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Containerstau und Preiserhöhungen

Liebe Leserinnen und Leser,

als ob wir nicht genügend mit Containermangel und Containerstau in China und zu geringen Luftfrachtkapazitäten von und nach Fernost zu kämpfen hätten, macht der Distributorszene nun der Preisanstieg bei vielen Bauelementen heftig zu schaffen. Verursacht wird dies durch die extrem gestiegenen Frachtraten von China nach Europa, die sich teilweise um das vier- bis sechsfache erhöht haben und in keine bisherige Preiskalkulation mehr hereinpassen.



Dazu kommt, dass die Zunft der Einkäufer sehr empfindlich und sensibel auf Verknappung der Waren reagiert und dann mit längerfristigen Aufträgen bzw. Sicherheitsaufträgen antwortet, nur um die eigene Versorgungssicherheit zu gewährleisten. Nach dem während der Coronazeit die Lagerbestände so weit wie möglich heruntergefahren wurden, um Liquidität für die Firma zu gewinnen, sind die Auftragsbestände in den letzten Wochen bei den Distributoren kontinuierlich um das drei- bis sechsfache gestiegen, gegenüber normalen Zeiten.

Auch die Auftragsbücher der Bauelementehersteller sind randvoll und haben diese teilweise veranlasst, ihre Preise anzuheben. Andere wurden durch die exorbitant gestiegenen Frachten dazu gezwungen, denn die Margen im Distributionsgeschäft sind in den letzten Jahren gewaltig zusammengeschrumpft, so dass jedes Problem im Bereich der

Bauelementeversorgung, seien es Lieferzeiten, bzw. sonstige Probleme, sich zwangsläufig in Kostenerhöhungen niederschlagen. Laut Presseberichten rechnen die Automobilhersteller mit einer Kostensteigerung von ca. fünf Prozent. Dies zeigt deutlich, wie knapp heute Halbleiter, aber auch Rohstoffe, wie Stahl, Aluminium und Kupfer auf den Weltmärkten sind.



Auch unserer Firma sieht diese Entwicklung mit großer Sorge, denn bei sowieso schon gedrückten Margen, sollen jetzt noch extrem erhöhte Frachtraten in der Kalkulation untergebracht werden, was schlicht unmöglich ist. Da wir bekanntlich nur aus unserer Marge unsere laufenden Kosten und Personalkosten bezahlen können, werden Preishöhen unumgänglich werden.

Wir freuen uns über jeden Auftrag und sind dankbar, aber wir bitten auch um das Verständnis, dass wir die gestiegenen Frachtkosten mit / oder Preiserhöhungen der Bauelementehersteller durch keine Maßnahmen mehr kompensieren können. Auch Seefracht anstelle Luftfracht, das war einmal, denn jetzt ist es nicht nur ein Preisproblem, sondern auch ein Kapazitätsproblem der Hersteller, sowie der verlängerten Transportzeiten. Vielleicht sollten wir darüber nachdenken, manche Fertigung wieder nach Europa zurückzuholen.



Mit freundlichen Grüßen
W. Endrich

CT43X & CT42X – XTREMESENSE®

WORLD'S FASTEST & MOST ACCURATE ISOLATED TMR CURRENT SENSORS

HAVE A LOOK

Crocus Technology's CT43x & CT42x are 1 MHz Bandwidth Isolated Contact TMR Current Sensors Delivering <1 % Total Error over the Full Temperature Range.

The high-speed operation and accurate output allow customers to optimize system design for smaller size and higher efficiency. In contrast to existing designs that utilize a Hall-based current sensor, the XtremeSense® TMR current sensor enables a no-compromise design solution by combining high bandwidth, fast response time and high accuracy.

These coreless devices utilize Crocus' state-of-the-art XtremeSense® TMR technology to detect extremely small variations in AC or DC currents while achieving an unprecedented total output error of less than 1.0% over the full temperature range. In addition, they have robust built-in immunity to common-mode fields which allows the device to reject >99% of stray fields without the need for external shielding. The Crocus proprietary TMR technology inherently offers very high signal-to-noise ratio (SNR) which allow for high resolution measurements required for precision control or monitoring applications.

