

MOLEX TAIWAN LTD (GC)

TITLE :	
	SINGLE PORT UP-RIGHT TYPE USB
	CONNECTOR

		TITLE : SINGLE PORT, UP-RIGHT TYPE, USB CONNECTOR		
B	PER ECN T98-181	Product Specification		
REV	DESCRIPTION	<small>THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION</small>		
DOCUMENT NO		Prepared By: Vincent	Date : 971205	SHEET NO. 1 of 8
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		Approved By:	Date :	

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1.0 SCOPE

This specification covers the USB series product.

2.0 APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herewith. In the event of conflict between the requirements of the specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of the specification and the referenced documents, this specification shall take precedence.

MIL-STD-202 Test Methods for Electronic and Electrical Component Parts

MIL-STD-1344 Test Methods for Electrical Connectors

3.0 MATERIAL SPECIFICATIONS

3.1 Design and Construction

Connector shall be of the design, construction and physical dimensions specified on the applicable sales drawing

3.2 Materials

a) Contacts : Refer To Respective Molex Sales & Engineering Drawings

b) Housing : Refer To Respective Molex Sales & Engineering Drawings

c)Metal Shell : Refer To Respective Molex Sales & Engineering Drawings

d)Plating : Refer To Respective Molex Sales & Engineering Drawings

3.3 Performance and Test Description

Connector shall be designed to meet the electrical, mechanical and environmental performance requirements specified in 3.4

3.4 Test Requirments and Procedures.

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ELECTRICAL

Item	Requirement	Test methods
Contact Resistance (initial value)	30 mΩ max	Maximum applied Voltage 20mV at a current of 100mA per Mil-Std- 1344A Method 3002.1

Dielectric Withstanding Voltage	No Breakdown	Test between adjacent contacts at 750 V AC (rms) and 60 seconds hold time, per Mil-Std-1344A Method 3001.1, Test Condition I.
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Insulation Resistance	1000 Mega Ω min	Test between adjacent contacts at 500 V dc for 2 minutes, per Mil-Std-1344A Method 3003.1
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Capacitance	2 picofarad max	Test between adjacent contacts to 1 Megahertz max per Mil-Std-202F Method 305.
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Current Rating 1 Amp (Temperature rise)	30deg C rise in temp. max	Apply the rated current to connector for 96 hours
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MECHANICAL

Item	Requirement	Test methods
Durability (Au flash Plating)	Contact Resistance 30 mohm max after 1500 cycles.	Mate this connector with its mating part. Other conditions follow Mil-Std-1344A Method 2016

Terminal Retention	0.8 Kg min	Apply a pull out force in the axial direction of the contact per Mil-Std-1344A method 2007.1
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Vibration	a. Contact Resistance	Subject mated connector to simple harmonic motion with double amplitude displacement of 0.03 inch or 15 G's and frequency sweep of 10 to 55 and return to 10 Hz in 2 hours in each direction. Total 5 cycles. per Mil-Std-202F Method 201A
	30 mohm max	
	b. No discontinuity	
	greater than 1 μsec.	

Mechanical Shock	a. No Damage	Subject mated connector to
Shock	b. Contact Resistance	50 G half sine in 11 msec
	30 mohm max	according to Mil-Std-1344
	b. No discontinuity	Method 2004.1, Condition A.
	greater than 1 μsec.	

Mating and Unmating Forces	a. Mating = 3.57 Kg max	Mate the connector with its mating part and measure force per Mil-Std-1344A Method 2013.1
	b. Unmating = 1.02 Kg min	

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ENVIRONMENTAL

Item	Requirement	Test methods
Thermal Shock	Contact Resistance	Subject mated connector to
	30 mΩ max	5 cycles of exposure at
		- 55 deg C and 85 deg C
		Mil-Std-1344A, Method 1003.1, Condition A

Steady State	Contact Resistance	Expose mated connector to
Humidity	30 mΩ max	40 deg C and 90-95% RH for
		96 hours according to Mil-
		Std-1344A, Method 1002.2, Type I, Condition B.

