



CHANNEL MICROELECTRONIC

LINE CARD

2024



TIMING DEVICES



CRYSTAL UNITS:

- Low / Medium & High-Frequency
- SMD-Types
- Cylinder-Types
- Clock-Crystals

OSCILLATORS:

- Low / Medium & High-Frequency
- Low Jitter
- Spread Spectrum
- Resonators / Filters (SAW)
- Programmable (PLL)
- Voltage Controlled (VCXO)
- Temp. Compensated (TCXO)
- Multi Output

RTCs:

- EPSON Crystal built-in
- 3 Wire-Serial
- 4 Wire-Serial
- 4bit Parallel
- Smallest Size: 3.2 x 2.5 mm
- Event Detection
- Interrupt Output
- Alarm Interruption
- Auto Repeat weakup timer interruption
- Self-monitoring interruption

PROGRAMMING SERVICE:

- PLL Technology
- Spread Spectrum
- Smallest Size: 1.6 x 2.0 mm
- 0.67 MHz to 170 MHz
- High OT (-40 to 125°C)
- Blanks on Stock in Germany
- Fully Automated (Tape & Reel)
- Automotive Qualified
- Shortest Lead Times

NEW SMALL SIZE SERIES:

- SG-8200 | SG-8201

MCU | ASSP | ASIC



32-BIT MCU:

- S1C31 Series Application specific series with Arm® 32-bit RISC CPU core Cortex®-M0+
- SPEECH & AUDIO LINE UP
- LCD Driver built-in

16-BIT MCU:

- Low Voltage Operation MCU
- Low Power Standard MCU
- EPD Driver/Controller built-in
- Segment LCD Driver built-in
- Dot Matrix LCD Driver built-in
- LCD Controller built in

ASSP:

LCD CONTROLLER

- Simple LCD Controller (S1D13L)
- with ext. VRAM (S1D135)
- Camera Interface (Automotive)
- Memory Display (S1D13C00)
- USB Interface (S1D13U11)

NEW SPEECH & AUDIO LINE UP +CUSTOM SPEAKER SYSTEMS

ASIC:

GATE ARRAYS

- 0.25µm | 0.35µm
- Core 1.8V | 2.0V | 2.5V | 3.3V
- 5.0V Interface

EMBEDDED ARRAYS

- 0.15µm | 0.25µm | 0.35µm
- Core 1.8V | 2.0V | 2.5V | 3.3V |
- 5.0V Interface

STANDARD CELLS

- 0.15µm | 0.25µm
- Core 1.8V | 2.0V | 2.5V | 3.3V | 5.0V
- Single Power Supply with LDO

MOTION SENSORS



INERTIAL MEASUREMENT UNIT:

- Low Noise High Stability
- Wide Dynamic Range
- Dynamic Tilt Function
- Water and Dust Proof
- SPI / UART Interface
- CANopen and RS422 Interface
- Bias Instability from 0.8° to 3°/h
- Output Range up to 450°/s
- Band Width up to 500 Hz(Max.)
- Output Range up to $\pm 8 / \pm 16 \times 2$
- Misalignment 0.01°
- Consumption 16-32 mA(Typ.)

VIBRATION SENSOR:

- Transfer Speed: 115.2 k~921.6 k(Default 460.8 k)
- Detected Axis: 3(x/y/z)
- Output Formats: raw, rms, p-p (digital output)
- Format: Velocity and Displacement
- Output Range: ± 100 (V) | ± 200 (D) mm/s
- Measured Frequency Range: 10 ~ 1,000 Hz
- Operating Temp.: -30 ~ + 85°C
- Voltage Supply: 3.3 ~ 32V

ACCELEROMETER:

- Noise Density: 0.2 / 0.5 µG/Hz
- Detected Axis: 3(x/y/z)
- Measures Frequency Range: DC ~ 460 Hz
- Output Range: 1,000 Sps(Max.)
- Resolution: 0.06 µG/LSB
- Shock: 1,000 G(Max.)
- Operating Temp.: -30 ~ + 85°C
- Voltage Supply: 3.3 ~ 32V

NEW GYRO SENSORS AND MOTION SENSORS LINE UP

EPSON®

Die Seiko Epson ist ein japanisches Unternehmen, das weltweit zu den größten Herstellern von Druckern, Scannern, digitalen Fotoapparaten, integrierten Schaltkreisen, Projektoren, Registrierkassen, Industrierobotern, LCD-Komponenten und Timing Devices zählt. Für den Handel und die Industrie werden Produkte für den Großformat-, Kassen-, Etiketten- und Ticketdruck, sowie Robotersysteme für Montage und Handhabung hergestellt. Die Epson-Gruppe wird von der japanischen Seiko Epson Corporation geführt und beschäftigt weltweit mehr als 79.000 Mitarbeiter in 85 Tochtergesellschaften

