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SPECIFICATION FOR APPROVAL

Description : **Switch Mode Transformer**

Type : **EF20**

Model :

Customer : **ALCATEL**

Customer code :

EL-KOM code : **RN022016**

First edition date : **18.11.2014**

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| Approved by : | Customer's remark |
| Approval date : | |

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|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Rev.No: 1 | Rev.date: 19.09.2017 | Reason of rev.: New format |
| Issued by: | Refer. No: SP022016 | Page : 1 / 5 |
| Her hakkı saklıdır. Yazılı izin olmadan bu dökümanın hiç bir kısmı kopya, kayıt, basım veya diğer herhangi bir şekilde çoğaltılamaz ve yayınlanamaz. | | All rights reserved. Reproduction or issue to third parties in any form whatever is not permitted without written authority from the proprietors. |

Introductory information

0.1 Definition

This transformer is appropriated for application in a flyback type switch mode power supply.

0.2 Standarts and certificates

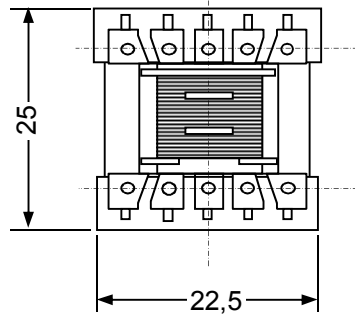
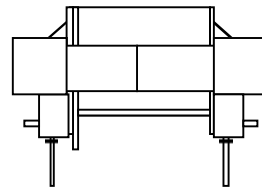
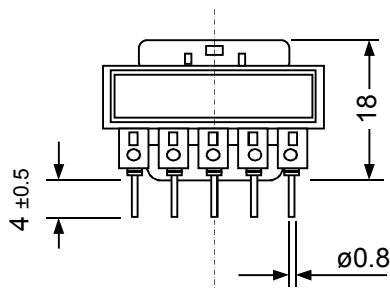
- * Flammability level..... UL 94V-0
- * Solderability..... Acc. to IEC 68.2.20 (Method 1)
- * Temperature class..... 130°C (B class)
- * Creepage distances..... Acc. To EN 60065:2002
DIN EN 60065 (VDE 0860):2003-01

1. Mechanical Data

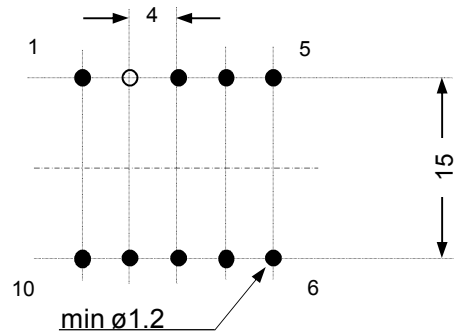
1.1 Dimensions... **23/25/22** mm (w/l/h)

1.2 Weight..... **12** g. (approx)

1.3 Drawing



1.4 Pin configuration (Bottom view)



Positions : ● With pin
○ Without pin

General tolerance: $\pm 0,2$ mm

2. Electrical Data

2.1 Static characteristics (All measurement at $T=23\pm 2^{\circ}\text{C}$)

| Parameters | Value | Between | Conditions |
|---------------------------|-------------------------------------------|--------------------|--------------------------------------------------|
| * Primary Inductance..... | $L_p = 1 \text{ mH} \pm 10\%$ | Pin No: 1-3 | ($f = 10 \text{ kHz}$; $U = 1 \text{ V rms}$) |
| * Primary Resistance..... | $R_p = 1,75 \ \Omega \pm 10\%$ | Pin No: 1-3 | |
| * Leakage Inductance..... | $L_{PL} = 100 \ \mu\text{H} (\text{max})$ | Pin No: 1-3 | ($f = 10 \text{ kHz}$; $U = 1 \text{ V rms}$) |