Temperature	Contact Resistance	Subject mated connector to
Life (Thermal aging)	30 mΩ max	ambient temperature of 125 deg C
		for 250 hours per Mil-Std-1344A Method 1005.1 Condition B

3.5 Test Groups and Test Sequences :

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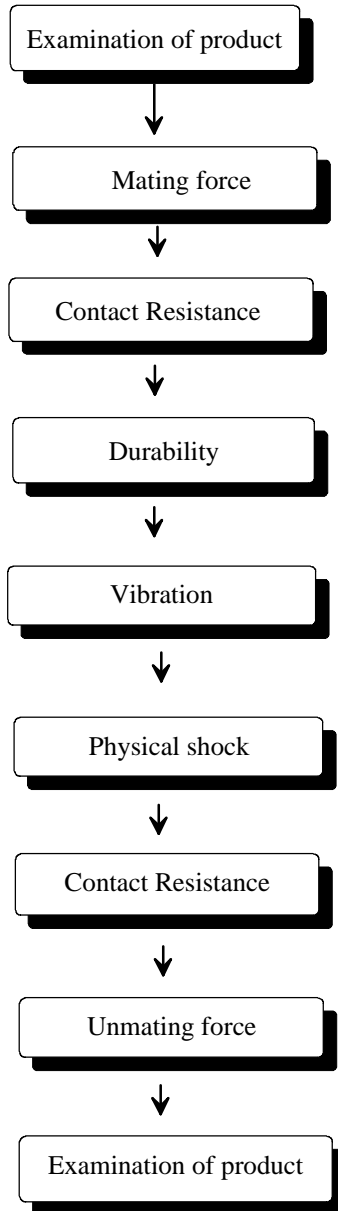
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The tests are categorized into 3 major groups. The test sequences are defined as follow .

***The tests for Solderability, Terminal Retention are performed independently.**

Sample selection: All test groups shall consist a minimum of eight connectors.A minimum of 30 contacts shall be selected and identified.

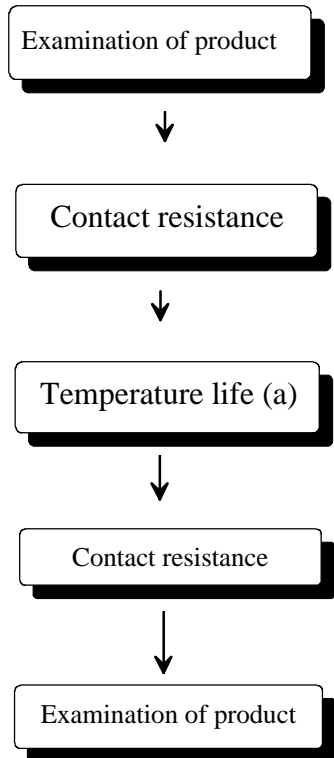
GROUP I



GROUP II

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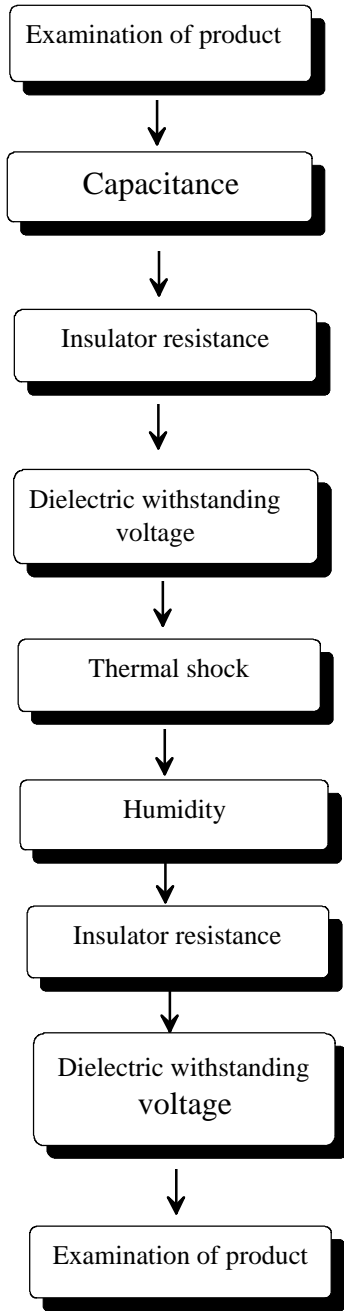
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(a): Pre-mating and unmating 10 cycles

