

D

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DRAWING NOT TO SCALE

**MATERIAL:**  
Label materials need to comply with UL 969 Marking and Labelling Systems' requirements.  
UL-compliant polyimide film with a high-temperature permanent pressure sensitive acrylic  
adhesive and a high opacity gloss white topcoat.  
Material Thickness 0.001"

**ADHESIVE:**  
Pressure sensitive.  
0.001" permanent adhesive suitable for adhering to smooth ABS plastic.

**FINISHED SIZE:**  
0.63"(16mm) x 0.59"(15mm)

**COPY COLOUR:**  
Black.

**BACKGROUND:**  
White

**Serialization:**  
12 digits (dec), zero filled  
Serial number shown on label drawing as: "XXXXXXXXXX"  
The list of numbers to be printed on labels at time of manufacture

**2D Barcode format:**  
Data Matrix

**2D Barcode size:**  
~6mm x 6mm

**Character Set:**  
All 256 ASCII

**Date Code:**  
N/A

**CSA logo:**  
N/A

**FCC ID:**  
Z6G-DT357

**IC ID:**  
N/A

**Other text:**  
See Drawing

ALTERATIONS					
02	15/11/2011	NO	DG	Release	
01	20/10/2011	NO	DG	Initial Design	
INDEX	VALID FROM	DESIGN	CHECK	COMMENT	

Title **DT357 Unit Label**DWG No: **DN00MD0022-02**Daintree Networks Pty Ltd  
1 Dalmore Drive  
Caribbean Park  
Scoresby VIC 3179  
AustraliaPart No: **DN00A80014-02**Size: **A3**

Date: 16-Nov-2011 Time: 10:16:07 Sheet1 of 1

File: Z:\Hardware\Projects\PRJ-201\DT357\Development\03.Design\02.Mechanical\Label\DN00MD0040 (Product DN00A1J0005-04) DT357 Unit



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N/A

**CSA logo:**  
N/A

**FCC ID:**  
Z6G-DT357

**IC ID:**  
N/A

**Other text:**  
See Drawing

ALTERATIONS							
01	15/11/2011	NO	DG	Release			
INDEX	VALID FROM	DESIGN	CHECK	COMMENT			

Title **DT357-U.FL Unit Label**

DWG No: **DN00MD0025-01**

Size: **A3**

Part No: **DN00A80033-01**

Date: **16-Nov-2011**

Time: **10:16:47**

Sheet 1 of 1

Daintree Networks Pty Ltd  
1 Dalmore Drive  
Caribbean Park  
Scoresby VIC 3179  
Australia



DT357



DT357 U.FL





## Thermal Transfer Printable Polyimide

1 mil STATIC DISSIPATIVE, WHITE

1

### **Description:**

POLYONICS XF-781 is a special 1 mil (25 $\mu$ ) polyimide film with a high-temperature permanent pressure sensitive acrylic adhesive and a high opacity, gloss white topcoat specifically designed for thermal transfer printing. Using a 1 mil vs. a 2 mil polyimide film base offers polyimide thermal performance at less cost.

### **Properties:**

The XF-781 topcoat, in combination with the appropriate thermal transfer ribbon, passes the requirements of **MIL-STD-202G, Notice 12, Method 215K** and **MIL-STD-883E, Notice 4, Method 2015.13**. The print resists smearing, even when the board and label are directly removed from a reflow or wave solder environment. Preheating the labeled product can further enhance print permanence in the case of extreme solvent and/or abrasion exposure, although this is not typically required for board processing applications.

**Moreover, when the label is peeled from its release liner, less than 100 volts per square inch of electrostatic charge is generated, making it safe to use in a static free work environment, per EIA 625 and 541.**

### **Applications:**

- POLYONICS XF-781 is specifically designed for high-temperature-lead-free solder applications.
- It is the ideal label to withstand surface mount board processes, on either the top or bottom side of the board. It can also be used on the top side of the board in mixed processes, and is recommended for the bottom side which is directly exposed to the wave solder environment.
- 1 mil polyimide is perfect in applications where low profile labeling is required such as silk screening or stacking.
- XF-781 is particularly useful in manufacturing processes where dimensional stability of the label is critical.
- IC labeling for work in process, permanent ID & warranty labeling
- Product ID, asset tracking
- Anywhere a label will be exposed to extreme temperature resistance

### **Special Considerations:**

- The surface that you want to label should be clean, dry and free of any surface contamination, such as dust, oil or rust. Isopropyl alcohol would be a recommend solvent to clean the surface.
- When you apply the label, you must use firm pressure to increase the physical contact of the adhesive with the surface of the product.
- Pressure sensitive adhesives will provide stronger bonds to a warm surface, as compared to a colder one. The adhesive will 'flow' more readily, increasing the surface area and increasing the adhesion peel strength.
- The XF-781 top coat & print should not be contacted while exposed to elevated temperature.
- All values shown are averages and should not be used for specification purposes. Adhesion and tack values have a 15% tolerance allotted to the above values stated.
- Test data and test results contained in this document are for general information only and shall not be relied upon by POLYONICS customers for designs and specifications, or be relied on as meeting specified performance criteria.
- Customers desiring to develop specifications or performance criteria for specific product applications should contact Polyonics for further information



