

Monolithic digital coupler is small but intense

WHEN YOU NEED to get a digital-logic signal from Point A to Point B without physical connection for either safety or performance reasons, you can use a galvanically isolated coupler based on capacitive, magnetic, or optical techniques. The IL6xx family of IsoLoop couplers from NVE Corp uses the GMR (giant-magnetostrictive) principle at its core, with single- and dual-channel models. These couplers are the first available in die form, according to the vendor,

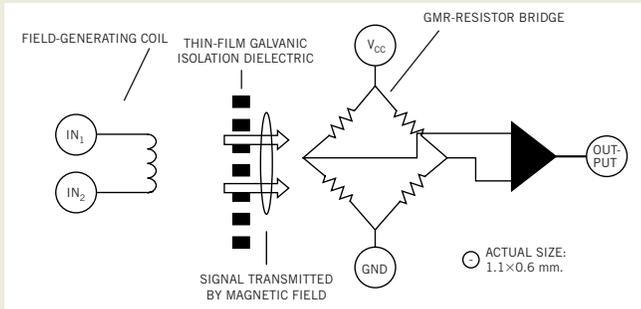
so you can use them in hybrid and similar packaging techniques. The single-channel version measures 1.1×0.6 mm, and the two-channel version measures 3×3 mm.

The devices support a 40-Mbps data rate and feature 20-nsec typical propagation delay and 10-nsec delay skew. Partially due to the passive front end, which NVE based on a field-generating coil, power dissipation is only 1.4 mA at 3.3V and 2.5 mA at 5V, and input-threshold current is 10 mA. Isolation

is 2500V rms for one minute; the devices operate at -40 to $+85^\circ\text{C}$. They come in CMOS-compatible and open-drain output styles. The single- and dual-channel couplers sell for \$1.35 and \$1.98 (1000), respectively.

—by Bill Schweber

► NVE Corp, 1-952-829-9217, www.nve.com.



Get your digital signal's point across without touching, using the GMR-based IsoLoop IL6xx monolithic couplers, which offer a 40-Mbps rate with 2500V rms isolation.