Product Alert Notification (PAN)

Subject: Product Alert – Product HS0-4080AEH & HS9-4080AEH
Publication Date: 2/16/2024

Revision Description:
Initial Release

Product Alert Notification: Product shipped without correct testing of the Charge Pump Output Voltage per SMD.

Renesas shipped product without correctly testing the Charge Pump Output Voltage parameter in the SMD. Product was specified to have min/max values of 11.3 / 13.3V respectively per the SMD, but the testing program did not have sufficient settling time required for the test to correctly register a value. All product shipped since product was launched was tested on this erroneous test program and therefore compliance cannot be verified for this Charge Pump Output Voltage parameter. See below Table 1 for the full list of impacted products.

Renesas Part #	DLA SMD Part #
HS0-4080AEH-Q	5962F9961702V9A
HS0-4080AEH/SAMPLE	NA
HS9-4080AEH-Q	5962F9961702VXC
HS9-4080AEH-QS2793	5962F9961702VXC
HS9-4080AEH/PROTO	NA

Table 1. Affected product list.

All product shipped to date did not have the Charge Pump Output Voltage tested correctly due to an error in the testing program. When tested correctly with sufficient settling time, the product fails the Charge Pump Output Voltage spec in the RevD SMD. The corrective action is twofold;

1) Update the test program to include sufficient settling time. Implemented on 9/19/23. All product tested after 10/17/23 uses the corrected program. All product shipped prior to this date cannot guarantee compliance for the Charge Pump Output Voltage parameter.
2) Update the SMD to reflect the products actual performance for the Charge Pump Output Voltage parameter when tested correctly. The updated SMD is RevE and was released Dec 15, 2023. RevF added a single note (4) at bottom of Table IA on sheet 11, and was released Feb 01, 2024.

See Table 2 below for the updated SMD revision information.

Renesas Part #	DLA SMD Part #	SMD		Change Description
		Old Rev#	New Rev#	
HS0-4080AEH-Q	5962F9961702V9A	D	F	See Appendix A
HS0-4080AEH/SAMPLE	NA	NA	NA	NA
HS9-4080AEH-Q	5962F9961702VXC	D	F	See Appendix A
HS9-4080AEH-QS2793	5962F9961702VXC	D	F	See Appendix A
HS9-4080AEH/PROTO	NA	NA	NA	NA

Table 2. SMD revision summary for products impacted.

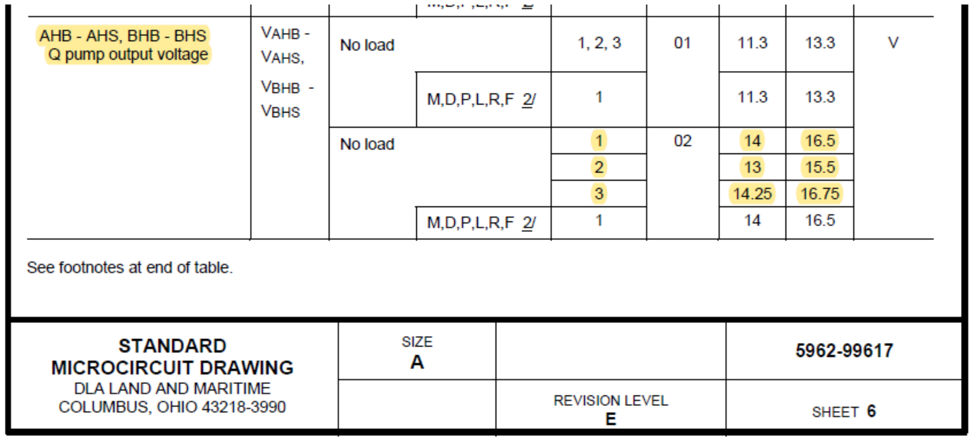
A full 8D reporting is available upon request.

Customers wishing to return impacted products should contact their distributor or Renesas Customer Sales team for coordination. Renesas apologizes for the inconvenience caused due to this event.

Appendix A. Description of changes to the SMD for all products impacted.

Parameter	From	To	Description	SMD Page
AHB -AHS, BHB – BHS Q Pump output Voltage	Device Type 1 and 2 MIN: 11.3V MAX: 13.3V	Device Type 2 Group A Subgroup 1 Min: 14V Max 16.5V Group A Subgroup 2 Min: 13V Max 15.5V Group A Subgroup 3 Min: 14.25V Max 16.75V	ADDED Parameter Conditions and updated values	6
Fall Time	Device Type 1 and 2 MAX: 60ns	Device Type 2 MAX: 80ns	UPDATED Upper Spec	10
Upper Turn On Propagation Delay (+IN / -IN to BHO)	Lower Turn On Propagation Delay (+IN / -IN to BHO)	Upper Turn On Propagation Delay (+IN / -IN to BHO)	RENAMED Parameter	10

SMD Rev E changes highlighted Pg 6.

