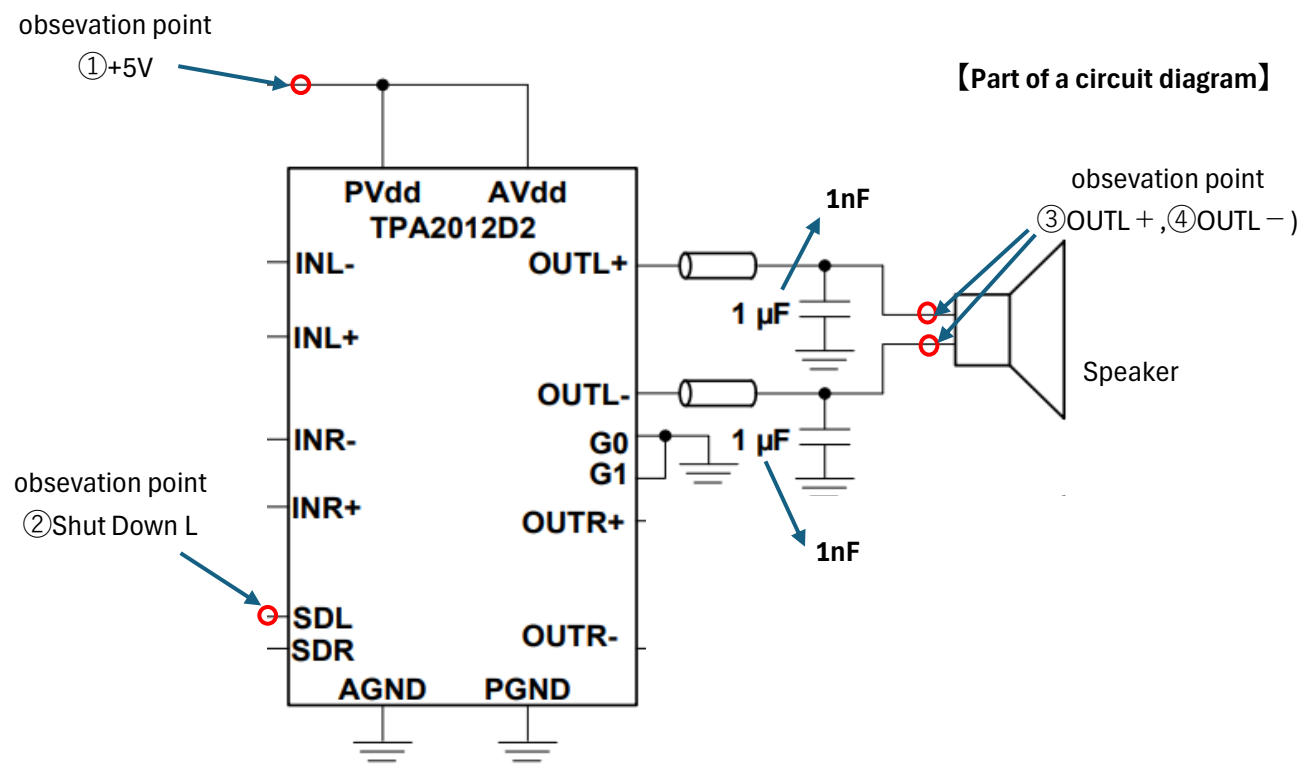


Cause of AudioAMP : TPA2012D2 (TI) OUTL± output OFF behavior

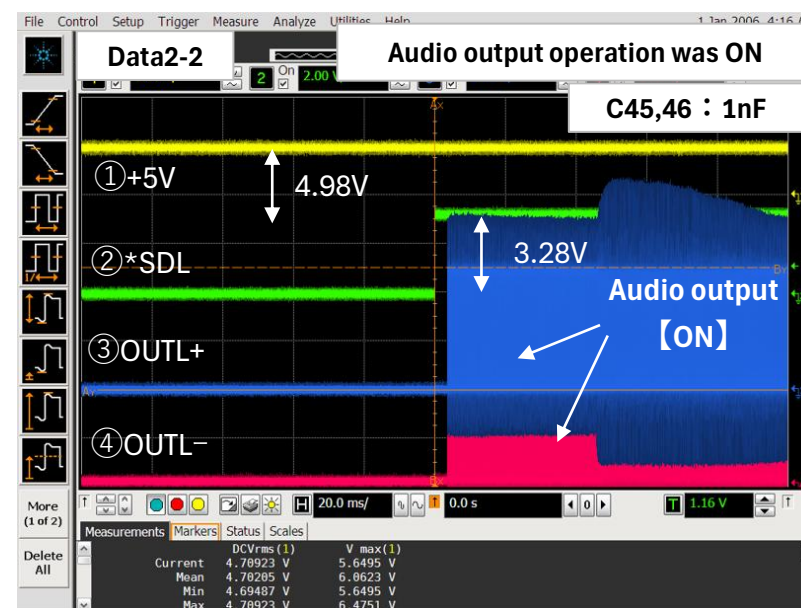
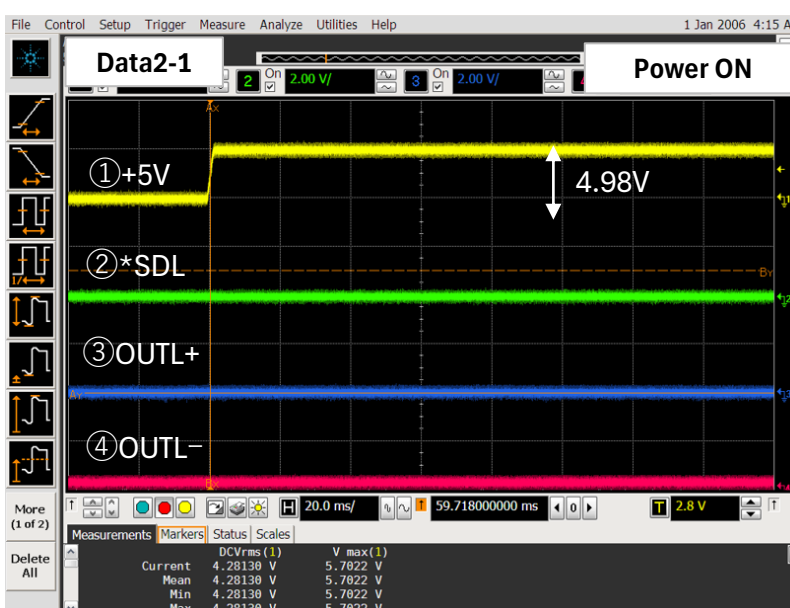
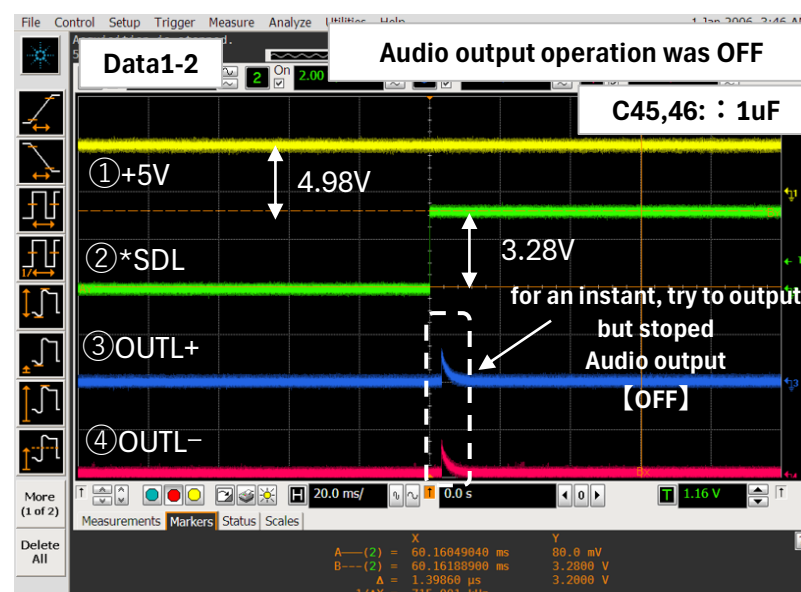
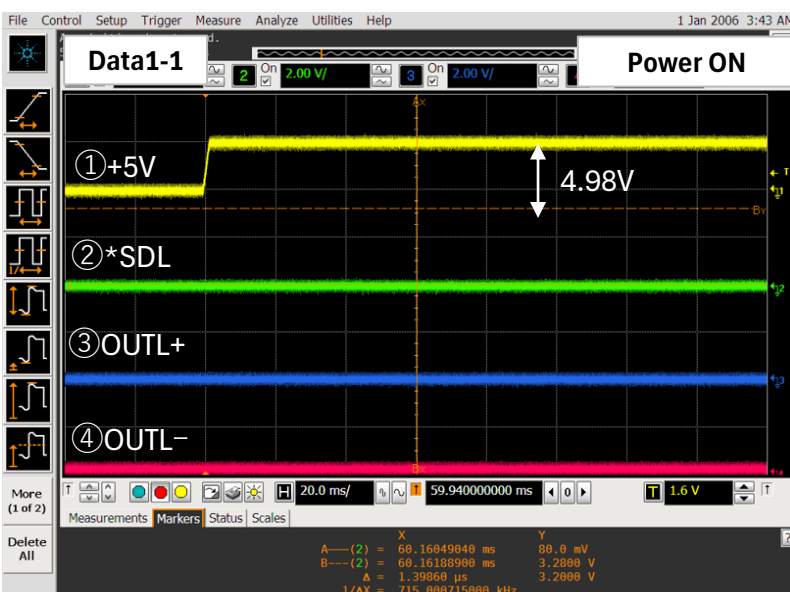
• Purpos : To research the cause of AudioAMP(TPA2012D2) OUTL± output OFF by observation of osilloscope.

• Device: https://www.ti.com/lit/ds/symlink/tpa2012d2.pdf?ts=1768890317505&ref_url=https%253A%252F%252Fwww.ti.com%252Fproduct%252FTPA2012D2

• Approach : Following the circuit diagram, To research the cause of Audio AMP OUTL± output OFF by comparing between NG operating waveform and OK.



• Result



According to the result, the signal of OUT+, OUT- and Audio output behavior was bellow.

- 1) At Data1-2, Audio output became OFF by mounting 1[µF] ceramic capacitor on LC filter. (try to output but stopped.)
- 2) At Data2-2, Audio output became ON by mounting 1[nF] ceramic capacitor on LC filter.

• Question

At above Data1-2, for an instant Audio operation seem to try to output but stopped.

At above case, is there a possibility that cause TPA2012D's Short Circuit Protection was effected ?

Do you have any idea about cause of AudioAMP(TPA2012D2) OUTL± output OFF?

TPA2012D2 has Short circuit protection. (This is a part of the datasheet of TPA2012D.)

9.3.2 Short-Circuit Protection

TPA2012D2 goes to low duty cycle mode when a short-circuit event happens. To return to normal duty cycle mode, the device must be reset. The shutdown mode can be set through the SDL and SDR pins, or the device can be turned off and turned on to return to normal duty cycle mode. This feature protects the device without affecting long-term reliability.