AEROSPACE DATA EXCHANGE PROGRAM TRANSMITTAL

PROBLEM ADVISORY

CAES

1. TITLE UT04VS33P, UT04VS50P VOLTAGE SUPERVISOR SMD AND DATA SHEET CORRECTIONS FOR COLD TEMPERATURE OPERATION	**2. DOCUMENT NUMBER** SPO-2018-PA-0002
	3. DATE *(Year, Month, Date)* 2019 JAN 29
4. MANUFACTURER NAME AND ADDRESS CAES 4350 Centennial Boulevard Colorado Springs, Colorado 80907-3486	**5. MANUFACTURER POINT OF CONTACT NAME** Bruce Massey
	6. MANUFACTURER POINT OF CONTACT TELEPHONE (719) 594-8466
	7. MANUFACTURER POINT OF CONTACT EMAIL Bruce.Massey@cobhamaes.com

8. CAGE CODE	9. LDC START	10. LDC END	11. PRODUCT IDENTIFICATION CODE	12. BASE PART
65342	1331 (UT04VS33P)	1815 (UT04VS33P)	**YB10, YB11**	**See Table 1, p.2**
13. BLANK			**14. SMD NUMBER** **5962-13206**	**15. DEVICE TYPE DESIGNATOR** **Microcircuit**
			16. RHA LEVELS **R,F**	**17. QML LEVEL** **Q,V**
			18. NON QML LEVEL **Hi-Rel**	**19. GIDEP NUMBER** **GB4-P-19-002**

20. PROBLEM DESCRIPTION / DISCUSSION / EFFECT

1) Following VDD power-up at cold temperature for the UT04VS33P, the RESET and RESETB signals will not de-assert for some parts. The temperature threshold for this condition was determined to occur at -30°C or colder with a slow power ramp rate of 30ms or longer. A new test parameter (t_{R_VDD}) has been developed and implemented to ensure product with date code 1821 or newer will properly de-assert RESET, RESETB signals down to -55°C with a VDD monotonic power-up voltage ramp of 80ms or less. These findings also apply to the UT04VS50P device by similarity.

2) The Data Sheet and SMD specification documents were determined to need a correction to the limits of the Timeout Period (t_{RP}) electrical parameter which affected the resultant values.

21. ACTION TAKEN / PLANNED

1a) Power supply VDD rise-time (t_{R_VDD}) parameter maximum value of 80ms has been added to both the Data Sheet and SMD electrical parameters. The t_{R_VDD} parameter screen has also been added to the Production Test program. All Production Testing now ensures meeting t_{R_VDD} = 80ms (maximum).

1b) Design Engineering performed circuit analysis on the UT04VS33P in an attempt to reproduce the anomalous cold start behavior via simulations. However, simulation results did not show anything unusual under the same or similar conditions as in the actual measurements. This (null) result may be due to the subtle nature of the underlying issue, such as 2nd or 3rd order effects, for example. The newly implemented Production Tests will effectively screen out any discrepant parts going forward independent of these simulation results. These findings also apply to the UT04VS50P device by similarity.

22. DISPOSITIONARY RECOMMENDATION:	CHECK & USE AS IS ☐	CONTACT MANUFACTURER ☐	REMOVE & REPLACE ☐	CORRECT & USE AS SPECIFIED ☒

23. ADEPT REPRESENTATIVE	24. SIGNATURE	25. DATE
Robert Polk		**2019 FEB 26**

2) The Timeout Period (t_{RP}) electrical parameter minimum and maximum values have been updated for both the Data Sheet and SMD electrical parameters as follows: a) CRESET=0pF (open): Minimum: from 37µs to 42µs; Maximum: from 170µs to 158µs, b) CRESET=65pF: Minimum: from 100µs to 103µs; Maximum: from 283µs to 387µs. The Production Test program was updated to reflect these new limits.

Table 1. Affected Part Numbers

SMD Number	Part Number
5962R1320601QXC	UT04VS33PQXC
5962F1320601QXC	UT04VS33PQXC
5962R1320601Q9A	UT04VS33P-Q-DIE
5962F1320601Q9A	UT04VS33P-Q-DIE
5962R1320601VXC	UT04VS33PVXC
5962F1320601VXC	UT04VS33PVXC
5962R1320601V9A	UT04VS33P-V-DIE
5962F1320601V9A	UT04VS33P-V-DIE
5962R1320602QXC	UT04VS50PQXC
5962F1320602QXC	UT04VS50PQXC
5962R1320602Q9A	UT04VS50P-Q-DIE
5962F1320602Q9A	UT04VS50P-Q-DIE
5962R1320602VXC	UT04VS50PVXC
5962F1320602VXC	UT04VS50PVXC
5962R1320602V9A	UT04VS50P-V-DIE
5962F1320602V9A	UT04VS50P-V-DIE