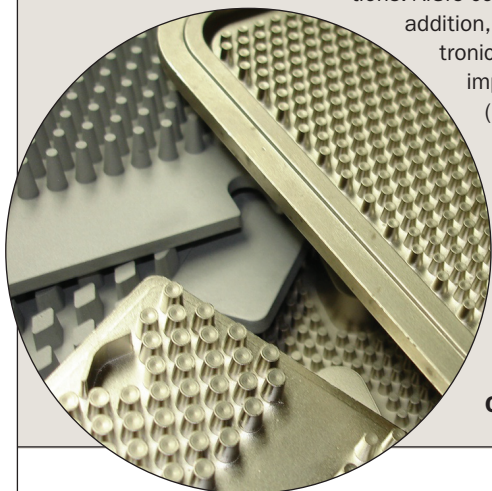


NEW PRODUCTS

PIN-FIN COOLERS FOR HEV IGBTs

CPS Technologies

offers aluminum-silicon-carbide (AlSiC) metal-matrix composite pin-fin substrates for liquid-cooled high-power module systems used in hybrid electric vehicle (HEV) applications. Liquid cooling is an effective way to dissipate heat from 1 kW to 2 kW in HEV power module applications. AlSiC coolers cost-effectively provide the pin-fin geometries that are required for liquid cooling. In addition, AlSiC coolers provide an isotropic thermal expansion that is compatible with device/electronic substrate to reduce mechanically induced stresses during power thermal cycling for improved electronics and module reliability. The AlSiC device compatible thermal expansion (8 ppm/°C) simplifies IGBT assembly over Cu pin-fin coolers, eliminating the need for stress compensation layers that increase thermal resistance and assembly complexity and cost over the higher thermal expansion Cu (17 ppm/°C). AlSiC is a lightweight material (one-third that of Cu), which makes it an ideal cooler material for the weight-sensitive HEV application. AlSiC also has higher strength and stiffness than Cu, which, combined with its lightweight nature, makes AlSiC coolers more tolerant to shock and vibration. The CPS AlSiC fabrication process efficiently produces both the composite material and fabricates the product geometry in one process step. CPS can work with customers to provide designs that are fabricated to shape, requiring no finished machining for cost-effective cooler production.



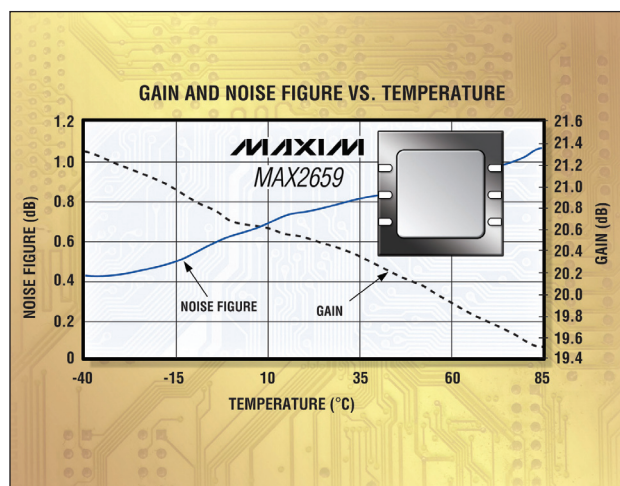
CPS Technologies • (508) 222-0614 • www.alsic.com

GPS/GALILEO/GLONASS LNA

Maxim Integrated Products' MAX2659 is a high-gain, low-noise amplifier (LNA) for GPS, Galileo and GLONASS applications. Designed using Maxim's advanced, low-power SiGe BiCMOS process, this device achieves a very high 20.5 dB gain and a noise figure of 0.8 dB, while providing an input-referred 1 dB compression point and third-order intercept point at -12 dBm and -2 dBm, respectively. The device is ideal for a wide range of low-cost consumer applications, including automotive navigation. The device operates from a +1.6 V to +3.3 V single supply and consumes only 4 mA. To further maximize battery life, it reduces the supply current to less than 1 μ A in shutdown mode. Available in a 1.5 mm x 1.0 mm x 0.75 mm, leadless, 6-pin microDFN package, the MAX2659 is fully specified over the -40 °C to +85 °C temperature range.

