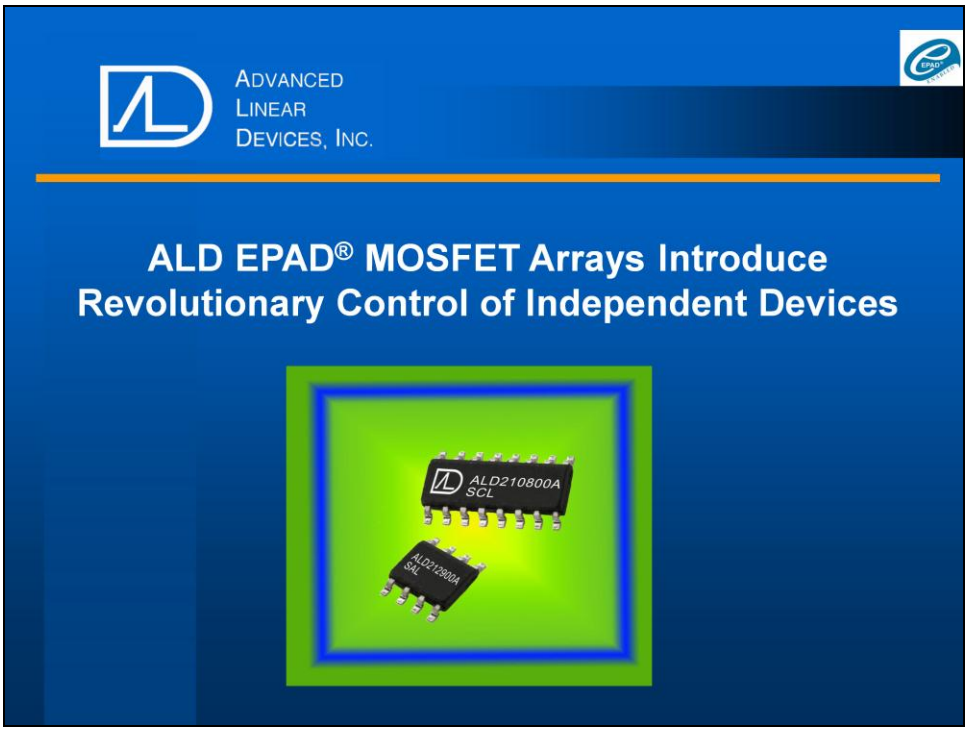
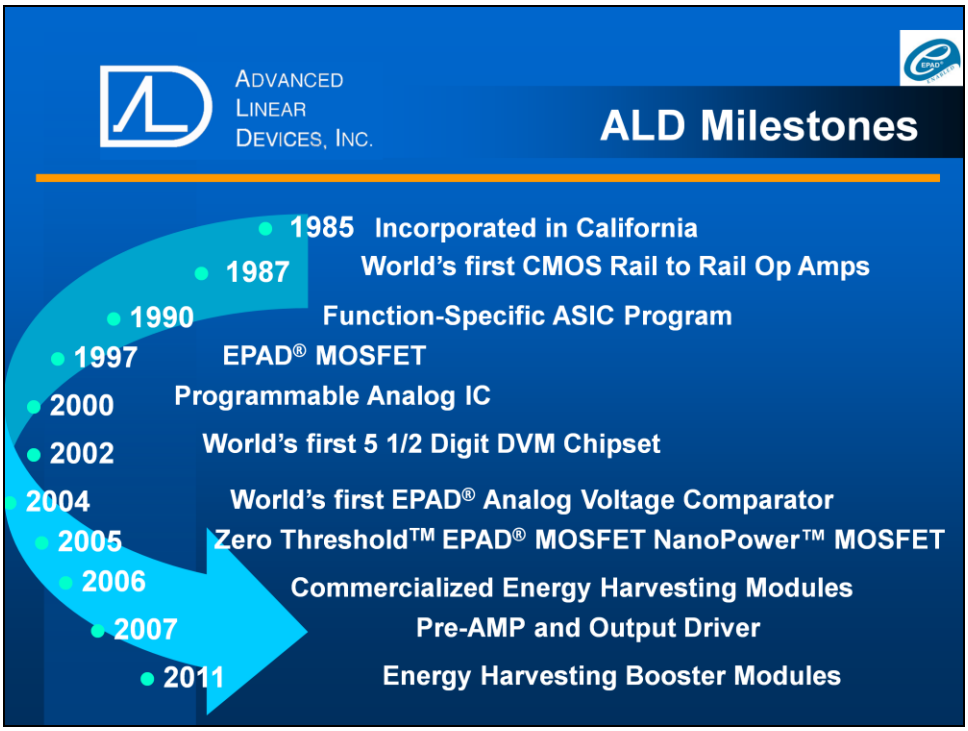
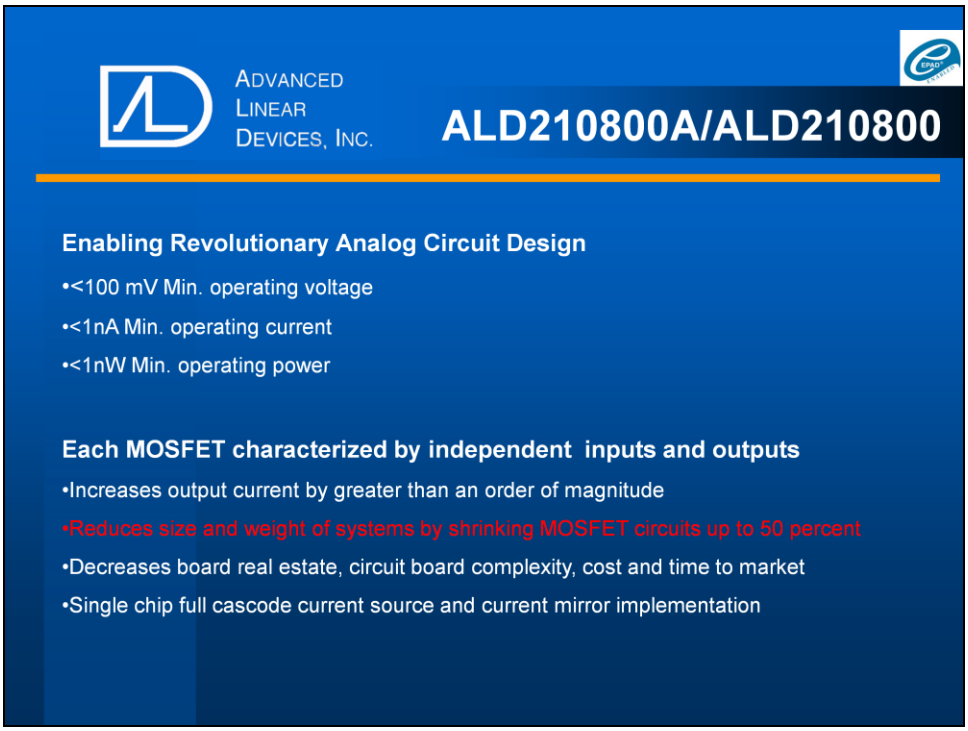


