1. INTRODUCTION

1.1. Purpose

Testing was performed on the TE Electronics DMD 350 SOCKET Connector to determine its conformance to the requirements of Product Specification 108-57921, Revision A.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the TE Electronics DMD 350 SOCKET Connector.

1.3. Conclusion

The TE Electronics DMD 350 SOCKET Connector meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57921, Revision A

1.4. Product description

The DMD 350 SOCKET Connector is designed for printed circuit board applications. The contacts are copper alloy, GOLD plated on the contact interface and Tin plating on the solder tail, all over nickel under-plated. The housing material is glass filled insulating polymer, UL94V-0.

1.5. Test samples

Test specimens were randomly selected from normal current production lots, and the following Product were used for test：

Test Group	Quantity	Part Number	Description
A,B, C, D,E, F,G,H,I,J,	5 ea.	2041549-1	DMD 350 SOCKET Connector

1.6. Qualification test sequence

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence(a)									
Examination of Product	1,7	1,5	1,5	1,5	1,5	1,5	1,6	1,7	1,3	1,4
Contact Resistance(Low Level)	2,6	2,4	2,4	2,4	2,4	2,4	2,5			
Dielectric Withstanding Voltage								2,5		
Insulation Resistance								3,6		
Cam actuation torque	3									
Cam de-actuation torque	4									
Durability	5									
Vibration							3			
Mechanical Shock							4			
Resistance to Reflow Soldering Heat									2	
Thermal Shock			3							
Humidity Temperature Cycling		3						4		
Temperature Life				3						
Salt Spray						3				
Industrial SO_2 Gas					3					
Contact normal force										3
Solder ball shear force										2

Figure 1

NOTE：（a）Numbers indicate sequence in which tests are performed.（b）Discontinuities shall not take place in this test group, during tests.

（c）If connector contact counts are more than 20, at least 5 samples should be evaluated in each group test. Otherwise, at least 10 samples should be evaluated in each group test。

（d）Required for connectors with a tin-based plating or <15u” Au plating on the contacts.

（e）Required for connectors with a surface treatment on the contacts or for connectors with a wipe length of 0.127mm or less.

（f）Required for connectors rated for >50 mating/ un-mating cycles.

2. TEST RESULT

GP	TEST	Requirement	DATA				Judgment
			Max	Min	Ave	std dev	
A	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	25.23	9.94	14.36	2.58	Accepted
	Cam Actuation	3.0Kg-cm MAX	PASSED				Accepted
	Cam De-actuation torque	3.0Kg-cm MAX	PASSED				Accepted
	Durability	No Physical Damage	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	20.80	13.71	16.36	1.39	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
B	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	28.03	10.44	14.93	3.22	Accepted
	Humidity Temperature Cycling	No damage	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	21.60	13.21	15.81	1.43	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
C	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	22.65	9.52	13.96	2.98	Accepted
	Thermal shock	No damage	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	25.87	9.16	12.05	2.65	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
D	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	29.10	10.05	14.99	3.99	Accepted
	Temperature Life	No damage	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	22.53	13.38	16.71	1.98	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted

GP	TEST	Requirement	DATA				Judgment
			Max	Min	Ave	std dev	
E	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	23.16	9.48	13.41	2.91	Accepted
	Industrial SO2 Gas	No damage	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	29.05	15.01	18.53	2.82	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
F	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	29.15	15.18	20.16	3.30	Accepted
	Salt Spray	No detrimental corrosion allowed in contact area and base metal exposed.	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	30.32	15.03	19.70	3.50	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
G	Examination of product	Meets product drawing	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(Initial)	27.70	15.07	21.53	3.58	Accepted
	Vibration (Low Frequency)	10-55-10HZ 6H	PASSED				Accepted
	Mechanical shock	50G 11ms	PASSED				Accepted
	Contact Resistance (Low Level)	55mΩmax.(final)	27.86	15.18	21.84	3.66	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
H	Examination of product	Meets product drawing	PASSED				Accepted
	Dielectric withstanding voltage	No breakdown	PASSED				Accepted
	Insulation Resistance	500MΩMIN(Initial)	4161	1701	2755	646	Accepted
	Humidity Temperature Cycling	No damage	PASSED				Accepted
	Dielectric withstanding voltage	No breakdown	PASSED				Accepted
	Insulation Resistance	100MΩMIN(Final)	4156	1256	2274	714	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted

GP	TEST	Requirement	DATA				Judgment
			Max	Min	Ave	std dev	
I	Examination of product	Meets product drawing	PASSED				Accepted
	Resistance to Reflow Soldering Heat	No physical damage shall occur	PASSED				Accepted
	Examination of product	Meets product drawing	PASSED				Accepted
J	Examination of product	Meets product drawing	PASSED				Accepted
	Contact normal Force(initial）	for five cycles on each contact sample. Record initial and final contact gap(0.13+/-0.03).	0.162	0.133	0.148	0.008	Accepted
	Contact normal Force(final）		0.166	0.138	0.159	0.006	Accepted
	Solder Ball Shear Force	Minimum required shear force is 0.75 kgf per solder ball.	1.47	0.78	1.16	0.13	Accepted
	Examination of product	Meets product drawing	PASSED				Accepted

Figure 2（End）