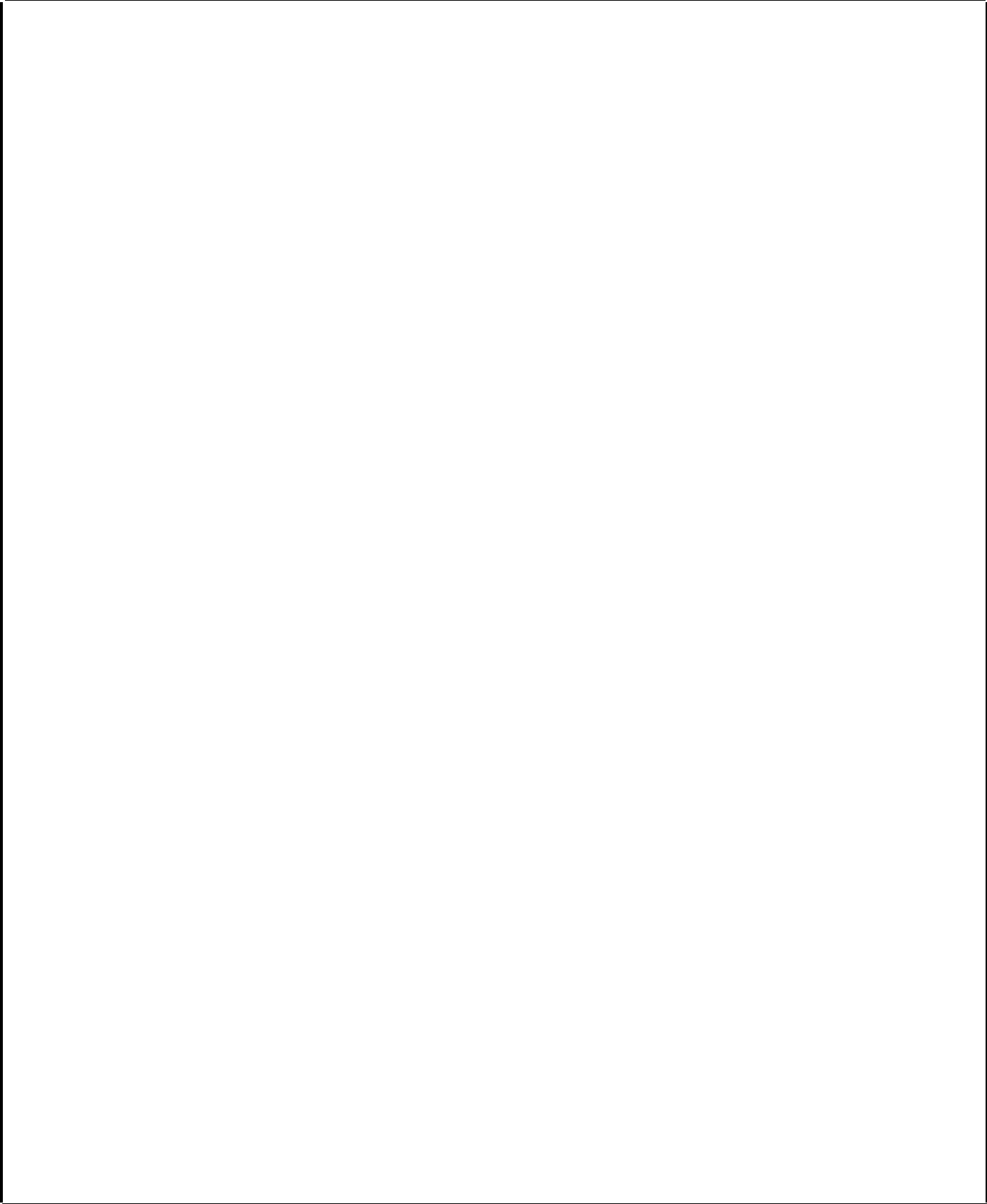
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GROUP III