Between primary winding and secondary winding

| | | | |
|------------------------------|--------------------------------------|-----------------------|---------------------------------|
| * Withstanding voltage..... | 3 000 V_{ac} | for 60 sec./ 5mA | ($f = 50\text{-}60\text{Hz}$) |
| * Insulation Resistance..... | > 500 MΩ | ($U = 500\text{V}$) | |

2.2 Dynamic characteristics

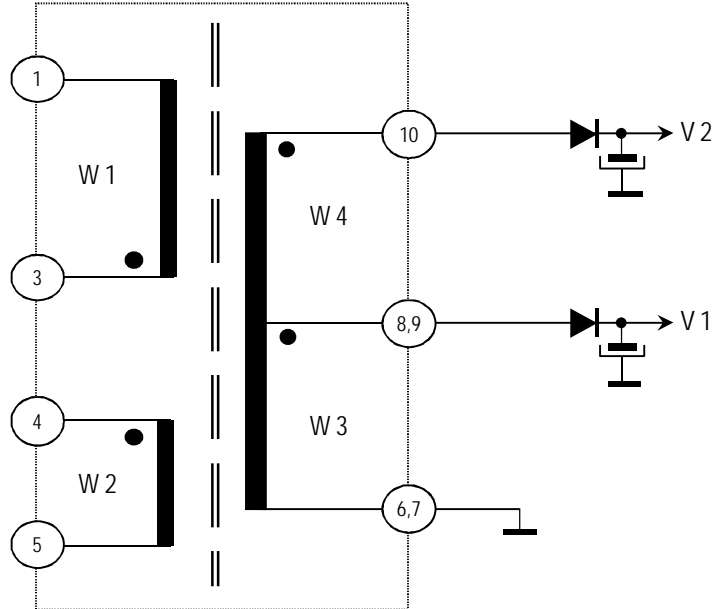
2.2.1 Input parameters

| | |
|-------------------------------|-------------------------------------|
| * Main Operating Voltage..... | $V_{op} = 170 - 270 \text{ V}_{ac}$ |
| * Main Operating Frequency... | $f_{op} = 40 - 100 \text{ kHz}$ |
| * Max. drain current..... | $I_{max} = 1,20 \text{ A}_{pp}$ |
| * Max. primary current..... | $I_{rms} = 120 \text{ mA}_{rms}$ |
| * Max. Drain Voltage..... | $V_{dmax} = 650 \text{ V}_{pps}$ |
| * Max. Input Power..... | $P_{in} = 20 \text{ W}$ |

2.2.2 Output parameters

| Windings | | Pin No: | Ktr | Parameters | | | |
|----------|---------|-----------|-------|---------------------|------------|----------|------------|
| | | | | L [μH] | Toll. | R [mOhm] | Toll. |
| W 1 | Primary | 3 - 1 | | 1000 | $\pm 10\%$ | 1750 | $\pm 12\%$ |
| W 2 | Aux | 4 - 5 | 0,250 | 88 | $\pm 10\%$ | 48,0 | $\pm 12\%$ |
| W 3 | V1 | 8,9 - 6,7 | 0,080 | 7,6 | $\pm 12\%$ | | |
| W 4 | V2 | 10 - 6,7 | 0,013 | 20,0 | $\pm 12\%$ | | |
| | | | | | | | |
| | | | | | | | |