Today we are announcing our high precision N-channel Precision MOSFET. The part has a new infrastructure operation.



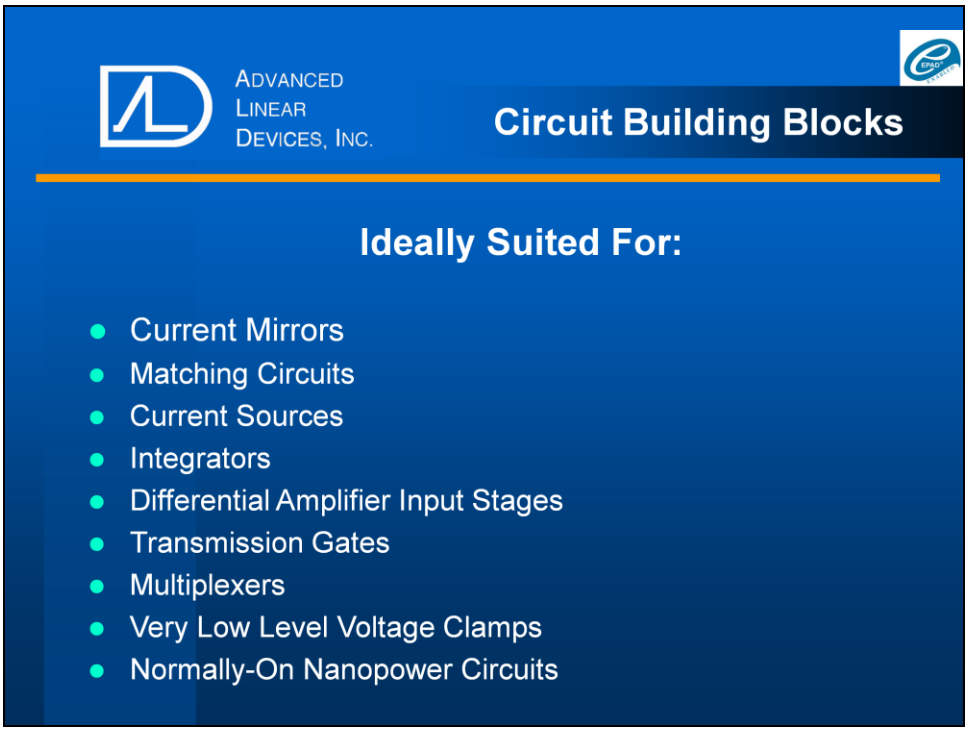
ALD has invented and released many industry firsts in analog semiconductors.