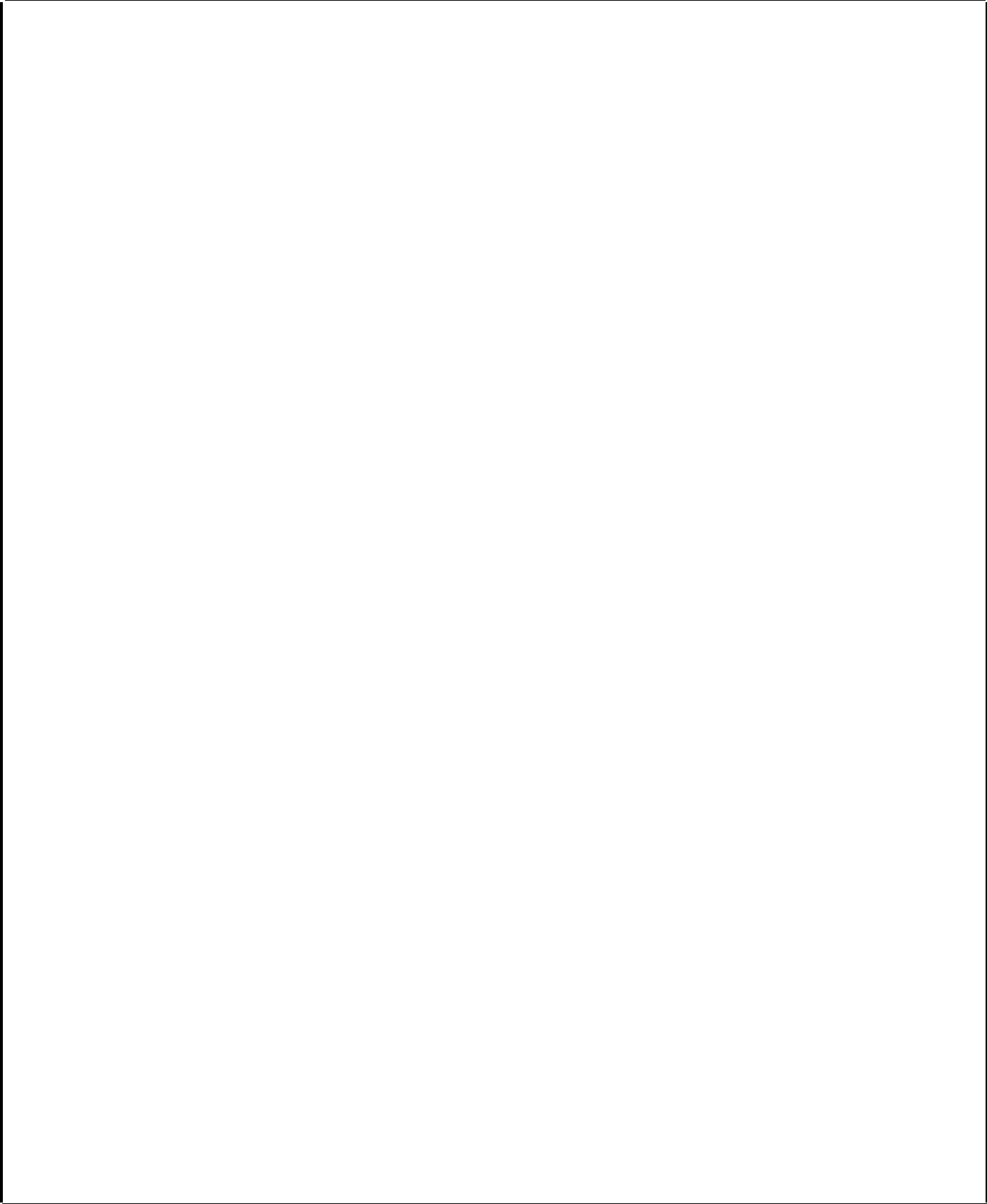
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