FEATURES

- Pin-to-Pin compatible or footprint compatible to Allegro & Melexis
- AC or DC Current Ranges: up to 50 A
- Up to 6 kVRMS Rated Isolation Voltage per IEC 62368 and UL1577
- Total Output Error: Down to 0.65 %
- 1 MHz Bandwidth; 300 ns Response Time
- Integrated Current Carrying Conductor

PARAMETER	CT430	CT431	CT425	CT426
CURRENT RANGE	+20 A _{DC} / ±20 A _{PK} +30 A _{DC} / ±30 A _{PK} +50 A _{DC} / ±50 A _{PK}		+20 A _{DC} / ±20 A _{PK} +30 A _{DC} / ±30 A _{PK}	
SUPPLY VOLTAGE	4.75 V to 5.5 V	3.0 V to 3.6 V	4.75 V to 5.5 V	3.0 V to 3.6 V
PERFORMANCE	High	High	Mid-High	Mid-High
BANDWIDTH	1 MHz	1 MHz	1 MHz	1 MHz
TOTAL OUTPUT ERROR	0.65 % FS	0.65 % FS	< 1 % FS	< 1 % FS
RATED ISOLATION VOLTAGE	> 5 kV _{RMS}	> 5 kV _{RMS}	> 3 kV _{RMS}	> 3 kV _{RMS}
COMMON MODE FIELD REJECTION	Yes	Yes	Yes	Yes
OVER CURRENT DETECTION OUTPUT PIN	Yes	Yes	-	-
PACKAGE TYPE	SOICW-16	SOICW-16	SOIC-8	SOIC-8

CT43X & CT42X – XTREMESENSE®

WORLD'S FASTEST & MOST ACCURATE ISOLATED TMR CURRENT SENSORS

Superior Performance vs. Other Isolated Hall Effect Current Sensors

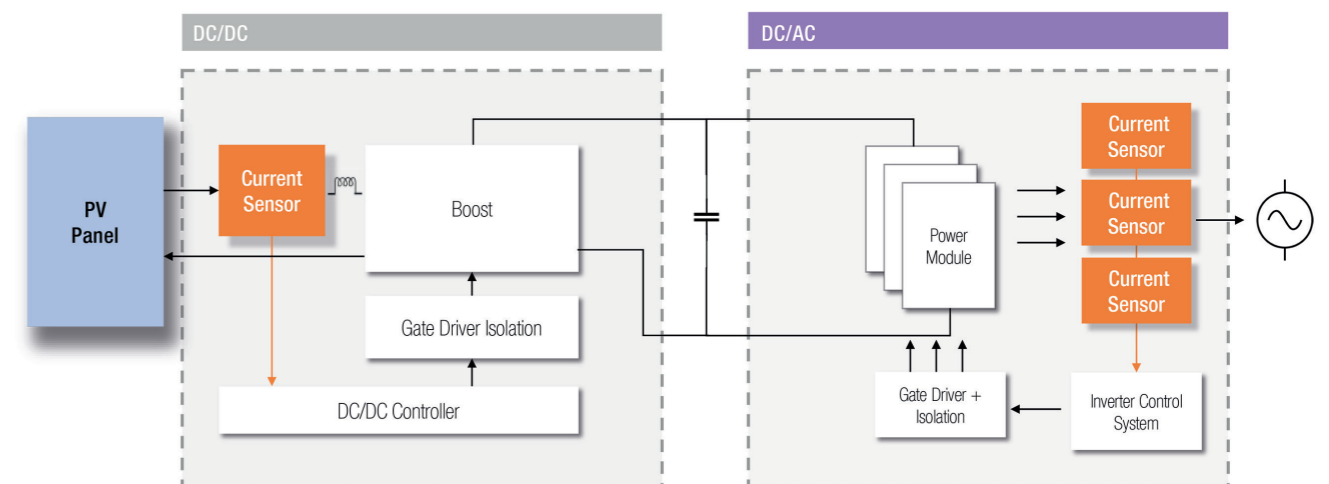
PARAMETER	V _{OUT}			V _{OUT} - V _{REF}	
	CT430	COMP-A	COMP-B	COMP-A	COMP-B
ERROR VS. IDEAL LINE	0.65 % FS	11.41 % FS	4.06 % FS	0.66 % FS	0.83 % FS
LINEARITY	0.06 % FS	1.19 % FS	0.06 % FS	0.17 % FS	0.06 % FS
OFFSET AT 30°C	100 mA	3804 mA	1495 mA	41 mA	192 mA
OFFSET CHANGE OVER TEMPERATURE RANGE	80 mA	772 mA	109 mA	111 mA	80 mA
CURRENT CONSUMPTION	6 mA	12 mA	20 mA	12 mA	20 mA
RESPONSE TIME	0.3 μs	2 μs	1 μs	2 μs	1 μs

Crocus TMR current sensors have an initial accuracy that exceeds the performance of competing Hall Effect current sensor products that require external compensation or calibration. This enables the use of a lower cost single-ended ADC input compared to competing solutions that require a higher cost differential ADC input or increased computing time.