This is the industry's first quad device with 4 fully independent individual device each with separate S, D, G terminals and controls. This provides unprecedented flexibility.

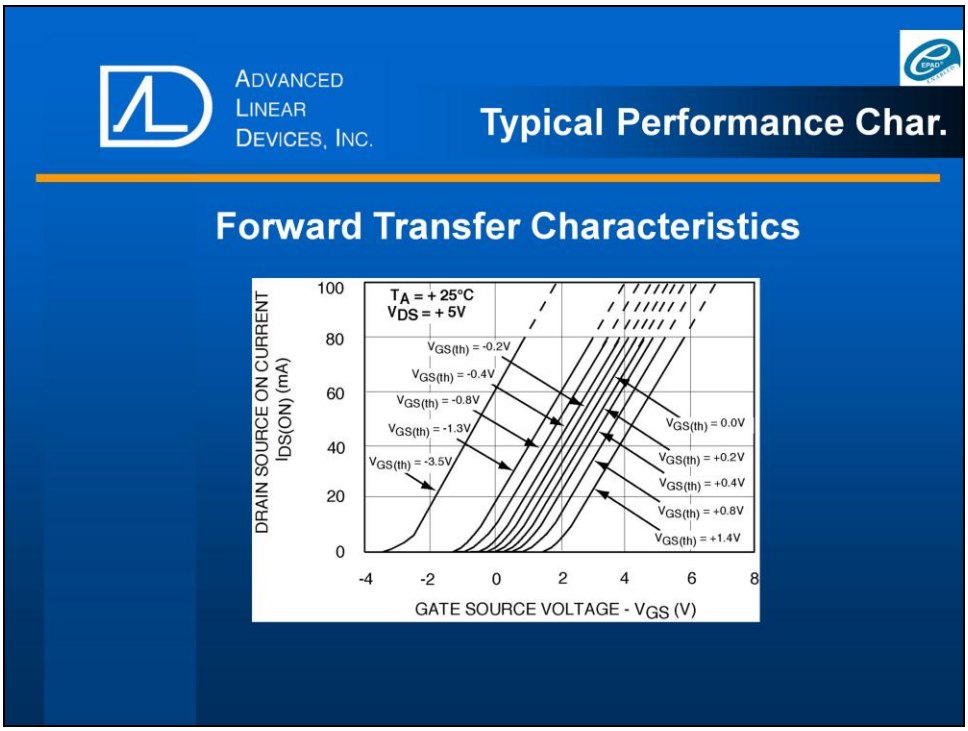


This new device is a technology enabler that enables a new level of precision and control, which is now possible. Many new types of products can now be developed. A few key features point towards greatly expanded ranges inside the circuit.