E-PAPER DISPLAYS



ACTIVE DOT MATRIX E-PAPER

- Standard Sizes from 0.97" to 13.3"
- Backplane Substrate: Glas
- Monochrome | Black + White
- Three Color | Black + White + Red
- Three Color | Black + White + Yellow
- Four Color | Black + White + Red + Yellow
- Partial Update at Monochrome
- Low to Zero Current Consumption
- Timing Controller Support
- Customizable Flex Tails
- Alternative Frontlight and Multi Touch Function
- Customizable Cover Lens
- Dry and Wet Display Gluing
- Mounting and Testing
- Final Assembly

Flexible Displays Possible

SEGMENTED E-PAPER

- 100% Customizable
- Ultra Thin (0.4mm) and Robust
- Backplanes: PI | PET | PCB
- Possible Sizes from 1.0" to 32"
- Monochrome | Black + White
- Three Color | Black + White + Red
- Three Color | Black + White + Yellow
- Available as SDC (passive) or SDM (active)
- Low to Zero Current Consumption
- Timing Controller Support
- Customizable Flex Tails
- Frontlight Available
- Customizable Cover Lens
- Display Gluing
- Mounting and Testing
- Final Assembly

OLED | LCD DISPLAYS



ACTIVE MATRIX | TFT | OLED

- Sizes from 0.34" to 110"
- All Industrialized Technologies
- Colour Depth up to 1.07B
- Contrast ratio up to 100000:1
- Brightness up to 2000 Nits

- Customizable Backlight
- Customizable Interface
- Customizable Flex Tail
- Customizable Cover Lens
- Customizable Bezels
- Multi Touch Function and Established PCAP Technologies available: On-Cell | In-Cell
- Dry and Wet Display Gluing
- Mounting and Testing
- Modular Assembly

SUPPORTING COMPLETE HMI FRONT UNITS | ONE STOP CONTACT

COMPREHENSIVE CUSTOMIZING BASED ON AVAILABLE OPEN STANDARD CELLS

REFUNDING OF SET-UP AND TOOLING COSTS DURING PROJECT RUNTIME

LONG TERM AVAILABILITY DUE TO INDIVIDUAL NRE EFFORTS



PCAP TOUCH | HMI



PROJECTIVE CAPACITIVE TOUCH

- 10 Finger Multitouch Funktion
- Standard Sizes from 3.5" to 21.5"
- 100% Customizable up to 85"
- Technologies: ITO-PET | SNW-PET | ITO-GLAS | Metal Mesh PET
- Single Sided | Dual Sided

ELECTRONICS | SENSOR ICs

- Single Component
- Chip on Flex

CONTROLLER BOARDS

- SDB-40 DI
- SDB-80 DI A
- SDB-80 DI B
- I2C Master Board

OS DRIVER SUPPORT

- Win 7 | Win 10
- Win XP
- Win CE 6.0
- Linux
- Others on Request

COVER LENS

- 100% Customizable from 0.55 to 10.0 mm Thickness
- Chemical Treatment
- Physical Tempering
- Printings: Organic | Ceramic
- Anti Glare | Bacterial | Finger-print
- Conductive (anisotropic) Gluing

ASSEMBLY

- PCT-Sensor Lamination on Cover Lens
- Airbonding Directbonding
- Dry and Wet Gluing
- Autoclaving and Postprocessings
- Mounting and Assembly



Als Anbieter und Hersteller von Modullösungen im HMI-Segment ist es seit Beginn an unser Bestreben, das Produkt- und Projektmanagement hier bei uns in Deutschland zusammenzuführen. Über die In-House-Fertigung von HMI-Baugruppen und die enge Zusammenarbeit mit deutschen Partnern zur Spezifizierung technischer Gläser, realisieren wir maßgeschneiderte Komplett-Lösungen, welche individuellen Qualitätsansprüchen unserer Kunden gerecht werden. Wir bieten neben Touch-Sensor-Systemen, Frontgläser, EPD-, LCD, PM/AMOLED-Displays und diverse Produktionsdienstleistungen an, um einen vollumfänglichen und kundenspezifischen Modulansatz zu liefern.

