

ADSL INTERFACE TRANSFORMERS



- Designs exceed standards for ANSI and ETSI
- Excellent THD performance
- Operating temperature range -40°C to $+85^{\circ}\text{C}$
- Storage temperature range -50°C to $+100^{\circ}\text{C}$
- Design meets the specifications for IEC 950, with a working Voltage of 250V.

ADSL TRANSFORMERS SELECTION GUIDE

| Chip Manufacturer | Chip Designation | UMEC Transformer | Configuration | Application |
|-----------------------|---------------------|-------------------|---------------------|--------------------------|
| <i>Alcatel</i> | <i>MTK20131</i> | <i>UT20114(s)</i> | <i>POT2311(SMT)</i> | <i>ADSL MODEM,CPE</i> |
| <i>Analog Devices</i> | <i>AD20msp910</i> | <i>UT20112(S)</i> | <i>EP13(SMT)</i> | <i>CO & CPE</i> |
| <i>Globespan</i> | <i>EL-1501C</i> | <i>UT20103</i> | <i>LP23/8</i> | <i>CO</i> |
| | <i>EL-1501C</i> | <i>UT20115</i> | <i>LP23/8</i> | <i>CPE</i> |
| | | <i>UT20104</i> | <i>LP23/8</i> | <i>RADSL TRANSCEIVER</i> |
| | | <i>UT20105</i> | <i>LP23/8</i> | <i>E1 ADSL</i> |
| <i>Motorola</i> | <i>MC03AX1456CO</i> | <i>UT20101</i> | <i>EP13</i> | <i>CO</i> |
| | <i>MC03AX1456RT</i> | <i>UT20107</i> | <i>EP13</i> | <i>CPE</i> |

NOTE:1.) When ordering SMT Type, add "S" at end of the model number (ex. UT20114S).
 2.) CO : Central Office.
 CPE : Customer Premise Equipment.

ELECTRICAL SPECIFICATION @25°C

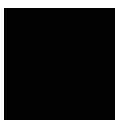
| MODEL NO. | Turns Ratio (Line:Chip) ($\pm 2\%$) | Line Side Inductance (mH $\pm 10\%$) | Interwinding Capacitance (pf max) | Leakage Inductance (uH max) | DCR Line Side (Ω max) | DCR Chip Side (Ω max) | Isolation (Vrms) | Package & Schematic |
|-----------------------|---------------------------------------|---------------------------------------|-----------------------------------|-----------------------------|-------------------------------|-------------------------------|------------------|---------------------|
| UT20101 ¹⁾ | 1.2split:1split | 3.96 ²⁾ | 50 | 1.5 | 1.0 | 1.0 | 3000 | C/S1 |
| UT20103 ¹⁾ | 1split:1.4split | 0.475 | 25 | 10 | 1.6 | 3.8 | 3000 | E/S2 |
| UT20104 ¹⁾ | 1split:1split | 0.440 | 45 | 10 | 1.5 | 1.5 | 3000 | E/S3 |
| UT20105 ¹⁾ | 1split:1split | 0.368 $\pm 5\%$ | 18 | 8.0 | 1.7 | 2.0 | 3000 | E/S2 |
| UT20107 ¹⁾ | 1split:1.8split | 3.96 ²⁾ | 50 | 1.5 | 1.0 | 1.0 | 3000 | C/S1 |
| UT20112(S) | 1split:1split | 5.0 | - | 15 | 3.0 | 3.0 | 1500 | C(D)/S1 |
| UT20114(S) | 1split:1split | 0.440 | - | 15 | 2.4 | 0.32 | 2000 | A(B)/S4 |
| UT20115 ¹⁾ | 1split:1split | 0.410 | 25 | 10 | 1.6 | 2.8 | 3000 | E/S2 |

1) IEC 950 Designed.

2) The inductance is min. value.

- Inductance : the inductance of windings on line side in series (at 10KHz 100mV).
- Leakage inductance : the leakage inductance of windings on line side with windings on chip side shorted (at 100KHz 100mV).
- Interwinding capacitance test condition : 10KHz 100mV.

DATA SHEET 05-20 JUL./04
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ADDITIONAL INFORMATION

| MODEL NO. | RETURN LOSS (dB TYP.) 30K-1.1MHz | INSERTION LOSS | FREQUENCY RESPONSE (dB max.) 30K-1.1MHz | LONGITUDINAL BALANCE (100 Ω) | THD (TYP) (20dBm,100Ω) |
|------------|-------------------------------------|----------------|--|------------------------------|---|
| UT20101 | 15 | - | - | 40dB min. @ 20K-1.1MHz | 65dB min. @ 26K-1104KHz |
| UT20103 | 15 | -3.0 | - | 60dB min. @ 20K-250KHz | - |
| UT20104 | - | - | - | - | - |
| UT20105 | - | -3.0 | - | - | - |
| UT20107 | 15 | - | - | 40dB min. @ 20K-1.1MHz | 65dB min. @ 26K-1104KHz |
| UT20112(S) | 15 | -0.5@100KHz | ±0.5 | 50dB min. @ 1k-1MHz | 80dB @ 30K-300KHz 60dB @ 300K-1.1MHz |
| UT20114(S) | - | -3.0 | - | - | 70dB @ 40KHz |
| UT20115 | 15 | -3.0 | - | 55dB min. @ 20K-1.1MHz | - |

PACKAGES & SCHEMATICS

| | |
|---|---|
| <p>POT 23*11</p> <p style="text-align: right;">A</p> | <p>POT 23*11 SMD</p> <p style="text-align: right;">B</p> <p style="text-align: center;">SUGGEST P.C.B. LAYOUT</p> |
| <p>EP 13</p> <p style="text-align: right;">C</p> | <p>EP 13 SMD</p> <p style="text-align: right;">D</p> <p style="text-align: center;">SUGGEST P.C.B. LAYOUT</p> |
| <p>Lp23/8</p> <p style="text-align: right;">E</p> | |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>S1</p> </div> <div style="text-align: center;"> <p>S2</p> </div> <div style="text-align: center;"> <p>S3</p> </div> <div style="text-align: center;"> <p>S4</p> </div> </div> | |