

endrichnews

www.endrich.com

Der Fisch stinkt immer zuerst vom Kopf!

Liebe Leserinnen und Leser,

Diese Plastik habe ich vor längerer Zeit gekauft, weil sie nach wie vor den Geist unserer Gesellschaft verkörpert. Wir haben eine Oberschicht, die sich durch Kungelei erfolgreich an der Spitze hält und dann eine breite Unterschicht mit fähigen jungen Leuten deren Aufstieg durch Kungeleien in "Hinterzimmern" jede Chance verbaut wird, aufzusteigen und an die Spitze zu kommen. Wir haben so viele traurige Beispiele, wo die Führung dringend abgelöst werden sollte, oder wenigstens durch jüngere Köpfe sukzessiv ausgetauscht werden sollte. Denken Sie an die FIFA, den IOC, den DFB, die Regierungen vieler Afrikanischer Länder, aber auch EU Länder und, wenn wir in Deutschland bleiben, unserer Volksparteien CSU, CDU und SPD. Und die Folgen davon sind verheerend. Vor den Wahlen wird dem Wahlvolk der Himmel versprochen, aber nach der erfolgreichen Wahl alles wieder schnell vergessen, was man einmal versprochen hat. Ein besonders trauriges Beispiel liefert uns jetzt Martin Schulz. Einst einer der zwei Spitzenleute in der EU, dann wie einst zu Zeiten der DDR, mit 100% gewählt und jetzt das unermessliche Schlamassel an der Spitze der SPD. Herr Schulz ist sicherlich ein Ehrenmann, der für seine mutige Entscheidung, zurückzutreten vom Vorsitz, von allen gelobt wird. Aber ob er die Qualifikationen hat, ein solches Amt erfolgreich auszufüllen, darüber kann man streiten.

Kennen Sie das "Peter Prinzip"? Laurenz J. Peter hat einmal gesagt, dass "in einer Hierarchie jeder Beschäftigter dazu neigt, bis zu seiner Stufe der Unfähigkeit aufzusteigen, um sich dann krampfhaft an dieser Position festzuhalten". Gerade in der Politik müssen wir dieses leider viel zu oft feststellen. Aber

auch im Management gibt es viele solcher tragischen Fälle. In der Folge, dass die Firmen entweder zusammenbrechen oder sich nur mit größter Not am Leben erhalten. Das ist zwar für die Firma und alle Beschäftigten tragisch, aber wenn ein ganzes Volk darunter leiden muss, dass die Spitzen der Parteien oder der Regierung nach dem Peter Prinzip besetzt wurden, dann ist es allerhöchste Zeit, energisch dagegen einzuschreiten und Abhilfe zu schaffen.



In der Bundesrepublik erleben wir gerade ein solches Trauerspiel, denn das Wahlergebnis der AfD wäre sicherlich anders ausgefallen, wenn viele Bundesbürger nicht aus Trotz, Verbitterung oder Enttäuschung die Krachmacher der AfD nicht gewählt hätten. Den jüngeren, fähigen Köpfen wird einfach der Aufstieg verwehrt, weil die alten Etablierten in "Hinterzimmern" dies erfolgreich verwehren.

Man sollte sich ein Beispiel an der Natur nehmen, wo bei den Bäumen die unteren Äste verdorren und durch neue Triebe aber erfolgreich die Pflanzen und Bäume wachsen. Wenn den Pflanzen aber die natürlichste Form der Verjüngung verwehrt wird, sterben sie ab.

Leider fehlen uns viele junge "Macrons" (Französischer Präsident), die es schaffen, an die Spitze zu kommen und dann das umzusetzen, was sie vor ihrer Wahl auch versprochen haben. Und Deutschland leidet derzeit leider viel zu stark unter dem "Peter Prinzip".



