



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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### TRANSFER TAPE

### 41020-T

#### RoHS Compliant\* Ceramic Transfer Tape with a Dielectric Constant of 7-9 for use with 96% Alumina

ESL 41020-T is a flexible cast film of inorganic dielectric powder dispersed in an organic matrix, designed to be laminated to 96% alumina. ESL 41020-T will yield a robust dense body after firing at 850°C. A pressure/temperature combination of 1.7-6.9 MPa and 70°C works well for laminating to alumina.

Transfer tape is provided on a silicone-coated polyester film to minimize environmental contamination, to protect it from mechanical damage, and to aid in handling.

#### TYPICAL PROPERTIES WHEN LAMINATED TO 96% $Al_2O_3$ \*

<b>DIELECTRIC CONSTANT:</b> (at 1 kHz)	7-9
<b>DISSIPATION FACTOR:</b> (at 1 MHz)	≤ 0.5%
<b>INSULATION RESISTANCE:</b> (at 100 VDC, 25°C)	> 10 <sup>12</sup> Ω
<b>BREAKDOWN VOLTAGE:</b> (VDC)	≥ 1000 V/25 μm
<b>FIRING TEMPERATURE:</b>	850°C
<b>FIRED SHRINKAGE:</b>	
	<b>X and Y</b> 0%
	<b>Z</b> 40%-55%
<b>FIRED DENSITY:</b> (Theoretical)	3.12 g/cm <sup>3</sup>
<b>TAPE THICKNESS:</b>	115-135 μm
<b>COLOR:</b>	Blue

\* See U.S. Patent # 4,645,552

ESL Europe (KOP) 41020-T 0612-F

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See Caution and Disclaimer on other side.

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\*None of the six substances referred to in the RoHS Directive (2002/95/EC) are used in the formulation of this product.

**CAUTION:** Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapours emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate MSDS sheet.

**DISCLAIMER:** The product information and recommendations contained herein are based on data obtained by tests we believe to be accurate, but the accuracy and completeness thereof is not guaranteed. No warranty is expressed or implied regarding the accuracy of these data, the results obtained from the use hereof, or that any such use will not infringe any patent. ElectroScience assumes no liability for any injury, loss, or damage, direct or consequential, arising out of its use by others. This information is furnished upon the condition that the person receiving it shall make his own tests to determine the suitability thereof for his particular use, before using it. User assumes all risk and liability whatsoever in connection with his intended use. ElectroScience's only obligation shall be to replace such quantity of the product proved defective.

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