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endrich NEWS

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System Integrity: Systems Beyond Components

The demands placed on modern electronics are changing rapidly: products are becoming more complex, development cycles shorter – and at the same time, expectations regarding functionality, connectivity and scalability are rising. In many projects today, it is no longer the individual component that determines success, but rather the system function: the smooth interaction of hardware, software, connectivity and integration.

This is exactly where endrich comes in. We are constantly evolving – from a traditional component distributor to a holistic system provider. Our goal is not only to reliably supply our customers with components, but also to actively support them in developing marketable, scalable systems based on their requirements.

With System Integrity, we are introducing a new division that reflects this change. System Integrity combines our component and application expertise with customer-specific development and system integration. The focus is on an integrated approach: architecture, components, software and integration are coordinated from the outset – for the right solutions right from the start.

The System Integrity Group concentrates on three key areas for the future:

- e IoT – cloud-based, networked electronics solutions for data-driven applications
- Edge AI – efficient AI-supported systems with local data processing and high response speeds
- e R&D – turnkey hardware and software development, implemented in collaboration with a strong network of partners

The benefits for our customers are clearly measurable: shorter development times, fewer interfaces and thus

less complexity – as well as solutions that are technically consistent and scalable for series production. Another advantage is having a central point of contact throughout all project phases, from the initial idea to the market-ready system.

With its new System Integrity division, Endrich is positioning itself as a reliable technology and development partner for companies that expect more than just individual components. We combine distribution strength with engineering expertise – thereby creating the basis for electronic solutions that not only work, but also make the future possible.

Are you planning a new product, looking to modernise an existing system, or searching for a partner for IoT, edge AI, or turnkey development? Feel free to contact us. Together, we will turn your technical requirements into marketable solutions.

Wenn Sie die endrich news nicht mehr per Post wünschen, schreiben Sie bitte eine E-Mail an newsletter@endrich.com



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Automotive Grade GD25 / GD55 SPI NOR Flash



3 V / 1.8 V / 1.65 V ~ 3.6 V



55 nm / 45 nm



2 Mb ~ 2 Gb



-40 °C ~ +125 °C

FEATURES

- AEC-Q100 grade 1 qualified
- ISO 26262:2018 ASIL D certified
- 3 V / 1.8 V / 1.65 V ~ 3.6 V * SPI NOR flash
- Package: SOP8, SOP16, USON8, WSON8, TFBGA24
- Wide operating temperature range: -40 °C to +125 °C
- 2 Mb - 2 Gb density
- Support production part approval process (PPAP)
- Support product longevity support (PLP)
- Target 0 ppm on continuous improvement activities