Mit freundlichen Grüßen
W. Endrich

PAN1760A – THE LOWEST POWER CONSUMPTION ON THE MARKET



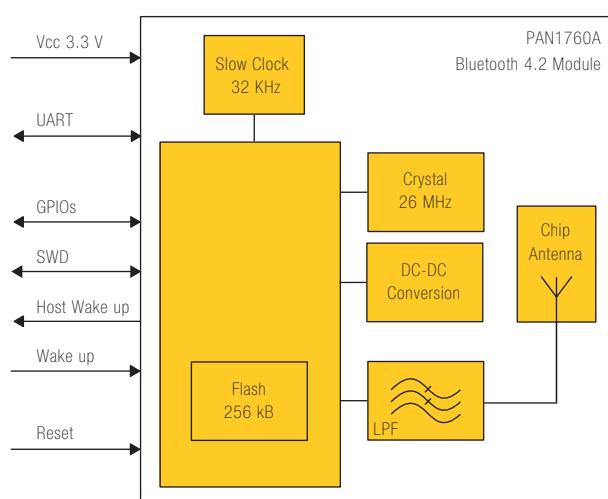
*Bluetooth Low Energy Module
PAN1760A*

PAN1760A is Panasonic's next generation Bluetooth module which is based on industry's lowest power Bluetooth Low Energy SoC from Toshiba.

The peak power consumption in Tx and Rx mode is only 3.3 mA, in Deep Sleep mode even only 50 nA. Therefore the module is recommended for applications where low power consumption is essential, like diagnostics and maintenance systems, medical healthcare and sensor applications, or automotive aftermarket products.

The module embeds a 256 kB flash memory and a 192 kB RAM. 83 kB RAM are free configurable for user application. In Stand-Alone mode, the PAN1760A can be used for many applications without the need for an external processor, saving cost, complexity, and space.

As a small SMD module (15.6 x 8.7mm) with integrated Bluetooth antenna, PAN1760A supports all features of Bluetooth v.4.2, and even the mandatory features of Bluetooth v.5.0. Solutions for mesh networks and extended security features are given.



FEATURES

- Small 15.6 x 8.7 x 1.9 mm SMD module
- Same form factor and pinout as PAN1026, PAN1760, and PAN1761
- Bluetooth Low Energy 4.2 compliant
- Embedded 256 kB flash memory and 192 kB internal RAM
- 83 kB RAM available for user application
- AT Command mode, Host mode, Stand-Alone mode
- Standard SIG BLE profiles as well as SPPoverBLE profile
- UART (2x), SPI & I2C interface, PWM output (4x), ADC (5 ext, 1 int), 17 programmable I/O
- ARM Cortex-M0 processor with Single Wire Debug (SWD) interface

BLUETOOTH

- GAP central and peripheral support for LE
- GATT, SMP, and SDB support for LE
- Over-the-Air firmware update
- Support for Scatternet/Mesh network
- BT 4.2 secure connections support through Elliptic-Curve-DH Cryptography
- AES-128 hardware encryption (FIPS-approved)
- Frequent changing of device address (improved privacy, reduced tracking ability)
- Larger packet sizes (more efficient application and network layer security)

CHARACTERISTICS

- Receiver sensitivity -93 dBm typ
- Output power 0 dBm maximum setting
- Power supply 1.8 V to 3.6 V single operation voltage
- Transmit and receive 3.3 mA Tx / Rx peak power consumption
- Low Power 50 nA Deep Sleep mode
- Operating temperature range -40 °C to +85 °C

SMD NON-ISOLATED SWITCHING REGULATORS K78T SERIES

MORNSUN K78 series are non-isolated regulators known for compact size, high efficiency and compatible with traditional LM78xx linear regulators. New SMD packaged K78T-500R3/K78T-1000R3 series are introduced to meet the reflow soldering production requirements.

The peak temperature of reflow soldering is $T_c \leq 245^\circ\text{C}$ and keeps 60s (Max.) above 217°C , which meets the IPC / JEDEC J-STD-020D.1 standard. Dimension is $15.24 \times 11.40 \times 8.25 \text{ mm}$ (about $0.6 \times 0.45 \times 0.32 \text{ inch}$). Efficiency is up to 95 % and operating temperature ranges from -40 to +85 °C, without additional heat sink.