APPLICATIONS

- Solar / Power Inverters
- Motor Control
- Battery Management
- Smart Appliances
- UPS, SMPS & Telecom Power
- Power Utility
- Smart E-Meters
- EV Charging

Example: Solar Inverter Block diagram



DC/DC ENCLOSED POWER SUPPLIES FOR SOLAR PV TRACKING SYSTEMS

A photovoltaic system is composed of photovoltaic arrays, combined with DC power distribution cabinets, inverters, boosting transformers, etc. To store the energy produced, PV panels are linked to DC cabinets feeding in AC or DC an energy storage system feeding a converter to a battery/BMS.

Higher input and output voltage levels can reduce line losses of the AC/DC conversion side and wiring losses of low-side voltage of the transformer, which is helpful to increase the system efficiency of the power station. In addition, power density improvement and compact size for the system can save the costs of transportation and maintenance.

In parallel, Mornsun's 1500V high input voltage DC/DC converters can directly get electricity from the bus voltage of PV strings and convert it to power supply the monitoring unit. They are widely used in applications of photovoltaic combiner

box, photovoltaic inverter, energy storage system, wind energy conversion system, UHV transmission, etc. Application: Isolation converter PV200-29B24 powers the whole battery low voltage control system

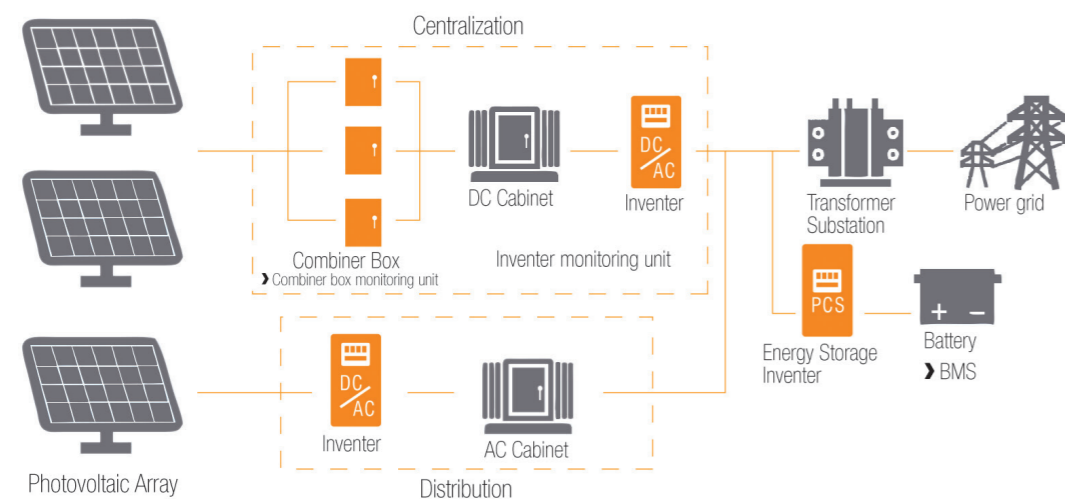
1. A 200 Watt or higher DC/DC converter gets electricity from the battery bus to supply power to the whole low voltage control system such as MCU/BCU/BMU/fans/relay. Isolation and safety for each unit are the key features for the DC-DC converter
2. High voltage side PV200-29Bxx series: 300-1500 VDC input voltage, input reverse protection, 1500 VDC safety certification, more than 4000 VAC isolation, operating temperature range: -40 °C to +70 °C, meets 5000 m altitude requirement
3. Low voltage side: relay and contact circuit need a 3000 VDS or higher DC/DC isolation, 485 bus communication also needs a 3000 VDC isolation DC/DC

FEATURES

- Input voltage: 300 – 1500 VDC
- Output: 12 – 48 VDC
- Power: 40 – 350 Watt
- Insulation: 4000 VAC
- Reinforced insulation
- Operating temperature range: -40 °C to +85 °C
- Wide input voltage ranges 200 to 1000 V / 1500 V
- Safe and certified design
- Protection against polarity reversal prevents incorrect connection
- Wide temperature ranges and high reliability in harsh environments

APPLICATIONS

- Energy storage systems
- PV tracking systems
- Industrial control
- Valve control
- Street lighting
- Telecommunications



LTE CAT1BIS MODULE FOR SINGLE ANTENNA USE – FIBOCOM L610



The L610 is a wireless communication module that supports LTE-CAT1bis – so LTE that can be used with only one antenna. The EU version is certified according to CE RED as well as Deutsche Telekom, Vodafone and Telefónica.