NEWS

Voltage	Density	Part No.	Frequency	Packages																	
				in mil			in mm														
				SOP8	SOP16	USON8			WSON8		TFBGA24										
				150	208	300	3 x 2	3 x 4	4 x 4	6 x 5	8 x 6	8 x 6									
2.7 V - 3.6 V	2 MB	GD25Q20E	133MHz ¹	✓			✓														
	4 MB	GD25Q40E	133MHz ¹	✓			✓														
	8 MB	GD25Q80E	133MHz ¹	✓	✓		✓														
	16 MB	GD25B16E	133MHz ¹	✓	✓		✓	✓													
	32 MB	GD25B32E	133MHz ¹	✓	✓		✓	✓												✓ ⁵	
	64 MB	GD25F64F	166MHz ¹ 104MHz ⁴		✓					✓	✓									✓ ⁵	
	128 MB	GD25F128F	166MHz ¹ 104MHz ⁴		✓	✓					✓									✓ ⁵	
	256 MB	GD25F256F	166MHz ¹ 104MHz ⁴			✓							✓							✓ ⁵	
	512 MB	GD25F512MF	166MHz ¹ 104MHz ⁴			✓								✓						✓ ⁵	
		GD25T512ME	166MHz ² 200MHz ⁴			✓								✓						✓ ⁵	
		GD25X512ME	200MHz ³ 200MHz ⁴			✓														✓ ⁵	
	1 GB	GD55F01GF	166MHz ¹ 104MHz ⁴			✓								✓						✓ ⁵	
		GD55T01GE	166MHz ² 200MHz ⁴			✓								✓						✓ ⁵	
		GD55X01GE	200MHz ³ 200MHz ⁴			✓														✓ ⁵	
	2 GB	GD55F02GF	166MHz ¹ 104MHz ⁴			✓														✓ ⁵	
		GD55T02GE	166MHz ² 200MHz ⁴																	✓ ⁵	
		GD55X02GE	200MHz ³ 200MHz ⁴																	✓ ⁵	
	1.65 V - 2.0 V	2 MB	GD25IQ20E	133MHz ¹				✓													
4 MB		GD25IQ40E	133MHz ¹				✓														
8 MB		GD25IQ80E	133MHz ¹	✓			✓														
		GD25IF80E	166MHz ¹ 104MHz ⁴				✓														
16 MB		GD25IQ16E	133MHz ¹	✓	✓		✓	✓													
		GD25IF16E	166MHz ¹ 104MHz ⁴	✓	✓		✓														
32 MB		GD25IQ32E	133MHz ¹	✓	✓		✓	✓					✓								
		GD25IF32E	166MHz ¹ 104MHz ⁴	✓	✓		✓	✓													
64 MB		GD25IQ64E	133MHz ¹	✓	✓			✓	✓	✓	✓										✓ ⁵
		GD25IF64E	166MHz ¹ 104MHz ⁴	✓	✓				✓	✓	✓										✓ ⁵
		GD25IT64J	166MHz ² 200MHz ⁴		✓					✓	✓										✓ ⁵
128 MB		GD25IX64J	200MHz ³ 200MHz ⁴																		✓ ⁵
		GD25IF128J	166MHz ¹ 104MHz ⁴		✓	✓				✓	✓	✓									✓ ⁵
256 MB		GD25IX128J	200MHz ³ 200MHz ⁴																		✓ ⁵
		GD25IT256E	166MHz ² 200MHz ⁴			✓							✓	✓							✓ ⁵
		GD25IX256E	200MHz ³ 200MHz ⁴			✓															✓ ⁵
512 MB		GD25IF256F	166MHz ¹ 104MHz ⁴			✓							✓	✓							✓ ⁵
		GD25IT512ME	166MHz ² 200MHz ⁴			✓								✓							✓ ⁵
		GD25IX512ME	200MHz ³ 200MHz ⁴			✓															✓ ⁵
1 GB		GD25IF512MF	166MHz ¹ 104MHz ⁴			✓								✓							✓ ⁵
		GD55LT01GE	166MHz ² 200MHz ⁴			✓								✓							✓ ⁵
	GD55IX01GE	200MHz ³ 200MHz ⁴			✓															✓ ⁵	
2 GB	GD55LF01GF	166MHz ¹ 104MHz ⁴			✓								✓							✓ ⁵	
	GD55LT02GE	166MHz ² 200MHz ⁴																		✓ ⁵	
	GD55IX02GE	200MHz ³ 200MHz ⁴																		✓ ⁵	
		GD55LF02GF	166MHz ¹ 104MHz ⁴			✓														✓ ⁵	

¹ X1, X2, X4 ² X1, X4 ³ X1, 8 ⁴ DTR ⁵ 5x5 ball array



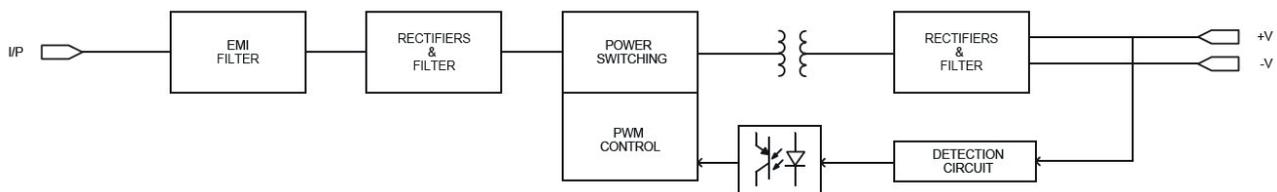
YINGJIAO AC/DC power modules

Ready for soldering onto printed circuit boards of various electronic devices

Are you looking to harness the full potential of AC-DC power modules? These versatile devices offer a multitude of applications across various industries. From powering household appliances to driving complex industrial machinery, AC-DC power modules have become an indispensable tool in our modern world. Discover how AC-DC power modules can revolutionize renewable energy systems, enable precise control in medical equipment, enhance data centers with reliable power supply, drive electric vehicles with superior performance, and optimize the functionality of LED lighting solutions.

Due to their small, compact shape, they require only minimal space on the PCB. Optional AC-DC power modules with terminals are available to which cables can be connected directly.

With an average efficiency of up to 91 % in some cases, these AC-DC modules operate with very low losses.