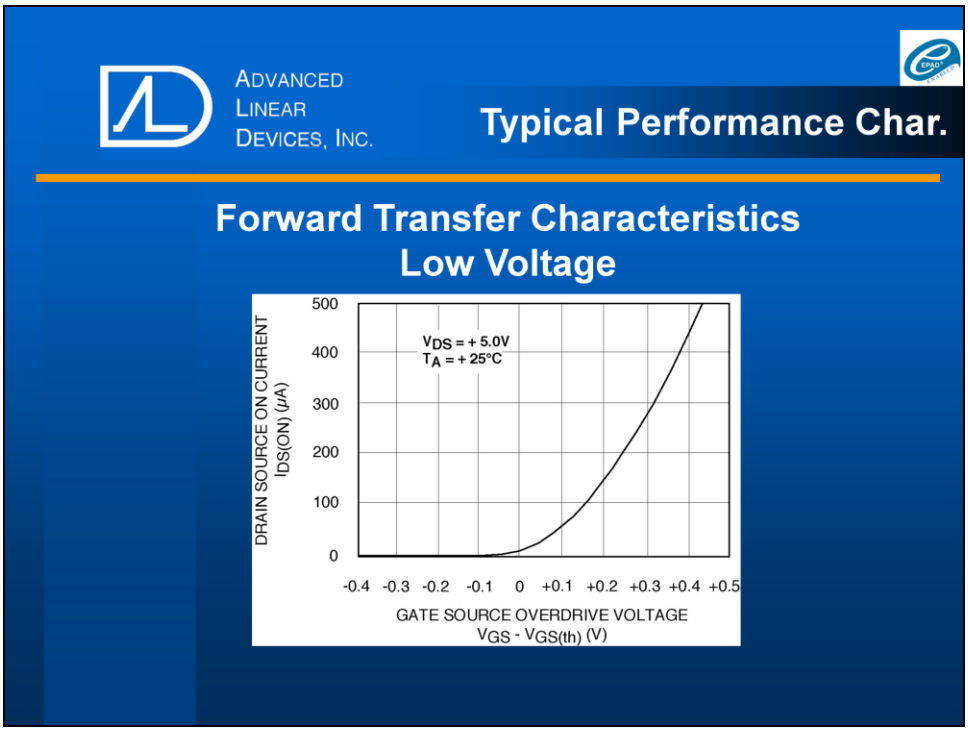
Key points for this device are reduced operating voltages, reduced power consumption, and increased precision for all of the above.



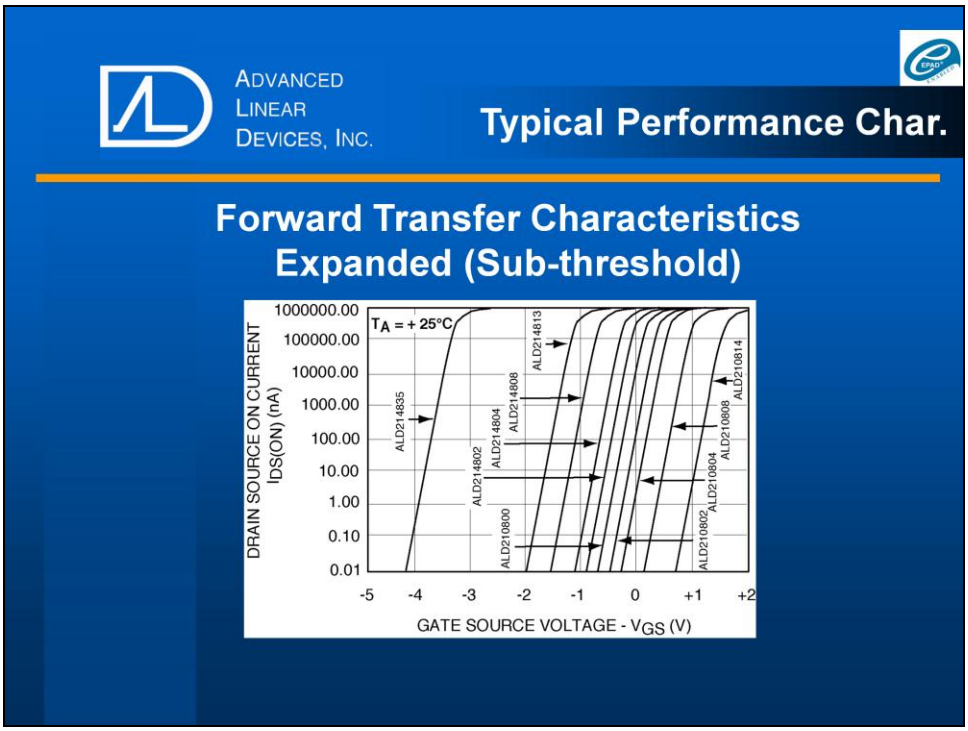
Many of these circuits have been built before, but not with the low voltage, low current ranges, and the precision this new MOSFET brings.



