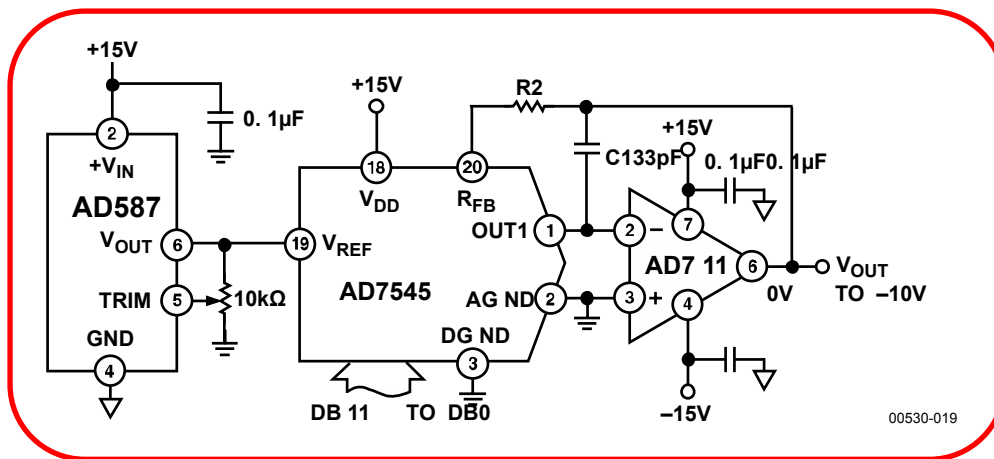
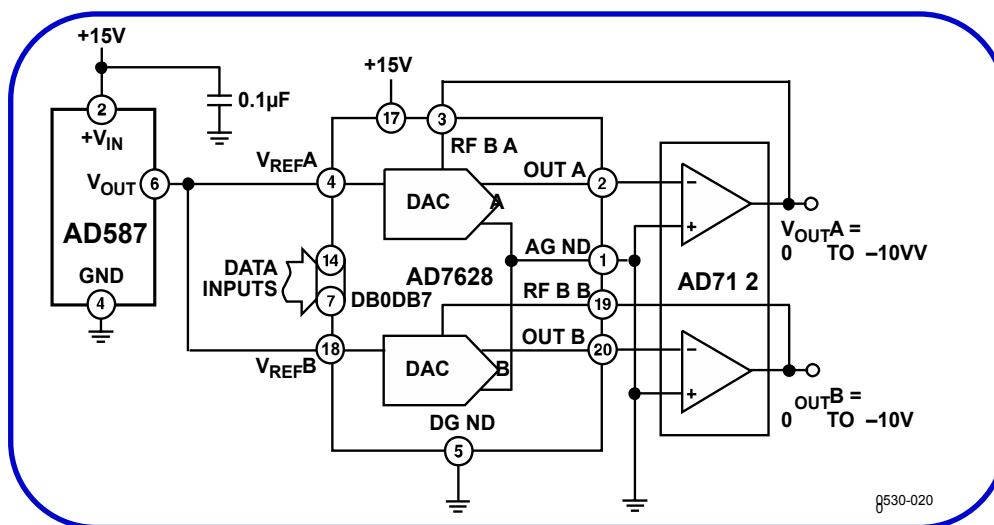


The AD587 can also be used as a precision reference for multiple DACs:



uni-polar, or:



bi-polar

OP-AMP SELECTION

In choosing an amplifier to be used with the AD7535, three parameters are of prime importance. These are (1) Input Offset Voltage (V_{OS}), (2) Input Bias Current (I_B), (3) Offset Voltage Drift ($TC V_{OS}$). To maintain specified accuracy with V_{REF} at 10V, V_{OS} must be less than 30μV while I_B should be less than 2nA. It is important that the amplifier Open Loop Gain, A_{VOL} , be sufficiently large to keep V_{OS} — 30μV for the full output voltage range. For a maximum output of 10V, A_{VOL} must be greater than 340,000.

The AD OP-07 series of op-amps have a very low V_{OS} (25μV) and can be used as the output amplifier for the AD7535 without any external adjustment of Offset Voltage. In the Forced Ground configuration of Figure 6, one can use an AD OP-07 for amplifier A2. Settling time to 0.003% for the AD OP-07 is typically greater than 50μs.

For faster settling time, one can use the AD544 series of op amps. Typically this settles to 0.003% (14-bits) in 5p.s. Even faster settling time can be achieved using the HA-2620 series of op-amps.

For operation over a wide temperature range Offset Voltage

Drift and Bias Current Drift are critical parameters. The OP-27 and OP-37 series of op-amps exhibit extremely low Offset Voltage Drift and the AD544 has very low Bias Current Drift.