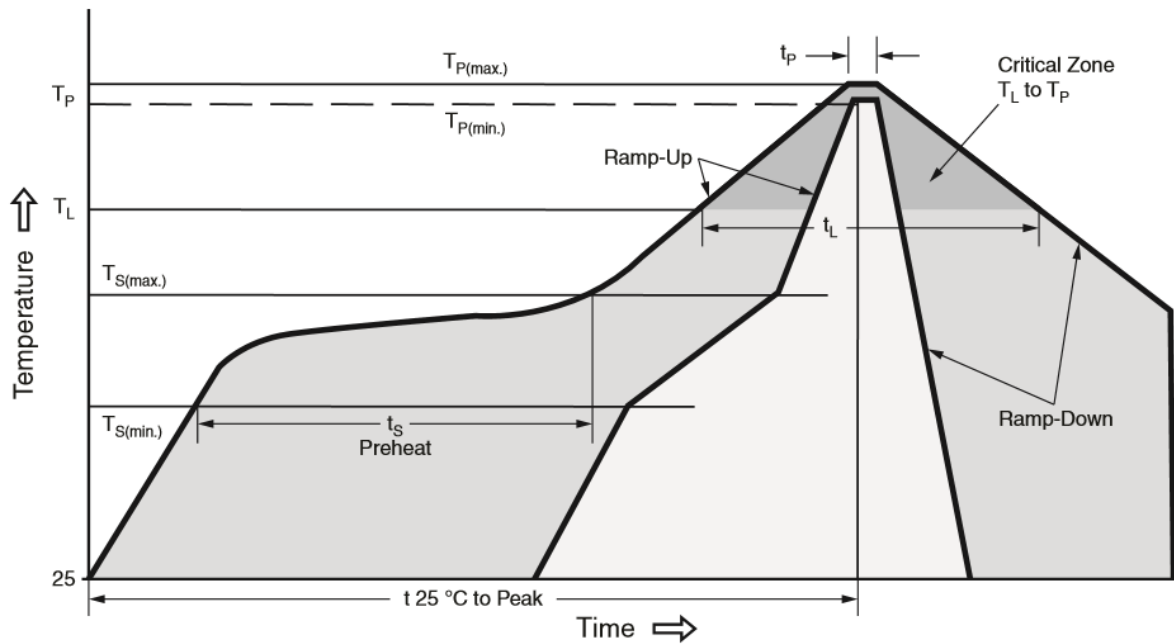
No.	Item	Terminal No.	Specification	Test Condition
1	Inductance	Pin1-3	16.5uH MIN	10KHz 0.1V
2	Leakage inductance	Pin1-3 Short others Pins	1.5uH MAX	100KHz 0.1V
3	DCR	Pin1-3	60mΩ MAX	25°C
4	DCR	Pin 8-6	140mΩ MAX	25°C
5	Turns Ratio	Pin1-3 : Pin8-6	1:1.67	20KHz 1.0V
6	Dielectric Strength	N1-N2	4000Vac 1mA 2s	/
7	CWW	Pin1-8	2.5pF typ.	100KHz 0.1V

Note:

- 1) Coplanarity for all Pins: 0.1mm Typ. 0.15mm Max.
- 2) Dot on tope for Pin#1.



➤ **Recommend Reflow Soldering Condition of OWTR-EP07U160 EP07 Type SMD Gate Drive Transformer**