BATTERIES

COIN CELLS



LITHIUM METAL

- Nominal Voltage of 3V
- Capacity Range 30 to 950 mAh
- Wide Operating Temperature Range depending on Battery Model (-40°C / +85°C)
- Low Self-Discharge of less than 1% per Year at 23°C
- Standard Discharge Current Range 0.05 to 1.30 mA
- Best Practical Capacity to Volume Ratio
- Superior Leakage Resistance
- Environmental friendly, do not contain Toxic Substances
- available in Industrial Bulk Packaging and Single Slistered Packing

SILVER OXIDE

- Nominal Voltage 1.55V
- Capacity Range 6 to 190 mAh
- Standard Discharge Current range 20 to 300 µA
- Temperature Range -10°C / +60°C Low Drain | -20°C / +60°C High Drain

CUSTOMIZED COIN CELLS

- Standard Shape Tabs
- Custom Shape Tabs
- Cable with or without Connector
- Shrinking Tube for Insulation
- Combination of Multiple Cells (Parallel / Series)
- Labeling
- Combinations of above Options



LIPO-ACCUMULATORS



LITHIUM ION POLYMER CELLS

- Nominal Voltage of 3.7V
- Polymeric Electrolyte for Higher Safety
- Products with a Wide Range of Sizes and Capacity (33 to 2800mAh)
- Cycle Life at Room Temperature: >80% of min. Capacity after 500 Cycles
- Contact with Wires, Tabs and Connectors
- Safety Circuit integrated in most Battery Models (Wire and Connector Contacts)
- Max. Charging Current (Constant Current): 1.0C
- Max. Discharge Current: 1.0C (Constant Current), 2.0C (Non-Continuous Current)
- Wide Operating Temperature Range: -20°C to 60°C
- Self-Discharge: <2% per Month at Room Temperature
- Most Renata Batteries are already IEC62133 certified
- (Others upon Customer Request)
- Controlled Logistics by Air Transportation
- No Use of long Haul Sea Freight due to Uncontrolled Conditions

CUSTOMIZABLE WIRES | CONNECTORS | TAPES



TABBING & HOLDING



STANDARD TABBED VERSIONS

- FH/HF Version (H=Horizontal F=2 Pin Through-Hole)
- RH/HR Version (H=Horiz. R=3 Pin Through-H.)
- RV/VR Version (V=Vert. R=3 Pin Through-H.)
- SM Version (Surface mount)
- AH Version (H=Hor. A=Isotan Tabs Through-H.)
- FV/VF Version (V=Vertical F=2 Pin Through-H.)

BATTERY HOLDERS

- Surface Mounting Technology with Pins (horizontal)
- Surface Mounting Metal (SMTM)
- Surface Mounting Clip (SMTU-C)
- Through-Hole Mounting with pins (Vertical)
- Through-Hole Mounting with Pins (Horizontal)
- Surface Mounting Clip (SMTU-G - Gold Plated)
- Easy and fast Replacement of the Battery
- Designed for Automatic "pick & place" Mounting
- Safe Retention of Coin Cell

HOLDER MATERIALS

- High Performance Polyamide
- Glass Fiber Filled LCP (heat resistant)
- Nickel Plated Bronze

BATTERY CONTACTS

- Stainless Steel Spring (AISI301)
- Nickel-Plated. Solder Area Tin-Plated
- Gold-Plated

UL Recognition File: E218732
Operating Range Temperature: -40/+100°C



Unser Ziel ist es mit Ihnen gemeinsam wettbewerbsfähige Anwendungen zu entwickeln und Sie dabei zu unterstützen Ihr Design erfolgreich am Markt zu positionieren. Dabei stehen technische Innovationen und hohe Maßstäbe in der Gestaltung von neuen Designs immer im Fokus. Nicht nur wettbewerbsfähige Funktionalitäten verschiedener Komponenten, sondern auch signifikante Vorteile bei der Weiterverarbeitung sind essenzielle Anforderungen, denen wir mit unseren Produkten gerecht werden.

Wir bieten ein breites Spektrum an hervorragenden Produkten, die in einem weiten Bereich von automatischen Steuerungsgeräten und Systemen in verschiedenen Märkten zum Einsatz kommen. Die Bereitstellung einzigartiger Parameter für smarte und effiziente Anwendungen ist ein Garant für Stabilität und Wachstum. Die Channel Microelectronic GmbH liefert exklusive Produkte, die internationale Standards erfüllen, um Mensch und Umwelt zu schützen. Wir führen ausschließlich Komponenten und Bauteile, dessen Herstellungsprozesse von akkreditierten Firmen geprüft und zugelassen wurden.

Persönliche Kundenbetreuung ist mit unserer Firmen-Philosophie fest verwurzelt. Seit über 30 Jahren verbinden wir erstklassige Produkte und Dienstleistungen mit dem Anspruch unserer Kunden - eine stabile Supply-Chain zu entwickeln und langfristige Partnerschaften zu etablieren. Dazu ist es erforderlich Hintergründe zu kennen, Veränderungen zu beobachten und gemeinsam neue Wege zu finden,