Besides, these K78T-R3 series also provide a wide input voltage range (4.75-36 V), continuous short-circuit protection, adjustable output voltage ($\pm 10\%$) and remote voltage control and so on, which can be widely used in industrial control, grid power, instrumentation, mining and other related industries.

FEATURES

- SMD package
- High efficiency up to 95 %
- No-load input current as low as 0.2 mA
- Operating temperature range: -40 °C to +85 °C
- Output short circuit protection
- Meet UL62368, EN62368, IEC62368 (pending)



K78T-500R3



K78T-1000R3

K78T-500R3

Input Voltage (VDC)	4.75 - 36
Output Voltage (VDC)	1.5, 1.8, 2.5, 3.3, 5, 6.5, 9, 12, 15
Output Current (mA)	500
No of Output	1
Package	SMD
Dimension (mm)	15.24 x 11.40 x 8.25
Certification	UL / CE / CB (pending)

K78T-1000R3

Input Voltage (VDC)	4.75 - 36
Output Voltage (VDC)	1.5, 1.8, 2.5, 3.3, 5, 6.5, 9, 12
Output Current (mA)	1000
No of Output	1
Package	SMD
Dimension (mm)	15.24 x 11.40 x 8.25
Certification	UL / CE / CB (pending)

5-65 W HIGH-EFFICIENCY DOE LEVEL VI AC ADAPTERS

MORNSUN newest 5-65 W AC adapters are designed for a universal input (85 Vac to 265 Vac) exceeding DOE Level VI requirements for external power supplies which are cost-effective in compact size .

1. Multiple AC input plugs meet various socket interfaces.

The adapters feature universal input voltage of 90 - 264 VAC, and have multiple AC input plugs to select except optional interchangeable AC plugs which meet various regulations of Europe, the US, Britain, Australia and China. They are applicable to different socket interfaces in different countries.

2. High quality makes the world safer.

The adapters are certificated by UL60950, EN60950, BS EN60950, AS/NZS60950 and GB4943 standards. Other certifications are K60950, J60950 and relevant standards for AV-audio / video, home appliances, lighting, etc. Surge is

optional to 1 - 6 KV, and ESD immunity is ± 8 KV / Air ± 15 KV. These adapters meet various industrial safety requirements in different countries, safe and reliable.

3. Low power consumption promotes sustainable development.

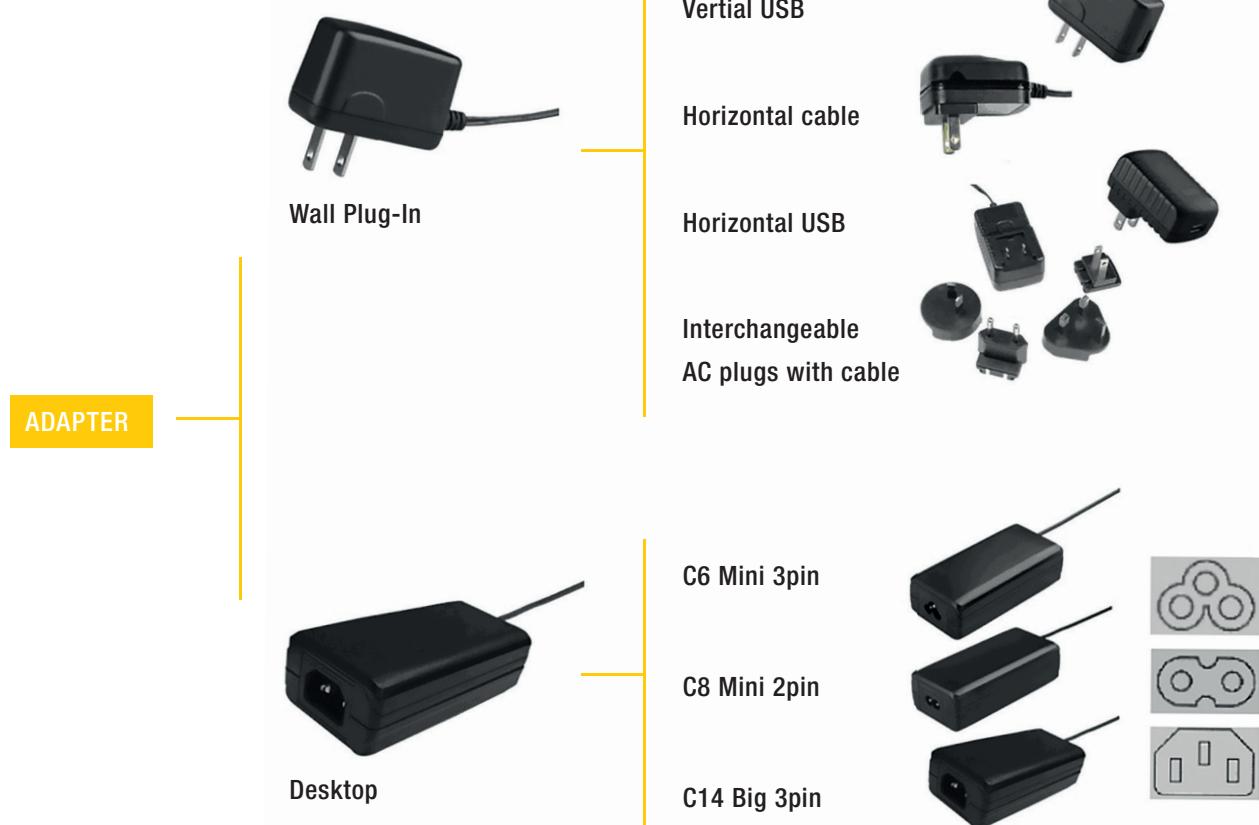
The adapters meet DoE VI and CoC standards to promote energy ecology design.

