1. Type of Change (Major or Minor)

Major

2. Change Description

a) Low-level output voltage (V_{OL}), I_O = 1mA, V_{CC}Y = 1.65 to 5.5 V. Change max limit from 0.1V to 0.15V.

b) Note added to datasheet detailed description indicating potential of higher current if outputs are not weakly biased during tri-state condition.

The following note was added to the datasheet detailed description:

Note: During tri-state, the application must ensure that the output pins are either held or switched to logic high or logic low levels i.e. close to V_{CC} or GND, otherwise increased supply current can occur.

3. Impact on Product and/or Process

a) Limit increase for V_{OL} will prevent marginal yield loss during high temperature testing.

b) No product/process impact.

4. Justification for Change

a) Adjust limits to accurately reflect device v_{OL} drive capability at 1ma loading.

b) Accurately reflect device behavior.

5. Change Risk Assessment

a) Minimal to no impact to customer use case. New limit meets standard V_{IL} thresholds with significant margin at minimum operating $V_{CC.}$

b) Customers utilizing tri-state condition will need to evaluate the need to place weak pull-ups or pull downs on bus if not biased by other sources.

6. Qualification Plan

Not required

7. Qualification Report

Not applicable

8. Summary

See Change description

9. Impacted Device - Document - Process List

AP54RHC506ELT, AP54RHC506ALT, AP54RHC506BLT, AP54RHC506CLT

10. Sample Availability Date and Projected Production Shipment

a) **Sample availability date:** N/A. Please contact Apogee for samples if needed.

Projected production shipment date: December 24, 2024 or upon PCN approval.

b) Informational notification. No change to material or testing.

11. File Attachment

Not applicable.