fortunately, is difficult for users to change, can also have a substantial effect on distortion. Degradation arises from the fact that, with a standard SO-8 pinout, the negative power supply resides directly next to the noninverting input of the amplifier (**Figure 9**). When current sinks into the amplifier, it winds up flowing out of the negative supply. This current, dI_{S-}, creates a magnetic field, B, which couples the negative-supply pin to the noninverting input. Coupling these two pins can induce error current, dI_{IP}, in the noninverting input.

Lenz's Law states that the direction of this current is opposite to the field that created it. This error current, in turn, produces an error voltage, which appears during half of each cycle, because $-V_S$ provides load current only half the time. This situation creates an asymmetry in the output voltage and results in degraded even-ordered distortion. Some amplifiers feature a rotated pinout that moves the negative-supply pin away from the noninverting input (**Figure 10**).

Users will most likely see the effect that package pinouts can have on distortion when driving a low-impedance load. This scenario occurs because the amount of current flowing is greater, thereby making dI_{S-} greater (**Figure 11**). Increasing the closed-loop gain of the system makes the error appear larger at the output, but it may not incrementally degrade distortion, because a decrease in loop gain has already caused degradation.□

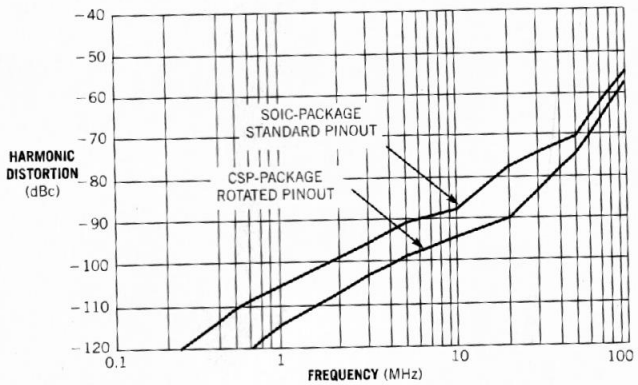

Figure 11 **Your choice of pinout can notably affect second-order harmonic distortion.**

AUTHOR'S BIOGRAPHY

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