**POLYONICS**

**POLYONICS TRIBOGARD®**

**XF-781**

**Thermal Transfer Printable Polyimide**  
1 mil STATIC DISSIPATIVE, WHITE

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**Technical Data**

<b>Properties</b>		<b>Test Method</b>	<b>Average Results</b>			
			<b>USA Units</b>	<b>SI Units</b>		
<b>Thickness</b>		<b>ASTM D1000</b>				
<b>-Substrate</b>			0.0015 inch	0.038 mm		
<b>-Adhesive</b>			0.0010 inch	0.025 mm		
<b>-Total</b>			0.0025 inch	0.064 mm		
<b>Adhesion</b>		<b>Polyonics 80313</b>				
<b>Stainless Steel</b>		<b>20 minute dwell</b>	≥ 27 oz/in	30N/100 mm		
		<b>24 hour dwell</b>	≥ 30 oz/in	33N/100 mm		
<b>Tack</b>		<b>Polyonics 80155</b>	≥ 1000g			
<b>Label Surface Resistance</b>		<b>EOS/ESD S.11.11</b>	≥ 10 <sup>8</sup> Ω and ≤ 10 <sup>11</sup> Ω			
<b>Peel Value (Volts/sq.in.)</b>		<b>Polyonics 80331</b>	< 100 volts			
<b>Static Decay Label Surface</b>		<b>EIA 541</b>	<b>To 1% of initial charge- 0.02 seconds</b>			
<b>Temperature Rating:</b>		<b>Long term</b>	100 hours at 302°F (125°C)			
		<b>Operating</b>	5 minutes at 500°F (260°C)			
		<b>Short term</b>	90 seconds at 572°F (300°C)			
<b>Shelf Life</b>		<b>1 year below 80°F (27°C) and 60% R.H.</b>				
<b>UL File #</b>		PGJI2.MH19503				
<b>UL Tested Ribbons</b>		Ricoh B110CR, C, Armor AXR7+, 8, Sony 4070, JPP1, Union Chemicar US300, DNP 510				

**Durability Testing**

<b>Properties</b>	<b>Test Method</b>	<b>Test Environment</b>	<b>PCS<sup>1</sup></b>	<b>Read Rate<sup>2</sup></b>
<b>Heat/Chemical</b>	<b>Polyonics 80386</b>	Control 70°C, 5 min.	99%	100%
		Alpha Metals Inc. 2110 Saponifier 6%, aqueous, 70°C, 5 min.	97%	100%
		Isopropanol 99% 70°C, 5 min	99%	100%
		Kyzen XJN+, 30%, 70°C, 5 min.	99%	100%

**Chemical Testing**

<b>Properties</b>	<b>Test Method</b>	<b>Test Fluid</b>	<b>Results</b>
<b>Chemical Resistance</b>	<b>MIL-STD-202G, Notice 12, Method 215K</b> <b>MIL-STD-883E, Notice 4, Method 2015.13</b>		
		Solvent A –1 part IPA, 3 parts mineral spirits	No visible effect
		Solvent B – 1 ,1,1 Trichloroethane	Solvent deleted per notice 12
		Solvent C –Terpene Defluxer	No visible effect
		Solvent D –Saponifier	No visible effect



POLYONICS

POLYONICS TRIBOGARD®

XF-781

Thermal Transfer Printable Polyimide  
1 mil STATIC DISSIPATIVE, WHITE

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**Polyonics Material Compliance**

<b>RoHS- Restriction of Hazardous Substances (EU Directive 2002/95/EC)</b>	Limits set forth in Directive 2005/618/EC amending Directive 2002/95/EC
<b>REACH- Registration Evaluation and Authorization of Chemicals (EU Directive 1907/2006/EC)</b>	Limits set forth in Directive 1907/2006/EC Article 7 (2)
<b>Halogens- Restriction use of Halogen (IEC 61249-2-21)</b>	Limits set forth in International Electrochemical Commission

**Key for Tables on page 2**

- All SI units are mathematically derived from U.S. conventional units.
- Labels printed with a recommended thermal transfer ribbon. Labels printed with 6.7 mil X dimension bars at 2:5 ratio. Labels exposed to indicated environments:
- <sup>1</sup>PCS - Print Contrast Signal. PCS determined with Quick Check 650, 0.005" aperture, 660 nm wavelength.
- Quick Check 650 manufactured by : Photographic Sciences Corp.
- <sup>2</sup> Read rate determined using a PSC Quick Check 850 laser scanner

**Trademarks:**

Aquanox SSA-™ is a trademark of Kyzen Corporation.  
EC-7R™ is a trademark of Petroferm Inc.  
RE-ENTRY™ is a registered trademark of Environsolv Inc

**References:**

ASTM: American Society for Testing and Materials (U.S.A.)  
SI: International Systems of Units.





**POLYONICS**

**POLYONICS TRIBOGARD®**

**XF-781**

**Thermal Transfer Printable Polyimide**  
**1 mil STATIC DISSIPATIVE, WHITE**

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**WARRANTY-LIMITATION**

Polyonics' products are sold with the understanding that the buyer will test them in actual use and determine for him/herself their adaptability to his/her intended uses. Polyonics warrants to the buyer that its products are free from defects in material and workmanship, but limits its obligation under this warranty to replacement of the products shown to Polyonics' satisfaction to have been defective, provided that the Buyer has complied with the handling, storage and shelf life requirements as specified by Polyonics in applicable materials specifications.

The above warranties extend solely to Buyer and all warranty claims must be made by Buyer. Rework or Replacement shall neither extend nor decrease the original warranty period. The term of all warranty periods shall not exceed thirty (30) days from the date of the original shipment.

**THE ABOVE WARRANTIES ARE EXCLUSIVE OF AND IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE. NO IMPLIED STATUTORY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. POLYONICS SHALL NOT BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, OR FROM DELAY IN THE REPLACEMENT OR REPAIR OF PRODUCTS UNDER THE ABOVE WARRANTY.**

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