Fibocom offers this module in a variety of variations. The frequency bands of major Asian operators are covered by L610-CN. The frequency bands of important operators in Europe and Latin America are covered by the L610-EU and L610-LA series, respectively. It is available in SMD as well as mPCIe form factor. This module, unlike the standard LTE-CAT1 Modules can be used with only one LTE antenna support a

similar performance. Additionally GNSS for tracking and WiFi scan to protect the surrounding WiFi networks are supported. LTE, GSM dual-mode connection, VoLTE, audio, camera, LCD, keypad, and other features are all supported by the device. In addition, the module includes universal interfaces including USB, UART, SPI, I2C, and SDIO to suit the needs of the IoT sector.

FEATURES

- LTE FDD bands B1 / B3 / B7 / B8 / B20 / B28 (+B66 - latin america version)
- LCC + LGA bands B3 / B8
- Built in Wi-Fi & Bluetooth scan
- Supporting GNSS
- LTE FDD Rel. 13: 10.0 Mbps DL / 5.0 Mbps UL
- LTE TDD Rel. 13: 8.2 Mbps DL / 3.4 Mbps UL
- 3.3 V – 4.3 V typical 3.8 V
- Extended operation: -40 °C to +85 °C
- Size: 31.00 × 28.00 × 2.35 mm

APPLICATIONS

- Smart city – IoT in measurement technology
- Smart city – energy management
- Smart home and smart building – high performance components
- Mechanical engineering – smart machines, smart logistics and smart factory
- Elderly care and health care
- Horticulture



2JF0x24P-2J FLEXIBLE FPC ANTENNA SERIES FOR LTE

The 2JF0x24P flexible FPC antenna series by 2J Antennas can be used in single and MIMO applications. The series consists of flexible antennas and is very flexible in terms of usage, due to the fact they can be stuck to different housing form factors.

Ground plane independency provides a good performance even on small PCBs. The antennas support the LTE frequencies 698-2700 MHz covering all standard modules. Another

advantage of this series – the cables as well as connectors can be customized to the wishes of the customers and therefore perfectly fit the application.



2JF0224P
40.00 x 7.00 x 0.15 mm



2JF0424P
136.80 x 32.60 x 0.20 mm



2JF0924P
120.00 x 8.90 x 0.15 mm



2JF0624P
110.40 x 20.80 x 0.20 mm

Benefits:

- ✓ Different sizes
- ✓ Different performance
- ✓ Different cable routing
- ✓ Customizable cable and connector

FEATURES

- Flexible internal antennas
- Ground plane independent
- Wide band antennas
- Self-adhesive
- High performance
- Covering all 698 - 2700MHz 4G/LTE bands

- Mechanical engineering – smart machines, smart logistics and smart factory
- Elderly care and health care
- Horticulture

APPLICATIONS

- Smart city – IoT in measurement technology
- Smart city – energy management
- Smart home and smart building – high performance components

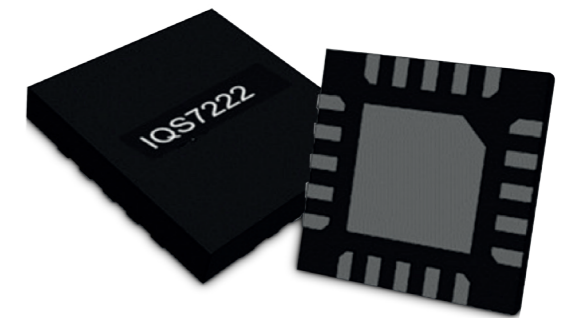
IQS7222C – 10 CHANNEL MUTUAL / 8 CHANNEL SELF-CAPACITIVE AND INDUCTIVE TOUCH AND PROXIMITY CONTROLLER

The IQS7222C ProxFusion® IC is a sensor fusion device for various multi-channel sensing structures from button arrays to sliders and wear detection pairs. The sensor is fully I²C compatible and on-chip calculations enable the IC to respond effectively even in lowest power modes.