4. No pollution creates a green environment.

The adapters have approvals of ROHS certification and meet PAHS, REACH, Pro65 standards.

5. High-quality service makes win-win cooperation.

A strong marketing team is ready to provide customers with high-quality products and best service, develop customers' potential demands and create the maximum value for them.



5-65 W HIGH-EFFICIENCY DOE LEVEL VI AC ADAPTERS



Wall-mounted type and desktop type



Interchangeable type

FEATURES

- Wide input voltage: 90 - 264 VAC
- AC input plugs with optional interchangeable AC plugs meet various socket interfaces
- Meets various regulations of CB, UL, CE, GS, BS, SAA and CCC
- Surge up to ± 6 KV
- ESD immunity: ± 8 KV / Air ± 15 KV
- Meets DoE VI and CoC standards
- Meets ROHS, PAHS, REACH and Pro65 standards

APPLICATIONS

- IT-information technology equipment: Router, phone exchange, fax machine, printer, laptop, monitor, copier, etc.
- AV-Audio / Video: Speaker, TV, visual telephone, set-top box, VCR, radio, recorder, etc.
- Household appliances: Humidifier, vacuum cleaner, smart home, game player, etc.

POWER	INPUT VOLTAGE	OUTPUT VOLTAGE / CURRENT	ENERGY EFFICIENCY	SURGE (MAX.)
ELECTRICAL SPECIFICATION				
5W	90 - 264 VAC	3V/1A, 5V/1A, 9V/0.5A, 12V/0.5A, 15V/0.4A	Level VI	± 2 KV
12W	90 - 264 VAC	3V/2.5A, 5V/2.5A, 9V/1.5A, 12V/1.25A, 15V/1A, 24V/0.65A	Level VI	± 2 KV
18W	90 - 264 VAC	3V/3A, 5V/3A, 9V/2A, 12V/1.5A, 15V/1.2A, 18V/1A, 24V/0.75A	Level VI	± 6 KV
24W	90 - 264 VAC	5V/4A, 9V/2.5A, 12V/2A, 15V/1.6A, 18V/1.33A, 24V/1A	Level VI	± 6 KV
36W	90 - 264 VAC	5V/5A, 9V/3A, 12V/3A, 15V/2.4A, 18V/2A, 24V/1.5A	Level VI	± 4 KV
65W	90 - 264 VAC	9V/5A, 12V/5A, 15V/4.5A, 18V/4A, 24V/3A, 36V/1.9A	Level VI	± 6 KV

PRODUCTS LINEUP – PART 1

Crystal Resonator, Oscillator, Radio frequency (RF) filters are key components in any wireless system and as these systems continue to be miniaturized, the pressure on filter technology to shrink as well without compromising performance continues.

