03/2026

endrich NEWS

www.endrich.com

System Integrity: Systems Beyond Components

Die Anforderungen an moderne Elektronik verändern sich rasant: Produkte werden komplexer, Entwicklungszyklen kürzer – und zugleich steigen die Erwartungen an Funktionalität, Vernetzung und Skalierbarkeit. In vielen Projekten entscheidet heute nicht mehr das einzelne Bauteil über den Erfolg, sondern die Systemfunktion: das reibungslose Zusammenspiel von Hardware, Software, Konnektivität und Integration.

Genau hier setzt endrich an. Wir entwickeln uns konsequent weiter – vom klassischen Komponenten-Distributor hin zum ganzheitlichen Systemanbieter. Unser Ziel ist es, unsere Kunden nicht nur zuverlässig mit Komponenten zu versorgen, sondern sie aktiv dabei zu unterstützen, aus Anforderungen marktfähige, skalierbare Systeme zu entwickeln.

Mit System Integrity stellen wir einen neuen Bereich vor, der diesen Wandel abbildet. System Integrity bündelt unsere Komponenten- und Applikationsexpertise mit kundenspezifischer Entwicklung und Systemintegration. Im Fokus steht ein integrierter Ansatz: Architektur, Komponenten, Software und Integration werden von Beginn an aufeinander abgestimmt – für passende Lösungen von Anfang an.

Die System Integrity Gruppe konzentriert sich auf drei zentrale Zukunftsfelder:

- e IoT – cloudbasierte, vernetzte Elektroniklösungen für datengetriebene Anwendungen
- Edge AI – effiziente KI gestützte Systeme mit lokaler Datenverarbeitung und hoher Reaktions-geschwindigkeit
- e R&D – schlüsselfertige Hard- und Software-entwicklung, realisiert gemeinsam mit einem starken Partnernetzwerk

Was das für unsere Kunden bedeutet, ist klar messbar: kürzere Entwicklungszeiten, weniger Schnittstellen und damit geringere Komplexität – sowie Lösungen, die technisch konsistent ausgelegt und für die Serie skalierbar sind. Ein weiterer Vorteil: ein zentraler Ansprechpartner über alle Projektphasen hinweg, von der ersten Idee bis zum marktreifen System.

Mit dem neuen Bereich der System Integrity positioniert sich Endrich als verlässlicher Technologie- und Entwicklungspartner für Unternehmen, die mehr erwarten als einzelne Komponenten. Wir verbinden Distributionsstärke mit Engineering-Kompetenz – und schaffen damit die Grundlage für Elektroniklösungen, die nicht nur funktionieren, sondern Zukunft möglich machen.

Sie planen ein neues Produkt, möchten ein bestehendes System modernisieren oder suchen einen Partner für IoT, Edge AI oder eine schlüsselfertige Entwicklung? Sprechen Sie uns gerne an. Gemeinsam machen wir aus Ihren technischen Anforderungen marktfähige Lösungen.

Contact for information: Mr. Buruck · **phone:** +49 1512 2764 6038 · **e-mail:** m.buruck@endrich.com

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

GigaDevice

Contact for information: Ms. Sekulovic · **phone:** +49 7452 6007 6640 · **e-mail:** n.sekulovic@endrich.com

EWS

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	GD25LQ20E	133MHz [1]				✓					
	4 MB	GD25LQ40E	133MHz [1]				✓					
	8 MB	GD25LQ80E	133MHz [1]	✓			✓					
		GD25LF80E	166MHz [1] 104MHz [4]				✓					
	16 MB	GD25LQ16E	133MHz [1]	✓	✓		✓	✓				
		GD25LF16E	166MHz [1] 104MHz [4]	✓	✓		✓					
	32 MB	GD25LQ32E	133MHz [1]	✓	✓		✓	✓		✓		
		GD25LF32E	166MHz [1] 104MHz [4]	✓	✓		✓	✓				
	64 MB	GD25LQ64E	133MHz [1]	✓	✓			✓	✓	✓		✓ [5]
		GD25LF64E	166MHz [1] 104MHz [4]	✓	✓			✓	✓	✓		
		GD25LT64J	166MHz [2] 200MHz [4]		✓				✓	✓		✓ [5]
		GD25LX64J	200MHz [3] 200MHz [4]									✓ [5]
	128 MB	GD25LF128J	166MHz [1] 104MHz [4]		✓	✓			✓	✓	✓	✓ [5]
		GD25LX128J	200MHz [3] 200MHz [4]									✓ [5]
	256 MB	GD25LT256E	166MHz [2] 200MHz [4]			✓				✓	✓	✓ [5]
		GD25LX256E	200MHz [3] 200MHz [4]			✓						✓ [5]
		GD25LF256F	166MHz [1] 104MHz [4]			✓				✓	✓	✓ [5]
	512 MB	GD25LT512ME	166MHz [2] 200MHz [4]			✓					✓	✓ [5]
		GD25LX512ME	200MHz [3] 200MHz [4]			✓						✓ [5]
		GD25LF512MF	166MHz [1] 104MHz [4]			✓					✓	✓ [5]
	1 GB	GD55LT01GE	166MHz [2] 200MHz [4]			✓					✓	✓ [5]
		GD55LX01GE	200MHz [3] 200MHz [4]			✓						✓ [5]
		GD55LF01GF	166MHz [1] 104MHz [4]			✓					✓	✓ [5]
	2 GB	GD55LT02GE	166MHz [2] 200MHz [4]									✓ [5]
		GD55LX02GE	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 aray