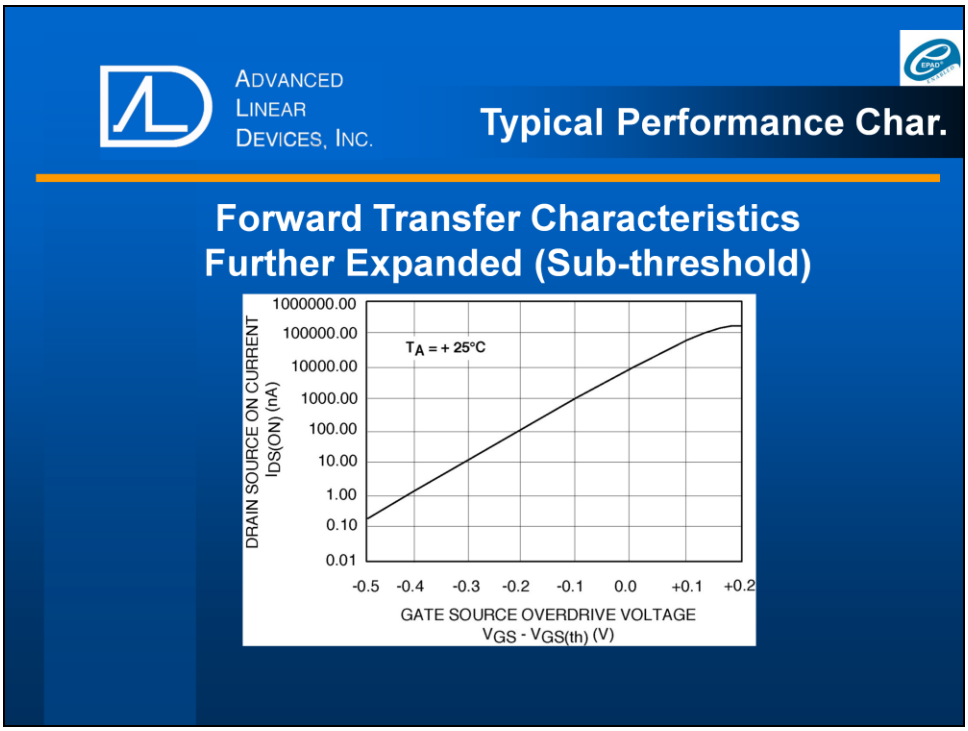
Here is a typical IDS (output) vs VGS (input) curve for this MOSFET product family. The vertical scale current range on this graph goes from 0 to 100 mA and gate voltage range goes from -4V to +8V (horizontal scale).



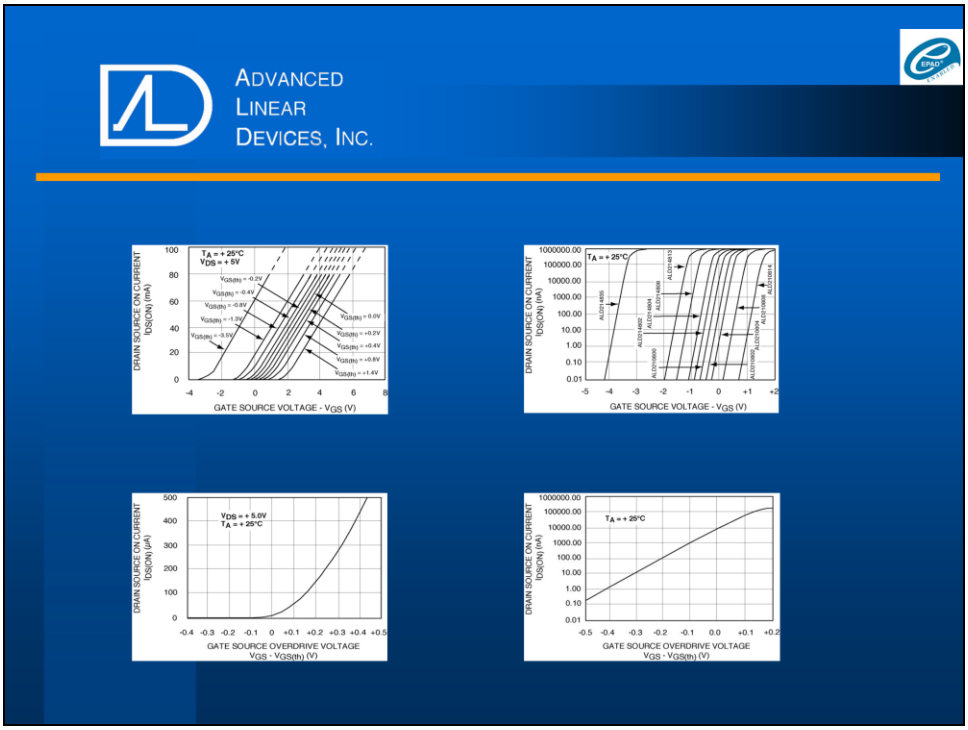
The same IDS vs. VGS curve at a low drain current range and low gate voltage range. Vertical scale is 0 to 500µA, horizontal scale is -0.4V to +0.5V.