Handheld systems and their associated volumes have generated strong interest in filter technologies that show promise for lower cost and smaller size.

Today's wireless devices must not only reject signals from other services but from themselves, too, as the number of bands packed inside each device increases.

A high-end smartphone must filter the transmit and receive paths for 2G, 3G, and 4G wireless access methods in up to 15 bands, as well as Wi-Fi, Bluetooth and the receive path of GPS receivers. Signals in the receive paths must be isolated from one another. They also must reject other extraneous signals whose causes are too diverse to list.

To do so, a multi-band smartphone will require eight or nine filters and eight duplexers. Without acoustic filter, Crystal and Oscillator technology, it would be impossible.

Dedicated for different application we introduce in the news paper "PRODUCTS LINEUP – PART 1 PRODUCTS" suitable components for GNSS (GPS) Applications



P/N	FREQUENCY	INSERTION LOSS	BAND WIDTH	SIZE	NOTE
GPS SAW					
TA1804A	1.582.469 MHz	1.1 dB	46.834 MHz	1.1 x 0.9 mm	
TA1954A (GPS+GLONASS+COMPASS)	1582.47 MHz	1.2 dB	46.84 MHz	1.1 x 0.9 mm	
TA1425A (GPS band)	1574.42 MHz	0.8 dB	2 MHz	1.4 x 1.1 mm	
TA0757B (GPS band)	1575.42 MHz	0.9 dB	2 MHz	1.4 x 1.1 mm	
TA1343A (GPS+GLONASS+GALILEO+BEIDOU)	1583 MHz	1.2 dB	46.79 MHz	1.4 x 1.1 mm	
TA1343B (GPS+GLONASS+GALILEO+BEIDOU)	1583 MHz	1.2 dB	46.79 MHz	1.4 x 1.1 mm	AEC-Q200
TA1661A (GPS+GLONASS+GALILEO+BEIDOU)	1583 MHz	1.8 dB	46.79 MHz	1.4 x 1.1 mm	AEC-Q200
TA1267A (GPS+GLONASS)	1.588.655 MHz	1.25 dB	34.47 MHz	1.4 x 1.1 mm	
TA1267E (GPS+GLONASS)	1.588.655 MHz	1.25 dB	34.47 MHz	1.4 x 1.1 mm	AEC-Q200
TA1901A	1587.5 MHz	2 dB	57 MHz	2.0 x 1.6 mm	AEC-Q200
TA1745A	1583 MHz	1.8 dB	46.79 MHz	2.0 x 1.6 mm	AEC-Q200
TA1658A (GNSS)	1582.4 MHz	1.7 dB	46.61 MHz	3.0 x 3.0 mm	AEC-Q200
TA1925A (GPS+GLONASS L2)	1234.4 MHz	3.3 dB	45 MHz	3.0 x 3.0 mm	AEC-Q200
TA0440A (Car Antenna)	1575.42 MHz	2.9 dB	2 MHz	3.0 x 3.0 mm	AEC-Q200
TA1785A	1583 MHz	1.8 dB	46.79 MHz	3.0 x 3.0 mm	AEC-Q200
TA0676A	1592.5 MHz	2.6 dB	43 MHz	3.0 x 3.0 mm	AEC-Q200
TA1442A (BEIDOU)	2492 MHz	1.55 dB	5 MHz	3.0 x 3.0 mm	AEC-Q200
TA1924A (GPS L5+GLONASS E5)	1191.8 MHz	3.5 dB	55 MHz	3.8 x 3.8 mm	AEC-Q200