Prices start at \$0.70 for 1000 pieces.

Maxim Integrated Products • (408) 737-7600 • www.maxim-ic.com



REAR-VIEW CAMERA PROCESSOR

VI Micro's VC0702 is a low-power TV camera processor for automotive rear-view cameras. Vehicle rear-view camera systems are required to work well and be stable throughout exposure to a wide temperature range and in low-light environments. The VC0702 performs well in both these situations. The device supports CMOS and CCD sensor types. The built-in video DAC can generate either NTSC or PAL video signals. The unit also features a 10-bit image signal processor that performs multiple functions, including: auto bad pixel detection and cancellation, auto flicker detection and cancellation, auto lens-shading compensation, configurable brightness, edge-adaptive CFA interpolation and image post-processing to support size from VGA/CIF to NTSC/PAL or bypass.

VI Micro • (650) 966-1882 • www.vimicro.com



TACTILE-FEEDBACK NAVIGATION DEVICES

CTT-Net's CIN-7000 is a built-in car navigation device that uses Immersion's TouchSense technology to provide tactile feedback for touchscreen interactions. The unit features a seven-inch touchscreen as the primary input/output mechanism, and includes a direct multimedia broadcast (DMB) receiver for accepting satellite downloads. When users touch the onscreen controls, the TouchSense system provides unmistakable tactile confirmation of the selection, which can improve usability. Tactile feedback may also minimize driver distraction by reducing glance-time.

Touchscreens offer significant advantages over dedicated mechanical controls, including immediate and nearly limitless display changes as well as space and cost savings. However, these advantages have traditionally come at the cost of losing confirming tactile feedback, which helps users intuitively understand operational status. TouchSense technology restores this confirming tactile feedback to control surfaces. In addition, independent research has shown that adding tactile feedback to touchscreens can decrease error rates, increase input speed, and raise user satisfaction.

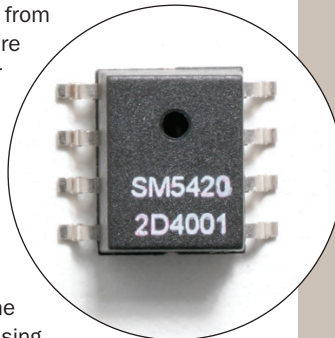
CTT-Net
www.cttnet.co.kr

TIRE PRESSURE SENSOR

The SM5420 SO-8 packaged pressure sensor from Silicon Microstructures is a miniature absolute pressure sensor for high-volume applications such as consumer tire pressure gauges or automotive tire pressure monitoring. The sensor package has a footprint of 0.16 in. x 0.20 in. and is available in ranges from 15 psi to 100 psi. It comes gelled or ungelled and is designed to be surface-mounted on ceramic or PC board substrates by high-volume OEM manufacturers.

The SM5420 is available in a ported configuration to allow positive positioning of a pressure source over the inlet or in a non-ported configuration to be used for sensing general environmental pressures or with an O-ring seal. The port position has been chosen to minimize the chance of pressure pulses directly impacting the face of the sensor die for added long-term reliability in hostile environments.

Silicon Microstructures • (408) 577-0100 • www.si-micro.com



HIGH-PRECISION OP-AMPS

The TS507 from STMicroelectronics is a high-precision op-amp that benefits customers with an ultralow input offset voltage guaranteed over a wide common-mode voltage range. The device is suited for automotive and industrial applications. A trimming technique adjusts the input offset voltage of the TS507 at 100 μ V maximum. This digital method is done after packaging and has the advantage of reducing the device's overall cost by avoiding the use of external components. The TS507 also offers a good precision over the full temperature range through a low input-offset-voltage drift (250 μ V maximum over the range of 0 $^{\circ}$ C to 85 $^{\circ}$ C). In addition to these parameters, the TS507 features very good electrical characteristics such as a high open-loop gain (131 dB typical at 5 V) and a high CMRR of 115 dB typical at 5 V. Other major benefits of the TS507 include low noise and an output-current up to 120 mA in a short-circuit configuration. Internal ESD protection is also extended to 5 kV.