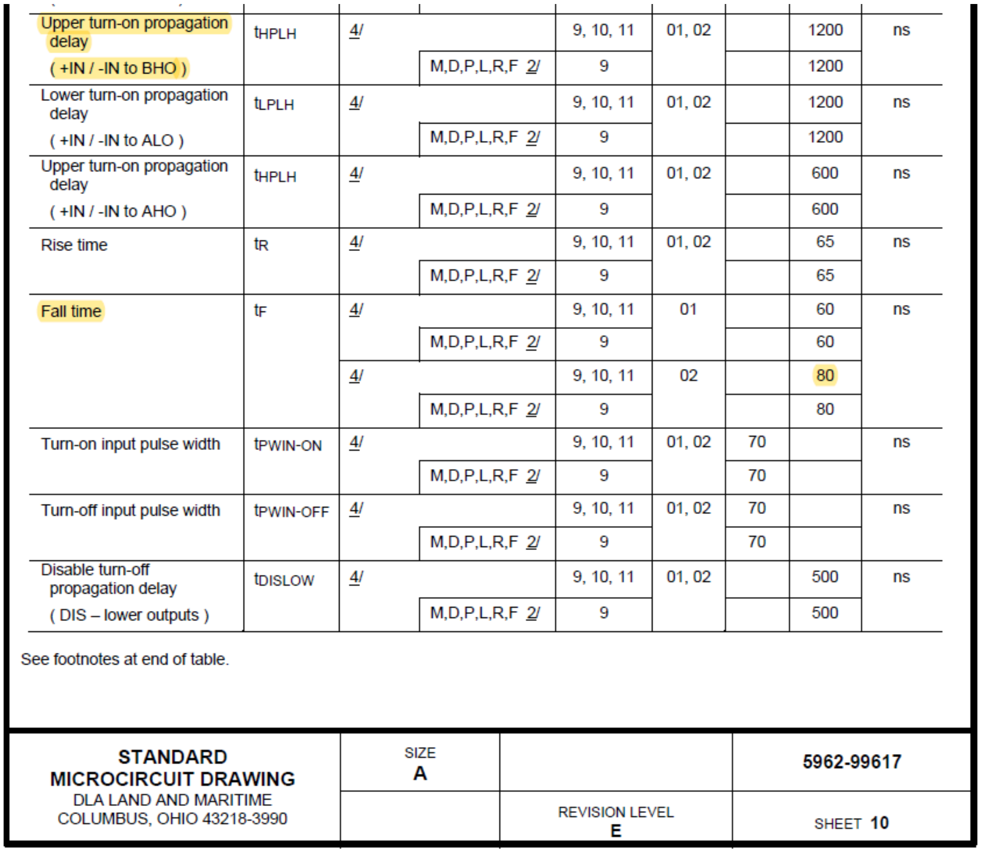


AHB - AHS, BHB - BHS Q pump output voltage	VAHB - VAHS, VBHB - VBHS	No load		1, 2, 3	01	11.3	13.3	V
			M,D,P,L,R,F 2/	1		11.3	13.3	
		No load		1	02	14	16.5	
				2		13	15.5	
				3		14.25	16.75	
			M,D,P,L,R,F 2/	1		14	16.5	

See footnotes at end of table.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE **A**		**5962-99617**
		REVISION LEVEL **E**	SHEET **6**

SMD Rev E changes highlighted Pg 10.



Upper turn-on propagation delay (+IN / -IN to BHO)	t_{HPLH}	4/		9, 10, 11	01, 02		1200	ns
			M,D,P,L,R,F 2/	9			1200	
Lower turn-on propagation delay (+IN / -IN to ALO)	t_{LPLH}	4/		9, 10, 11	01, 02		1200	ns
			M,D,P,L,R,F 2/	9			1200	
Upper turn-on propagation delay (+IN / -IN to AHO)	t_{HPLH}	4/		9, 10, 11	01, 02		600	ns
			M,D,P,L,R,F 2/	9			600	
Rise time	t_R	4/		9, 10, 11	01, 02		65	ns
			M,D,P,L,R,F 2/	9			65	
Fall time	t_F	4/		9, 10, 11	01		60	ns
			M,D,P,L,R,F 2/	9			60	
		4/		9, 10, 11	02		80	
			M,D,P,L,R,F 2/	9			80	
Turn-on input pulse width	$t_{PWIN-ON}$	4/		9, 10, 11	01, 02	70		ns
			M,D,P,L,R,F 2/	9		70		
Turn-off input pulse width	$t_{PWIN-OFF}$	4/		9, 10, 11	01, 02	70		ns
			M,D,P,L,R,F 2/	9		70		
Disable turn-off propagation delay (DIS – lower outputs)	t_{DISLOW}	4/		9, 10, 11	01, 02		500	ns
			M,D,P,L,R,F 2/	9			500	

See footnotes at end of table.

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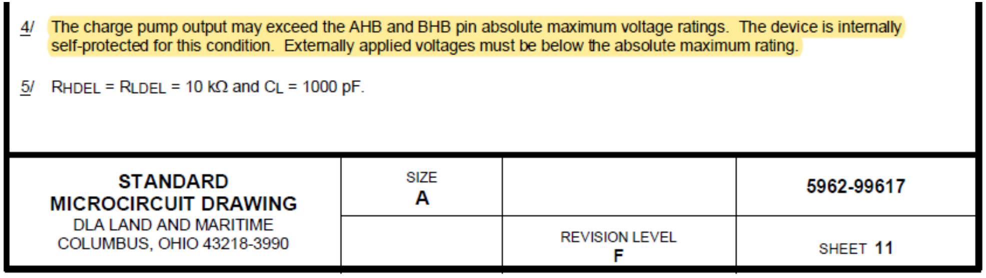
SMD Rev F changes highlighted Pg 11



4/ The charge pump output may exceed the AHB and BHB pin absolute maximum voltage ratings. The device is internally self-protected for this condition. Externally applied voltages must be below the absolute maximum rating.

5/ $R_{HDEL} = R_{LDEL} = 10\ k\Omega$ and $C_L = 1000$ pF.

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