Series	Voltage (V)	Performance (V)
YMC	3.3 / 5 / 9 / 12 / 15 / 24	5 / 10 / 15 / 20
YSM10H	3.3 / 5 / 12 / 15 / 24	10
YMH20	3.3 / 5 / 9 / 12 / 15 / 24	20
YSM	3.3 / 5 / 12 / 15 / 24 / (48 V ONLY @ 30 / 60 W)	10 / 20 / 30 / 60
YMR	3.3 / 5 / 9 / 12 / 15 / 24 (48 V ONLY @ 30 / 45 / 60 / 90 W)	5 / 10 / 30 / 45 / 60 / 90

FEATURES

- Ultra-wide voltage input range
- Super small design
- Low no-load power consumption
- Low ripple and low noise
- High efficiency
- Protection against short circuit
- Overcurrent and overvoltage
- Three years warranty

APPLICATIONS

- Lot devices, smart home systems
- Medical technology, household appliances, industrial controls
- Test and measurement equipment
- Intelligent controllers, security systems



YINGJIAO

NEWS

Compact PCB-mount 3/5W AC/DC converters



Yuan Dean introduced their new 3/5W space-saving AC/DC converters of the GS3H1 & GS5H1 family. The products are available for PCM mounting in the usual vertical position or with a 90° bend (addition F), if height is an issue.

The ultra-compact DC/DC converters are designed for efficiency and ease of integration in today's demanding applications.

These DC/DC converters meet the requirements for isolation of 5000 Vdc and are compliant with IEC/EN/UL 62368-1 and certified with UL, CE, and CB.

Due to their compact size the converters are ideal for use in space-critical solutions.

Part Number	Output Wattage (W)	Output Voltage (VDC)	Output Current (mA)	Efficiency (TYP %)	Max. Capacitive Load (μF)
GS3H1-S03(F)	1.98	3.3	600	67	820
GS3H1-S05(F)	3	5	600	72	680
GS3H1-S09(F)	3	9	333	76	470
GS3H1-S12(F)	3	12	250	77	470
GS3H1-S15(F)	3	15	200	78	330
GS3H1-S24(F)	3	24	125	80	200
GS5H1-S03(F)	3.3	3.3	1000	69	2200
GS5H1-S05(F)	5	5	1000	76	1500
GS5H1-S09(F)	5	9	560	77	680
GS5H1-S12(F)	5	12	420	79	470
GS5H1-S15(F)	5	15	340	79	330
GS5H1-S24(F)	5	24	210	81	100

FEATURES

- Space-saving form factor: 26.4 x 17.6 x 11 mm
- Voltages up to 24 V
- Isolation voltage of 3.6 kVav / 5 kVdc
- Meets global valid certifications

APPLICATIONS

- Smart home devices
- IoT sensors
- Portable electronics
- Industrial control modules

Glass Encapsulated NTC Thermistors

TT-2 series provides extra moisture protection

Long glass body up to 51mm!

The TT-2 series NTC thermistors are glass encapsulated sensing elements designed for high stability and durability. The hermetic glass seal provides excellent protection against environmental influences, ensuring long-term electrical and mechanical reliability.

These thermistors are available with dumet wire leads, with optional polyimide tubing for additional insulation. While standard electrical characteristics are provided, custom specifications can also be configured to meet specific application requirements.

Thanks to their compact and robust design, TT-2 thermistors are widely used in applications required precise thermal monitoring and high sensitivity to voltage and current changes.



Specification	
Resistance values	1K Ohm ÷ 1.4M Ohm
Resistance tolerance	±1 %, ±2 %, ±3 %, ±5 %, ± 10%, ± 20%
Beta (25/85) value	2700K ÷ 4535K
Operating temperature range	-50 °C - 500 °C
Wires/cables	Bare dumet wire or polyimide insulation
Diameter	0.75 mm ÷ 3.0 mm
Dimension	up to 51 mm

FEATURES

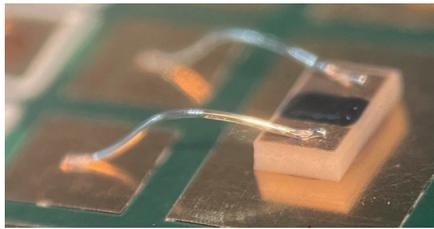
- Moisture-resistant design ensures stable resistance readings, even in high humidity and high temperatures
- Compact size enables easy integration into existing assemblies and housings
- Fast thermal response for dynamic and accurate temperature monitoring
- Cost-efficient alternative to conventional temperature probes with comparable performance
- Designed for temperature measurement, control and compensation
- Customizable specifications for resistance, tolerance and size

