COIVIPLIANT

NOTES:


1. ROHS COMPLIANT
2. HEADER: THERMOSET PLASTIC MATERIAL WITH FLAMMABILITY RATING UL 94V-O OR BETTER
3. STORAGE TEMPERATURE: $-20^{\circ} \mathrm{C}$ TO $+125^{\circ} \mathrm{C}$
4. COMPLIANCE TO J-STD:
A. J-STD-002: SOLDERABILITY AT $245^{\circ} \mathrm{C}$ REFLOW PROFILE
B. J-STD-020: LEVEL 1, NO MOISTURE SENSITIVE
C. J-STD-075: R7, $245^{\circ} \mathrm{C}$ MAXIMUM THROUGH REFLOW SOLDER
5. TO ORDER TAPE \& REEL PACKAGING ADD A "T" SUFFIX

TO THE PART NUMBER(i.e H5012NL BECOMES H5012NLT).



FINAL OUTLINE
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| PRODUCT DESCRIPTION | TLA DRAWING | PS DRAWING | SHEET | PART NO. | DATASHEET REV. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MDL,DUAL, 1GD,1:1,SM,TU | H5012NL-13 | PS-2007.001-C | 1 OF 3 | H5012NL | A |

ELECTRICAL CHARACTERISTICS AT $+25^{\circ} \mathrm{C}$ UNLESS OTHER SPECIFIED MEETS IEEE 802.3 SPECIFICATION


SCHEMATIC

| PARAMETER | SPECIFICATIONS |  |
| :---: | :---: | :---: |
| OPERATING TEMP | $0^{\circ} \mathrm{C}-70^{\circ} \mathrm{C}$ |  |
| TURNS RATIO | $1.0 \pm 2 \%$ |  |
| POLARITY | PER SCHEMATIC |  |
| INSERTION LOSS | 100 KHz | $1-125 \mathrm{MHz}$ |
|  | -1.2 dB MAX | -0.2-0.002*f ${ }^{1.4} \mathrm{~dB}$ MAX |
| RETURN LOSS$(\mathrm{Z} \text { OUT }=100 \text { OHM } \pm 15 \%)$ | . $1-40 \mathrm{MHz}$ | 40-100 MHz |
|  | $-16 \mathrm{~dB} \mathrm{MIN}$ | $-10+20 * \mathrm{LOG}_{10}(\mathrm{f} / 80 \mathrm{MHz}) \mathrm{dB} \mathrm{MIN}$ |
| INDUCTANCE (OCL) <br> (MEDIA SIDE, $0^{\circ} \mathrm{C}-70^{\circ} \mathrm{C}$ ) | $350 \mathrm{uH} \text { MIN }\binom{\text { MEASURED AT } 100 \mathrm{KHz}, 100 \mathrm{mVRMS})}{\text { AND WITH } 8 \mathrm{~mA} \text { DC BIAS }}$ |  |
| CROSSTALK, ADJACENT CHANNELS | 1 MHz | $10-100 \mathrm{MHz}$ |
|  | -50 dB MIN | -55+22*LOG ${ }_{10}(\mathrm{f} / 10) \mathrm{dB}$ MIN |
| COMMON MODE REJECTION RATIO | 2 MHz | 30-200 MHz |
|  | $-50 \mathrm{~dB} \mathrm{MIN}$ | $-15+20 *$ LOG $_{10}(\mathrm{f} / 200) \mathrm{dB}$ MIN |
| DC RESISTANCE, 1/2 WINDING |  | . 65 OHMS MAX |
| DC RESISTANCE IMBALANCE | $\pm .065$ OHMS MAX (CENTER TAP SYMMETRY) |  |
| INPUT - OUTPUT ISOLATION | 1500 VRMS MIN @ 60 SECONDS |  |

NOTE: f IS FREQUENCY iN MHz.

## LEGEND

$T d \Longleftrightarrow M x$

| C | $\mathrm{Td} \Longleftrightarrow \mathrm{Mx}$ |  |
| :---: | :---: | :---: |
|  | $T d \Longleftrightarrow M x$ |  |
| P | $T d \Longleftrightarrow M x$ | A |
| S | $T d \Longleftrightarrow M x$ | S |
| D | $T d \Longleftrightarrow M x$ |  |
| E | $T d \Longleftrightarrow M x$ | E |
|  | Td |  |

ALL CHANNELS ARE
IN PHASE BETWEEN INPUT AND OUTPUT
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| MDL,DUAL, 1GD,1:1,SM,TU | H5012NL-13 | PS-2007.001-C | 2 OF 3 | H5012NL | A |



SUGGESTED LAND PATTERN


DIMENSIONS ARE IN INCHES [MILLIMETERS] WITH THE FOLLOWING TOLERANCES: [MILLIMETERS] ARE FOR REFERENCE ONLY.
$\begin{array}{ll}. X X= \pm .02 & {[ \pm 0.5]} \\ . X X X= \pm .010 & {[ \pm 0.25]}\end{array}$
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| :---: | :---: | :---: | :---: | :---: | :---: |
| MDL,DUAL, 1GD,1:1,SM,TU | H5012NL-13 | PS-2007.001-C | 3 OF 3 | H5012NL | A |