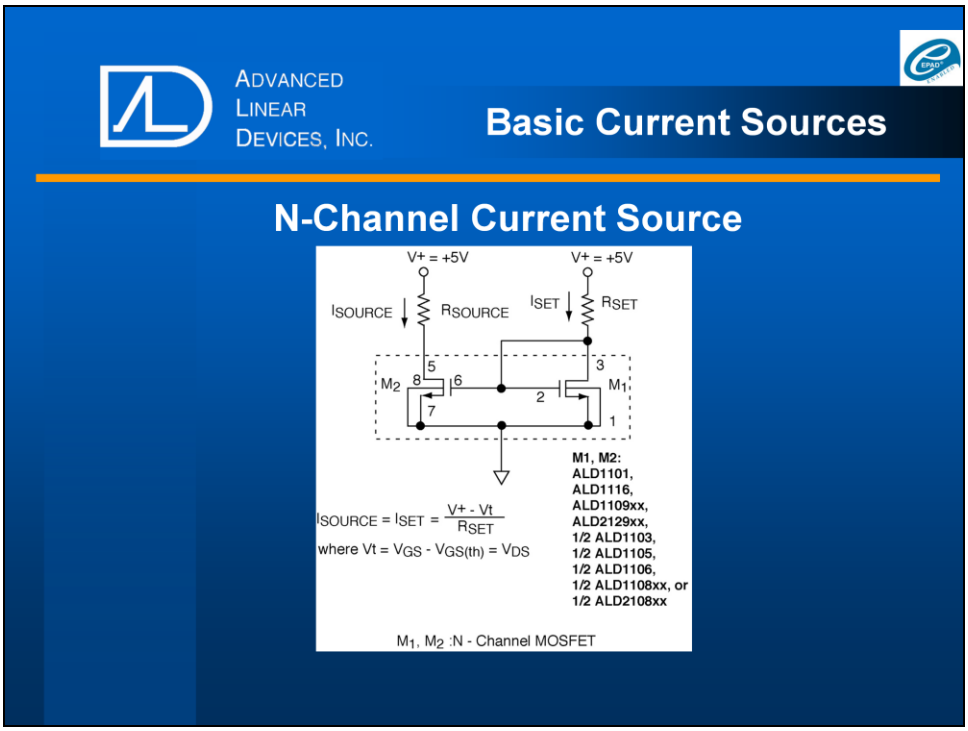
Looking closer at the IDS vs.VGS curve but with a log drain current vertical axis and linear horizontal gate source voltages, the vertical axis is now from 0.01nA or 10pA, to 1,000,000 nA which translates into 1.0mA which is a tiny part of the first curve. This current range spans over eight orders of magnitude.