PRODUCTS LINEUP – PART 1

P/N	FREQUENCY	INSERTION LOSS	BAND WIDTH	SIZE	NOTE
GPS FRONT END MODULE					
TN0081A (GPS+GLONASS)	1575~1606 MHz	1.65 dB	18.5 MHz	2.5x2.5H : 0.535 mm	AEC-Q100
TN0089A (GPS+GLONASS+GALILEO+BEIDOU)	1575 MHz 1597-1606 MHz 1559-1591 MHz	1.5 dB	15.5 MHz	1.5x1.1H : 0.39 mm	AEC-Q100

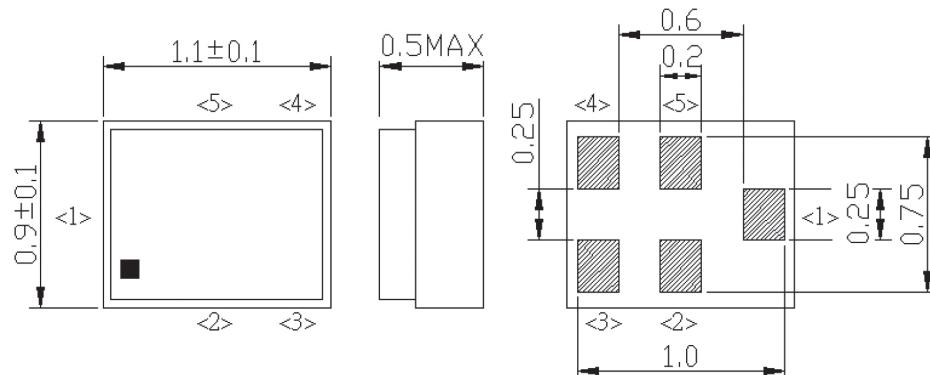
P/N	FREQUENCY	LOAD CAPACITANCE	TOLERANCE	SIZE	NOTE
GPS Xtal					
TZ3120A	32.768 KHz	9 pF	±20 ppm	1.6 x 1.0 mm	
TZ3108A	32.768 KHz	12.5 pF	±20 ppm	1.6 x 1.0 mm	
TZ2528A	32.768 KHz	12.5 pF	±20 ppm	2.0 x 1.2 mm	
TZ1510C	32.768 KHz	9 pF	±20 ppm	3.2 x 1.5 mm	AEC-Q200
TZ1006A	32.768 KHz	12.5 pF	±20 ppm	3.2 x 1.5 mm	
TZ2754C	32.768 KHz	12.5 pF	±20 ppm	3.2 x 1.5 mm	AEC-Q200
TZ1628A	26 MHz	19 pF	±7 ppm	3.2 x 2.5 mm	
TZ1628C	26 MHz	19 pF	±7 ppm	3.2 x 2.5 mm	AEC-Q200

P/N	FREQUENCY	VOLTAGE	TOLERANCE	SIZE	NOTE
GPS TCXO/X0					
TX0628C	19.2 MHz	3.3V	±0.5 ~ ±7.5 ppm	2.0 x 1.6 mm	wide temp range to +105 °C
TX0408C	26 MHz	2.85V	±0.5 ppm	2.0 x 1.6 mm	
TX0544B	38.4 MHz	1.8V	±0.5 ppm	2.0 x 1.6 mm	
TX0678B	48 MHz	1.8 ~ 3.3V	±0.5 ~ ±7.5 ppm	2.0 x 1.6 mm	wide temp range to +105 °C
TX0360A	16.367667 MHz	2.85V	±0.5 ppm	2.5 x 2.0 mm	
TX0358A	16.368 MHz	1.8V	±0.5 ppm	2.5 x 2.0 mm	
TX0590B	16.369 MHz	1.7 ~ 3.3V	±2 ppm	2.5 x 2.0 mm	
TX0578C	26 MHz	1.8V	±0.5 ppm	2.5 x 2.0 mm	
TX0395B	26 MHz	2.8V	±0.5 ppm	2.5 x 2.0 mm	
TX0486A	26 MHz	2.8V	±0.5 ppm	2.5 x 2.0 mm	
TX0617B	26 MHz	2.8V	±0.5 ppm	2.5 x 2.0 mm	
TX0275A	16.368 MHz	2.85V	±0.5 ppm	3.2 x 2.5 mm	
TX0203A	26 MHz	2.775V	±0.5 ppm	3.2 x 2.5 mm	