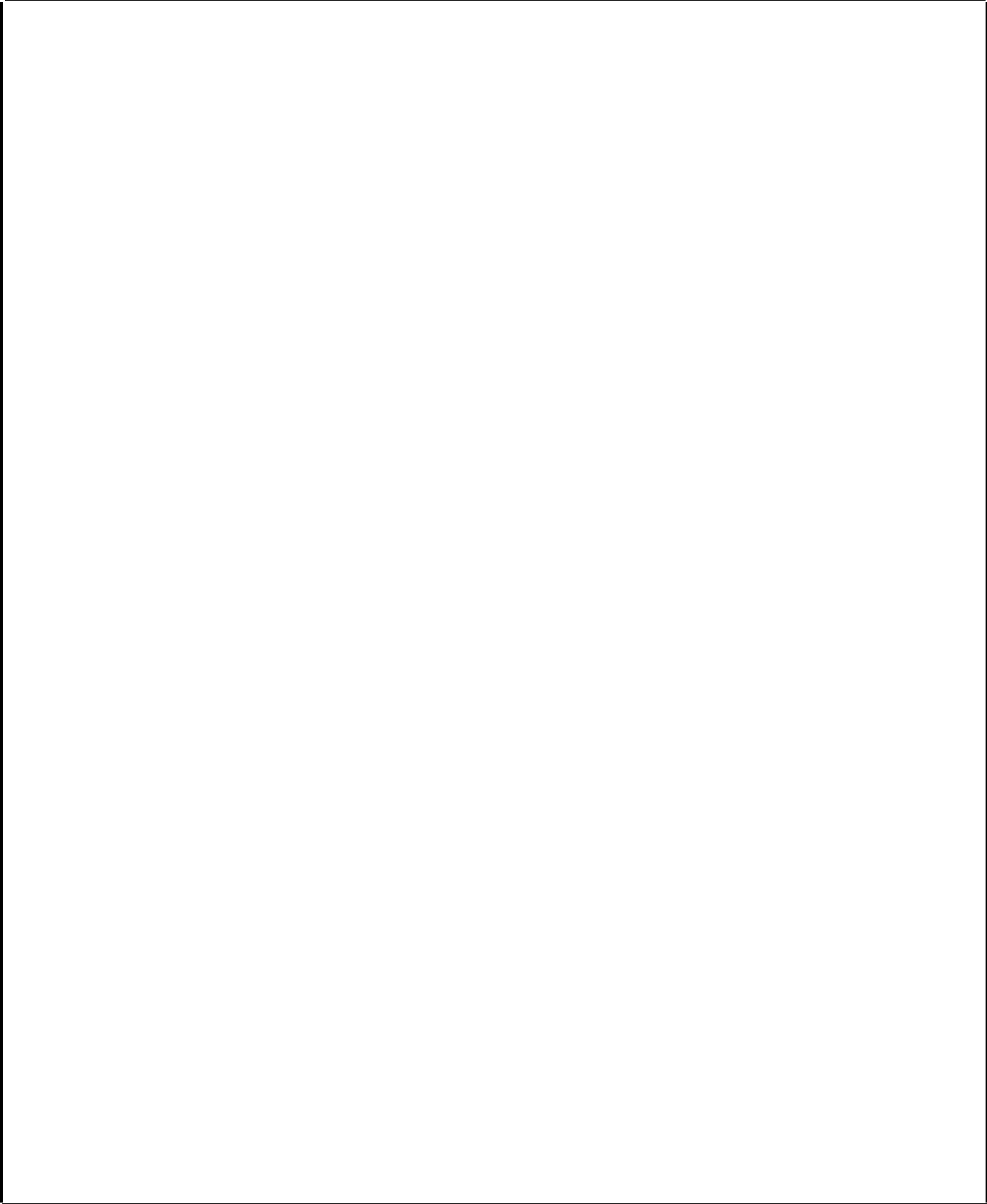
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