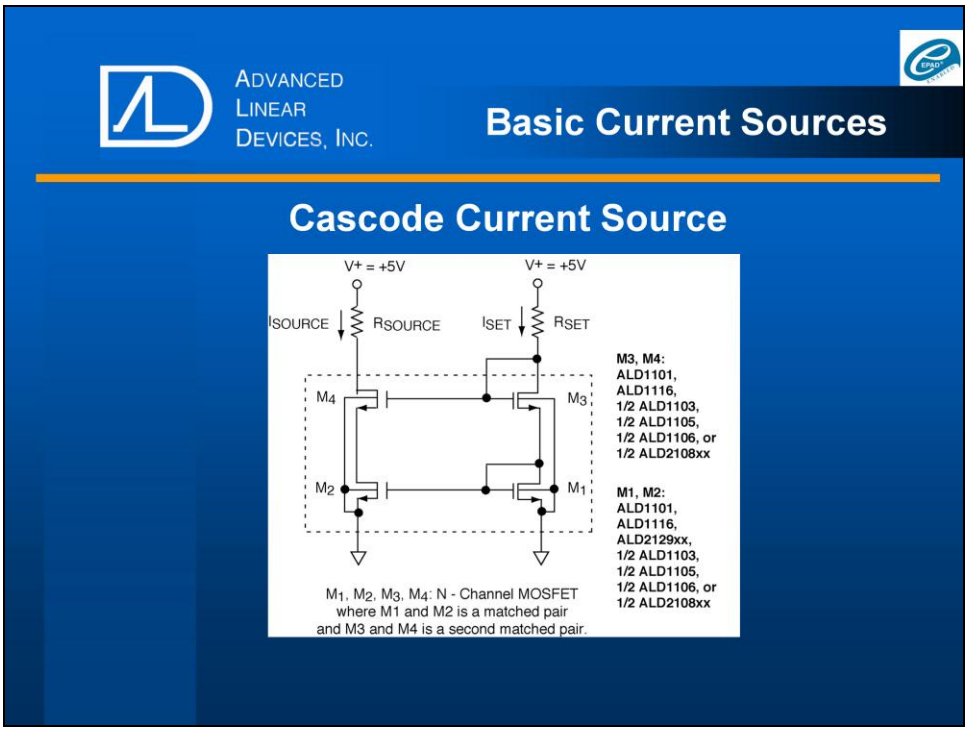
This graph describes exactly the same device and the same IDS current vs. VGS gate voltage relationship, except on a different horizontal unit scale. This gives yet another curve that looks different from the previous graphs.



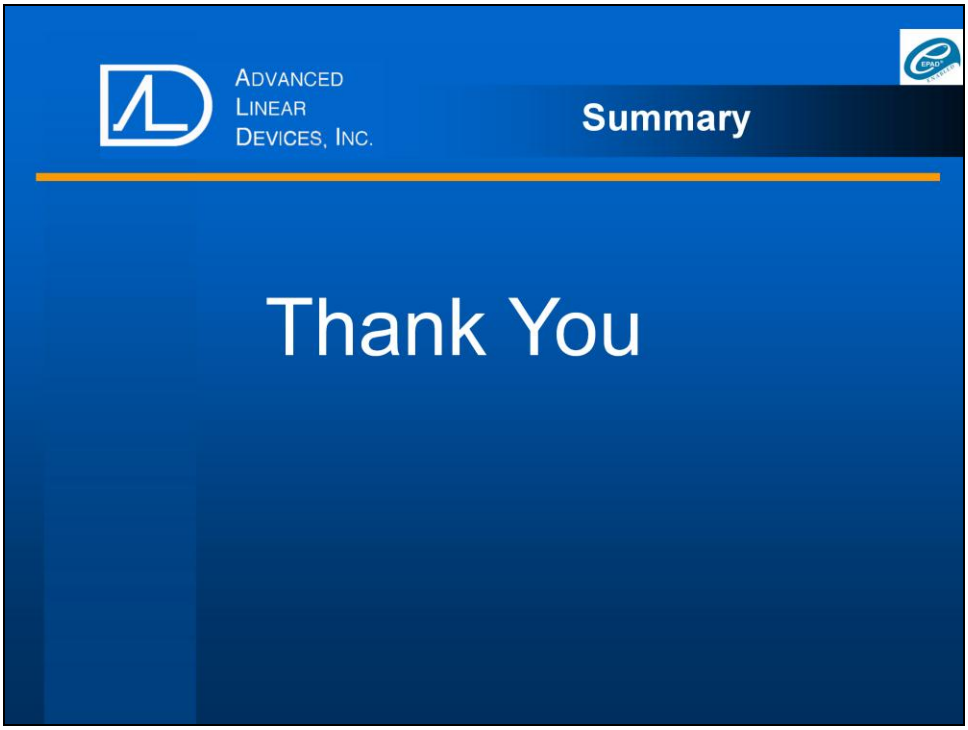
This slide shows the four previous curves together and that the ALD210800 product has a truly huge dynamic current range, as well as the fine further expanded (sub-threshold) transfer characteristics.



This is a simple circuit, with a basic current source and actual useful current and voltage range varies according to the device used. The new devices enable new specs. It offers absolute low currents involved at the voltage and precision.



A full cascode current source can also be built with further expanded specs. The entire circuit can be operated in deep sub-threshold mode.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Thank You