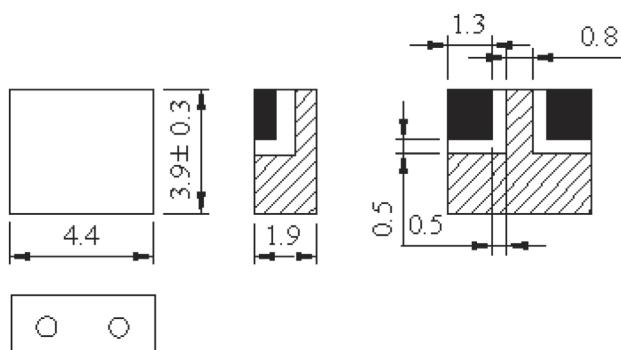
NEW FILTER OR WIFI AND V2V APPLICATION ENABLE HIGH POWER SIGNAL TRANSMISSION

Founded in 1997, Tai Saw Technology, leading manufacturer for high performance communication components, announces two new filters for IoT (2.4 GHz) and automotive V2V applications. Former Motorola employees founded TST, applied their extensive experiences in related device design, manufacturing and processing development to realize these SAW (surface acoustic wave) BAW (Bulk Acoustic Wave) devices and modules (Xtal, XO, VCO, VTCXO etc).

Dimension BAW Filter
TA2105D-B1397, 2437 MHz
(BW = 69 MHz)



The new TA2105D-B1397 is a BAW (Bulk Acoustic Wave) filter 2437 MHz (BW = 69 MHz), in a tiny SMD 1.1 x 0.9 mm package and wide operating temperature range: -40 °C to +105 °C. The BAW technology enables an input power of 28 dBm (Ta = +50 °C, 10 kh, CW). Take advantage of the low loss in the WiFi band, while simultaneously high rejection in the band-edge and adjacent LTE/TD-LTE bands. Even if WiFi and LTE devices are close one to another, it guarantees coexistence of the signals.



Dimension Microwave Dielectric Filter
TR0002A-B1397, 5825MHz (BW=100MHz)

Vehicle-to-vehicle (V2V) is also known as VANET (vehicular ad hoc network) or more common in Europe Car-to-Car communication (Car2Car or C2C) allow automobiles to "talk" to each other. The wireless communication use the 5.9 GHz band (5 875-5 905 MHz frequency band). In order to allow a proper filtering of the signals, low insertion loss and high power level, TST has developed a small dielectric filter dedicated to this application. This filter will be used as front end filter after the antenna.

The Microwave Dielectric Filter at centre frequency of 5825 MHz and bandwidth of 100 MHz, has a base area of just 4.4 x 3.9 mm² with 1.9 mm of height. The filter is specified for the temperature range of -40 °C to 105 °C.

Contact for information: Mr. Gensler · Tel.: +49(0)7452-6007-31 · e-mail: a.gensler@endrich.com

HEADQUARTERS

ENDRICH Bauelemente Vertriebs GmbH · P.O.Box 1251 · D-72192 Nagold
T +49 (0) 7452 6007-0 · F +49 (0) 7452 6007-70 · endrich@endrich.com · www.endrich.com

SALES OFFICES IN EUROPE

France:

Paris: T +33/186653215 · france@endrich.com
Lyon: T +33/186653215 · france2@endrich.com

Austria & Slovenia

Brunn am Gebirge: T +43/1 665 25 25 · austria@endrich.com

Hungary:

Budapest: T +361/2 97 41 91 · hungary@endrich.com

Bulgaria:

Sofia: bulgaria@endrich.com

Romania:

Timisoara: romania@endrich.com

Switzerland – Novitronic:

Zurich: T +41/44 306 91 91 · info@novitronic.ch

Spain:

Barcelona: T +34/93 217 31 44 · spain@endrich.com



Certified acc. to ISO 9001/14001