In production now, part numbers TS507ID-TS507IDT (industrial temperature range) and TS507CD-TS507CDT (commercial temperature range) are available in a SO8 ECOPACK package and cost \$0.60 and \$0.50, respectively in quantities of 1000 pieces, while part numbers TS507ILT and TS507CLT come in the SOT23-5 ECOPACK package and cost \$0.60 and \$0.50, respectively.

STMicroelectronics • +41 22 929 29 29 • www.st.com

ACOUSTIC NOISE-CANCELLATION TECHNOLOGY

CSR's third-party software enhancement for its BlueCore-Multimedia platform uses Aurisound's adaptive focus-beam (AFB) technology, intended for Bluetooth in-car hands-free kits, headsets and mobile phones. Using high directivity to remove all sound except the speaker's voice, Aurisound's technology allows CSR's customers to provide high-quality voice-based applications across a variety of Bluetooth-enabled devices. Aurisound's AFB works independently to the noise source. Through the use of a focused directional beam, AFB enables Bluetooth devices to achieve real-time adaptive response to any acoustic environment, with no distortion. AFB provides improved clarity for better voice quality as well as improved intelligibility for voice recognition. The reduction of ambient noise also improves voice-encoding efficiency over a Bluetooth link. In addition, Aurisound's 2-microphone noise-cancellation algorithm uses as few as 10 MIPS and has no restrictions on distance between microphones. Aurisound can provide single- and dual-microphone technologies that offer echo and noise cancellation for a variety of applications.

CSR • (214) 540-4300 • www.csr.com

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NEW PRODUCTS

PC BOARD DESIGN KIT

A design kit from Panasonic and Ansoft is intended for Any Layer Interstitial Via Hole (ALIVH) board for Nexxim, HFSS and Ansoft Designer design tools. The design kit can be used with Panasonic surface-mount technology (SMT) components, such as varistors and common-mode noise filters. Engineers designing high-performance HDMI signal lines can use this design kit to ensure the signal quality of the digital signal content. The kit is equipped with scalable differential and common-mode elements that can be applied in circuit- and system-level simulations to produce realistic waveforms.

Using ALIVH technology, engineers can design circuit boards that are more compact because via holes can be placed in all layers of the board. These compact board designs allow engineers to add greater circuit functionality due to the increased real estate and to shorten the effective trace length for high-speed signal circuits, resulting in greater performance. Lighter weight is achieved by applying non-woven aramid reinforcement and via holes free of copper plating. ALIVH board applications include package substrates, such as multichip modules (MCMs). The Panasonic ALIVH design kit is available in scalable form, allowing users to modify board stack-ups to maximize the performance of PC boards based on the Panasonic ALIVH technology. The design kit is available from Panasonic's web site.

Panasonic • (201) 348-7000 • www.industrial.panasonic.com

TACTILE SWITCHES

BI Technologies' tactile switch offering has been expanded to include a series of devices with a square stem, which has been designated the SWT8 series; and added three additional styles to the sealed product offering designated the SWTW series. The SWT6 series has also been expanded.

The SWTW series of sealed switches has expanded to include the SWTW-S side actuation surface-mount 6.2 mm x 6.2 mm switch; the SWTW-K top actuation through-hole switch in an 8 mm x 8 mm configuration; and the SWTW-R side actuation through-hole switch in an 8 mm x 8 mm

configuration. Available configurations for the SWT8 series (6.2 mm x 6.2 mm with a 2.4 mm and 2.8 mm square stem) include: the SWT8-R side actuation through-hole; the SWT8-V top actuation through-hole; the SWT8-M top actuation surface mount. This switch also includes an expanded number of actuation forces ranging from 100 g to 520 g. Square and round caps are available for the 2.4 mm square stem. The caps, with SWT8-C part number designation, are offered in a variety of colors. Typical pricing for these tactile switches is \$0.06 to \$0.15, depending on quantity.

BI Technologies

(714) 447-2300

www.bitechnologies.com