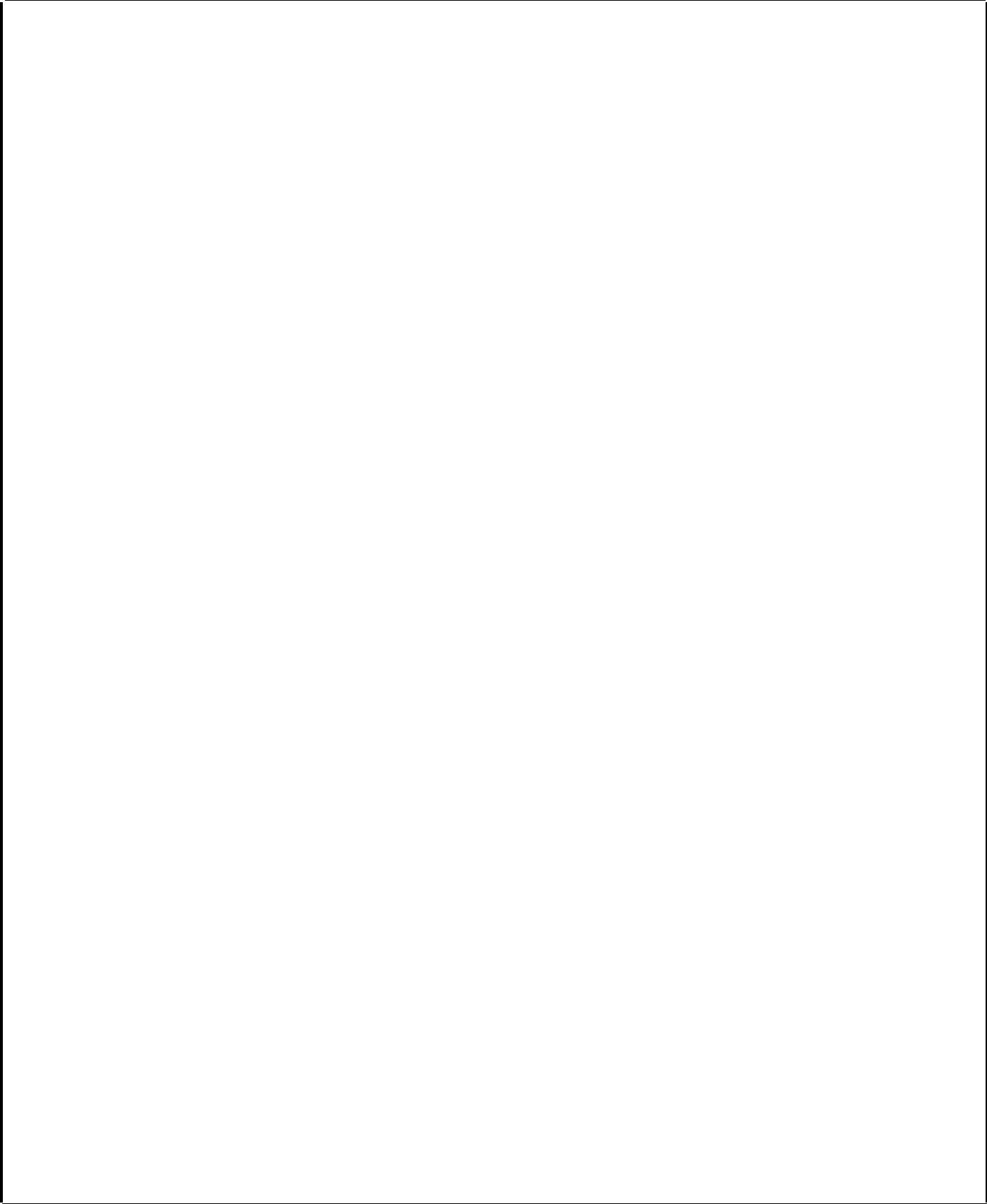
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