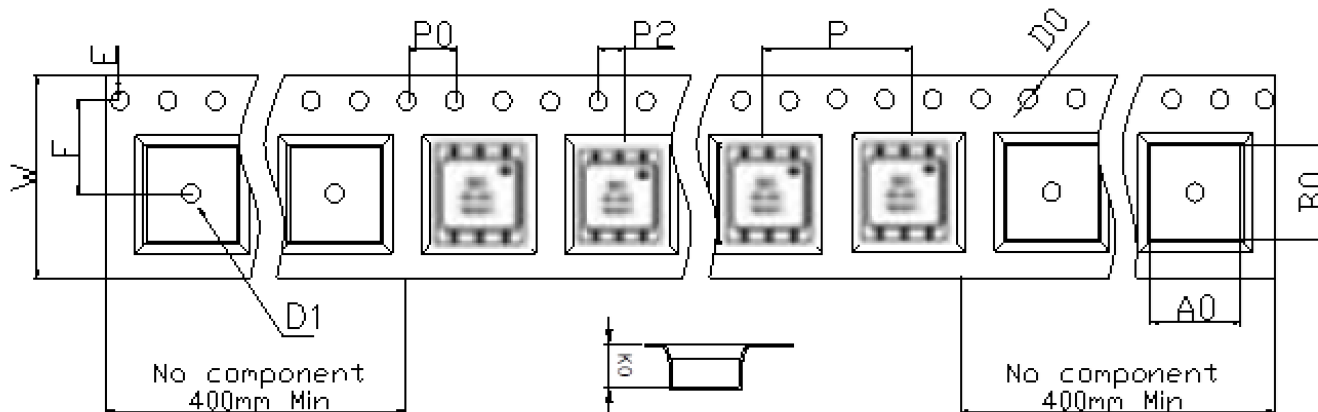


Profile Feature	LEAD (Pb)-FREE ASSEMBLY (e.g. SnAgCu)
Average ramp-up rate ($T_{S(max.)}$ to T_P)	3 °C/s maximum
Preheat	
- Temperature minimum ($T_{S(min.)}$)	150 °C
- Temperature maximum ($T_{S(max.)}$)	200 °C
- Time ($T_{S(min.)}$ to $T_{S(max.)}$) (t_s)	60 s to 120 s
Time maintained above	
- Temperature minimum (T_L)	217 °C
- Time (T_L)	60 s to 120 s
Minimum peak temperature ($T_{P(min.)}$)	235 °C
Recommended peak temperature (T_P)	245 °C
Maximum peak temperature ($T_{P(max.)}$)	250 °C
Time within 5 °C of actual peak temperature (t_p)	10 s to 20 s
Ramp-down rate	6 °C/s maximum
Time 25 °C to peak temperature	6 min maximum

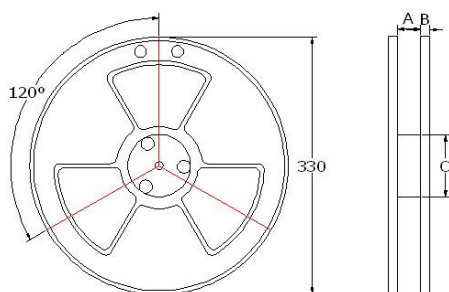
Notice:

- Refer to IPC/J-STD-020E
- Above mentioned information should serve as recommendation only. Other parameters may also affect soldering results, so these profiles do not guarantee absolute success.
- Soldering profile should be determined by the manufacturer of the solder paste, providing there is no contradiction with the recommendations in this document.
- Strong forces which may affect the coplanarity of the components' electrical connection with the PCB (i.e. pins), can damage the part.
- Washing during the production to clean the customer application may damage or change the characteristics of the wireinsulation, marking or plating. Washing may have a negative effect on the long-term functionality of the product. Customer need to be own evaluation risk.
- We do not recommend using brush PCBA during the cleaning process after soldering.
- If the product is potted in the customer applications, the potting material maybe shrink or expand after hardening, and lead to the part's electrical characteristics change or core crack, customer need to own evaluation the potting risk.

➤ **Packaging Detial of OWTR-EP07U160EP07 Type SMD Transformer**



OW P/N	W	A0	B0	K0	P	P0	P2	F	E	D0
OWTR-EP07U160	24.00	12.3	12.95	13.5	20.00	4.00	2.00	11.5	1.75	1.50



OW P/N	A	B	C	Reel(Pcs)
OWTR-EP07U160	24.5	1.8	100	250

Notice:

- Comply with EIA-418, the Peeling-off force range 20mgf to 120mgf,
- A stroage of OW products for longer than 12months is not recommended, the terminals may suffer degradation during storing, then the resulting in bad soldering performacne. Customer need to be pre-evaluated the solderability before using over 12months inventory.
- Do not expose the compoent to direct sunlight, or to high humidity ambinet.
- The stroage conditions is in the original packaging are defined according to EN61670-2, 12months shelf life Max. is in original packaging.
- It has to be clearly pointed out that the possibility of a malfunction of electronic components or failure before the end of the usual lifetime .cannot be completely eliminated in the current state of the art, even if the products are operated within the range of the specifications.
- The temperature rise of the component must be taken into consideration. The operating temperature is comprised of ambient temperature and temperature rise of the components.The operating temperature of the component shall not exceed the maximum temperature specified.
- Please hand it carefully because it is fragile component. Please re-test and evaluate it again if the component dropped to floor.