APPLICATIONS

- HVAC products
- White goods
- Industrial, instrumentation
- Chemical industry
- Medical and pharmaceutical equipment
- Biomedical assemblies

NEWS

200°C Wire-Bondable Chip Thermistor TWT Series

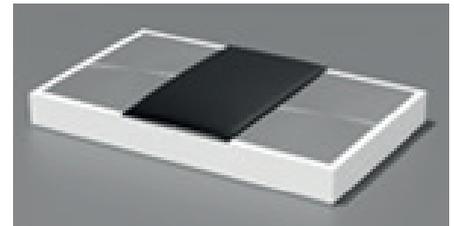


Advantages of Thick Film Structure

All of our thermistor chips are of thick-film construction. They offer high reliability, compatibility with high currents, high-output support, excellent environmental resistance, fast thermal response, and a compact, lightweight design.

This makes them ideal for power modules used in harsh environments.

Our thermistors operate reliably across a wide temperature range of -50°C to 200°C, ensuring high reliability even under extreme temperature fluctuations and harsh environments. It maximizes the performance of power modules, supporting the construction of highly reliable systems.



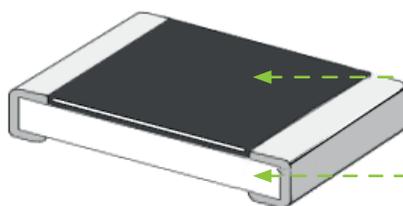
All products are manufactured in our IATF 16949-certified facility, ensuring high quality and reliability.

We provide flexible R-T curve thermistors tailored to your needs

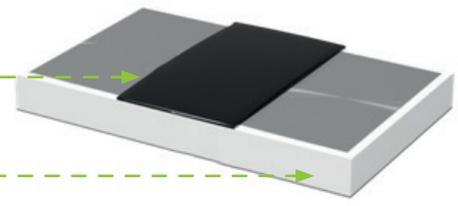
Chip size (mm)	Operating temperature	Resistance at 25°C	Resistance tolerance	B Constant 25°C / 85°C)	B constant tolerance	Rated power at 25°C	Maximum permissible power	Thermal dissipation constant (in air)
2012mm (0805inch)	-50 °C~+200 °C	1K ~ 500KΩ	±1 %, ±2 %, ±3 %, ±5 %, +10 %	3375 ~ 4500K	±1 %, ±2 %, ±3 %, ±5 %	130 mW	5 mW	$\delta \leq 1.5 \text{ mW} / ^\circ\text{C}$

Please contact us for in case of any other specifications.

Thermistors for SMD



Thermistors for Wire Bond



Insulating glass protective film and thick film thermistors

Substrate
96% Alumina

Ultra compact, wire bondable thermistors delivering fast, reliable high temperature sensing up to 200 °C. Built on a robust alumina glass design, they offer exceptional responsiveness and durability for next generation SiC/GaN power modules

endrich N

High reliability

The structure consists of a thick layer of thermistor film on an alumina substrate, protected by glass, providing high-mechanical strength and reliability. It is suitable for applications requiring long-term reliability, such as use in aerospace applications.

Superior environmental durability

Glass encapsulation provides high resistance to moisture and chemicals, ensuring stable performance even in harsh environments

Voltage resistance

The product ensures resistance between the top and bottom surfaces, making it ideal for power module applications requiring voltage resistance between junctions and electrodes.

APPLICATIONS

- SiC/GaN power modules
- Inverter for EV and HEV vehicles
- IGBT
- MOSFET
- DC-DC converter
- Temperature management of the on-board charger
- Temperature compensation of semiconductors
- Automotive ABS control circuit

FEATURES

- Optimized for high temperature sensing, control and compensation
- Wide temperature range from -50 °C to +200 °C are ideal for SiC and GaN
- The bottom surface is metallized with Ag for sintering
- The top surface has two electrodes Ag perfectly suitable for wire bonding
- Empowered high mechanical strength.
- Thermal Response: Featuring minimal thermal capacity, yet heightened sensor sensitivity
- Unparalleled thermal responsiveness due to its compact cubic volume and exceptional heat capacity
- AEC-Q200 compliant product
- Formic acid reflow compliant product

TATEYAMA.

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