APPLICATIONS

- SAR compliance in mobile devices
- Waterproof buttons (inductive)
- Wear detection
- Low power wake-up buttons/proximity
- Appliance user interface (sliders, wheels & buttons)



FEATURES

- Highly flexible ProxFusion® device
- 9 (QFN) / 8 (WLCSP) external sensor pad connections
- Configure up to 10 channels using the external connections or internal sensor
- External sensor options:
 - Up to 8 self capacitive buttons
 - Up to 10 projected capacitive touch/proximity sensors
 - Up to 4 inductive sensor elements
 - Up to 4 self capacitive wear detection pairs (with physical reference)
- I²C communication interface with IRQ/RDY (up to fast plus -1 MHz)
- Event and streaming modes
- Built-in basic functions:
 - Automatic tuning
 - Noise filtering
 - Debounce & hysteresis
 - Dual direction trigger indication
 - Differential measurements (reference channels)
- Customizable user interface due to programmable memory
- Built-in signal processing options:
 - Slider output
 - Wheel output
 - Up to 4 elements per slider/wheel
 - Up to 2 sliders/wheels simultaneously
 - Slider/wheel gestures to be calculated on host processor
- Design simplicity:
 - PC software for debugging and obtaining optimal settings and performance
 - One-time programmable settings for custom power-on IC configuration
 - Auto-run from programmed settings for simplified integration
- Automated system power modes for optimal response vs consumption
- Supply voltage 1.8V (-5%) to 3.5V
- Small packages
 - WLCSP18 (1.62 x 1.62 x 0.50 mm) – interleaved 0.4 x 0.6 mm ball pitch
 - QFN20 (3.0 x 3.0 x 0.5 mm) – 0.4 mm pitch

MPM82504 16V, QUAD 25A, SCALABLE DC/DC POWER MODULE WITH PMBUS

HAVE A LOOK

The MPM82504 is a quad 25 A, scalable, fully integrated power module with a PMBus interface. The device offers a complete power solution that achieves up to 25 A per output channel. The MPM82504 has four output channels that can be paralleled to provide 50 A, 75 A, or 100 A of output current for

flexible configurations. The device can also operate in parallel with the MPM3695-100 and additional MPM82504 devices to provide a higher output current. The MPM82504 operates at a high efficiency across a wide load range.

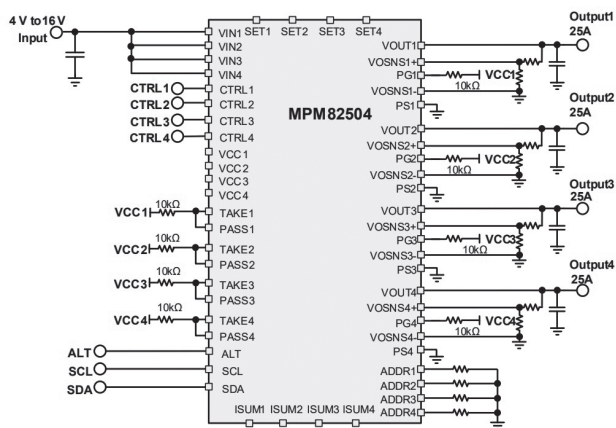


Figure 1: Quad Output Operation

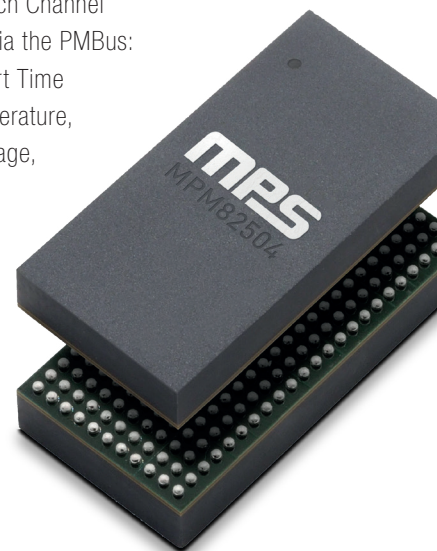
Typical Application

APPLICATIONS

- Telecom and Networking Systems
- Industrial Equipment
- Servers and Computing
- FPGA and ASIC Core Power

FEATURES

- 3.2V to 16V Input Voltage Range with External 3.3V VCC Bias
- 4V to 16V Input Voltage Range with Internal VCC Bias
- 0.5V to 3.3V Output Voltage Range
- Four Parallelable Output Channels with Up to 25A per Channel
- Parallel Operation with Multiple MPM82504 and MPM3695-100 Devices
- Auto-Interleaving for Multi-Phase Operation
- Individual Remote Sense for Each Channel
- PMBus 1.3 Compliant
- Telemetry Readback including VIN, VOUT, IOUT, Temperature, and Faults for Each Channel
- Each Channel is Configurable via the PMBus:
 - Output Voltage, Soft-Start Time
 - Over-Current, Over-Temperature, Over-Voltage, Under-Voltage, and UVLO Limits
 - PWM Mode and Switching Frequency
- Package Available in a BGA (15.00 x 30.00 x 5.18 mm)
- Pb Free Solder Re-flowing Permitted
- Pb Free, Halogen Free
- Conformity to RoHS Directive



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