



AH11 & AH22

QUALIFICATION REPORT

I. INTRODUCTION

The AH11 is a high power linear amplifier for use in digital communications systems combining low noise figure and high intercept point. The AH22 is a high dynamic range amplifier targeting cable TV markets. Both parts are built into a thermally enhanced SOIC-8 package.

II. SCOPE

This report summarizes the reliability qualification of the AH11 and the AH22 high dynamic range amplifiers manufactured at the WJ Communications facility in Milpitas, CA and assembled in a thermally enhanced SOIC-8 plastic package. The process used is our standard H10, 4-inch process. The reliability data are obtained through the performance of specified accelerated stress tests described in this document.

III. APPLICABLE DOCUMENTS

All the test procedures and test methods are consistent with industry standards. The standards referenced in this document are JEDEC standard 22 and MIL STD 883.

IV. QUALIFICATION TEST PLAN

Level 1 preconditioning was performed in accordance with JEDEC method A113-A for the parts in this qualification. The AH11 and AH22 are processed using the same process flow and are packaged in the same SOIC-8 package, therefore qualification testing done on one part qualifies the entire family of parts.

Stress or Test	Device Hours/ Cycles	Sample Size	Failed Units	Date	Reference Document	Part Tested
High Temp Op Life	80,000	80	0	1999	JESD22 A108	AH22
Accelerated Biased Humidity (HAST)	7,680	80	0	1999	JESD22 A110	AH22
Temperature Cycle	77,000	77	0	2000	JESD22 A104	AH22
Physical Dimensions		10	0	1998		Note 1
Marking Permanency		22	0	1998		
Solderability		5	0	1998	MS883 M2003	Note 1
Lead Integrity		10	0	1998	JESD22 B105	Note 1
Resistance to solvents		12	0	1998		Note 1

Note 1: Tests were done on similar WJ products manufactured at the same assembly location and in the same package.

V. DISCUSSION OF RESULTS

There were no AH22 failures after completing High Temperature Operating Life, HAST, or Temperature Cycle.

VI. CONCLUSIONS

The Reliability Qualification Data demonstrates that the AH11 and the AH22 amplifiers fabricated at the WJ Communications Milpitas facility and assembled in a thermally enhanced SOIC-8 package demonstrate high reliability and quality levels.