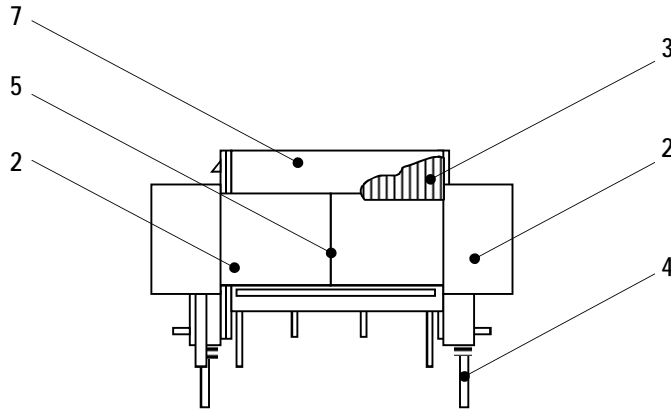
2.3 Circuit Diagram



| | | | | |
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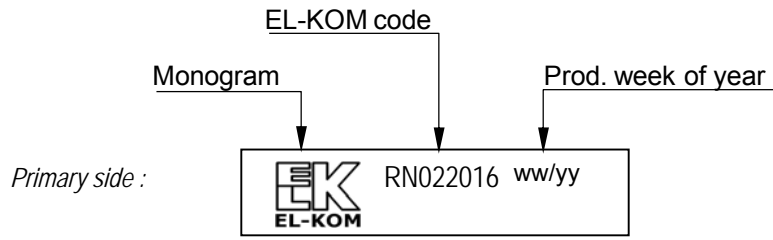
3. Material list

| Nr. | Part Name | Type | Property / T.M. | Manufacturer | Standart / Certificate |
|-----|---------------------------------|----------------------------|---------------------------------------------|----------------------------------|----------------------------|
| 1. | Ferrite Core | EF20 (with air gap) | FP40 | Ferrics , TDG | |
| 2. | Coil Former | PBT / PA66 | Valox Resin 771 (20%) | SABIC INNOVATIVE PLASTICS B V | UL 94V-0 E45329 |
| | | | Valox 420SEO (30%) Glass | | |
| | | | Badamid A702 GF25 FR HF | BADA | UL 94V-0 E189230 |
| 3. | Winding Wire | ø0,20 BO mm ø0,28 BO mm | Enamelled Cu wire Grade 2 (class F) | BEMKA / TR | IEC 317.20 - 155°C E214939 |
| | | | | ELSAN / TR | IEC 317.20 - 155°C E255643 |
| | | | | EMTEL / TR | IEC 317.20 - 155°C E336772 |
| 4. | Terminals | ø 0,80 mm | Tinned steel | WincoWire | |
| 5. | Adhesive for Ferrite core | | Agomet F300(orF305) Hardener laquer 2 | Röhm - Degussa | |
| | | | Multibont 330 Activator738 | | |
| 6. | Solder | | Sn-97% Cu-3% | Feray / TR | |
| 7. | Cover | PA 6.6 | Technyl A 218 V30 (30% Glass reinforced) | Rhodia | UL 94 - HB E44716 |
| 8. | Marking | | Label or Stamp | | |



| | | | | |
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4. Marking

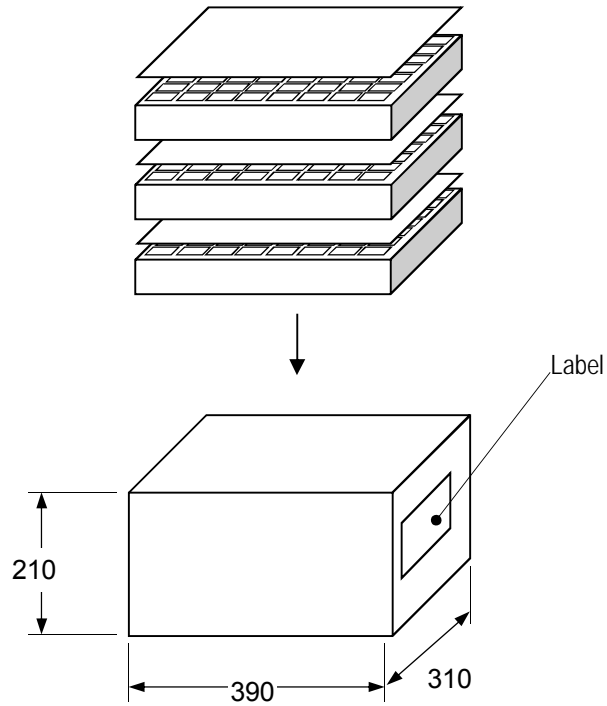


5. Packaging

5.1 Total **300** pcs / box (50x2x3)

5.2 Box weight **8,8** kg. (approx)

5.3 Packaging illustration



| | | | | |
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