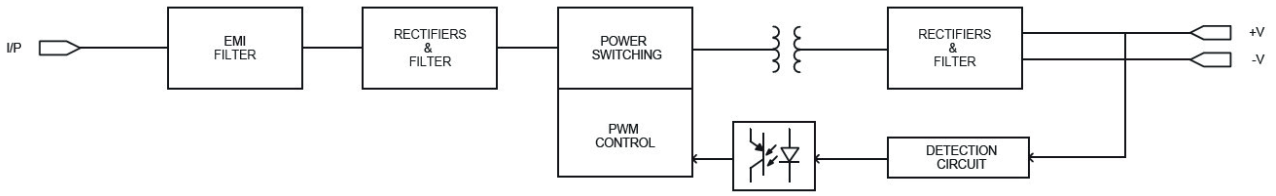
GigaDevice

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

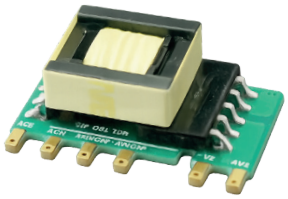
- Lot devices, smart home systems
- Medical technology, household appliances, industrial controls
- Test and measurement equipment
- Intelligent controllers, security systems

YINGJIAO

Contact for information: Mr. Vonlanthen · **phone:** +41 443 069 179 · **e-mail:** t.vonlathen@novitronic.ch

IEWS

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

Contact for information: Mr. Kiraly · **phone:** +49 7452 6007 63 · **e-mail:** m.kiraly@endrich.com

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 polymide 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 polymide insulation
Diameter	0.75 mm ÷ 3.0 mmm
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 conventionaltemperature probes with comparable performance
- Designed for temperature measurement, control and compensation
- Customizable specifications for resistance, tolerance and size

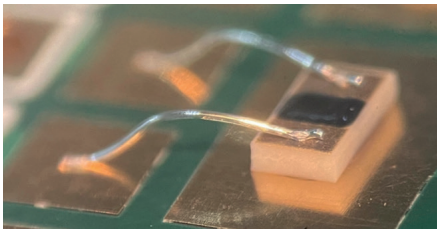
APPLICATIONS

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

Contact for information: Ms. Widmaier-Kopp · **phone:** +49 7452 6007 51 · **e-mail:** u.widmaier@endrich.com

EWS

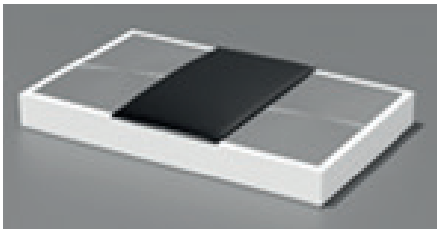
200°C Wire-Bondable Chip Thermistor TWT Series



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.

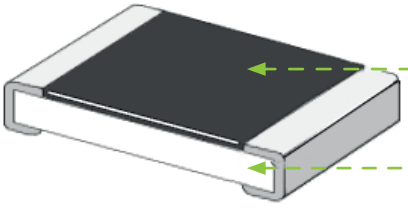


All products are manufactured in our IATF 16949-certified facility, ensuring high quality and reliability.

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	δ ≤ 1.5 mW / °C
Please contact us for in case of any other specifications.								

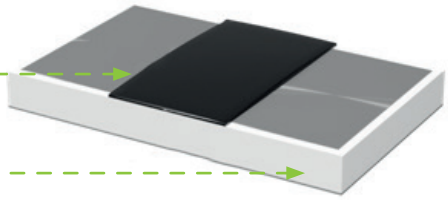
Thermistors for SMD



Insulating glass protective film and thick film thermistors

Substrate 96% Alumina

Thermistors for Wire Bond



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

TATEYAMA

Contact for information: Ms. Carl · **phone:** +49 7452 6007 920 · **e-mail:** b.carl@endrich.com

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

TAIYO YUDEN

Contact for information: Ms. Carl · **phone:** +49 7452 6007 920 · **e-mail:** b.carl@endrich.com

HEADQUARTERS

endrich Bauelemente Vertriebs GmbH
P.O.Box 1251 · 72192 Nagold, Germany
T +49 7452 6007-0
E endrichnews@endrich.com
www.endrich.com

SALES OFFICES IN EUROPE

France
Paris:
T +33 1 86653215
france@endrich.com
Lyon:
T +33 1 86653215
france2@endrich.com

Spain
Barcelona:
+34 93 2173144
spain@endrich.com

Hungary
Budapest:
T +36 1 2974191
hungary@endrich.com

Austria & Slovenia
Gmunden:
+43 1 6652525
austria@endrich.com

Switzerland – Novitronic
Zurich:
T +41 44 30691-91
info@novitronic.ch

IMPRESSUM
Herausgeber: endrich Bauelemente Vertriebs Gmbh, Haupstr. 56, 72202 Nagold, Deutschland, Tel: +49 7452 6007 0, Fax: +49 7452 6007 70, Mail: endrich@endrich.com, Web: www.endrich.com, Geschäftsführerin: Dr. Christiane Endrich, Sitz: Nagold, HRB Stuttgart 340213, VAT-Nr.:DE144367280, Konzept: endrich Bauelemente Vertriebs Gmbh, Nachdruck, auch auszugsweise, nur mit schriftlicher Genehmigung der endrich Bauelemente Vertriebs Gmbh. Alle Informationen und Angaben in diesem Heft wurden nach bestem Wissen und Gewissen erstellt, aber ohne jegliche Gewähr. Preisänderungen, Irrtümer, Satz- und Druckfehler vorbehalten. Stand 05.10.2023

Certified acc. to ISO 9001:2015 / 14001:2015