

endrich news

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Elektromobilität – pure Augenwischerei?

Liebe Leserinnen und Leser,

Die EU-Kommission hat beschlossen, dass der CO₂ Ausstoß der Autos bis zum Jahr 2030 gegen über heute um weitere 35 % zu reduzieren sei. Wünschen kann man sich ja viel! Doch bereits für die Zeit von 2015-2020 sollte der Ausstoß von CO₂ anstelle von 130 gr nur noch 95 gr/km betragen, was nach Meinung der Fachleute technisch kaum machbar ist. Die einzige Möglichkeit wäre, vielleicht nur noch Klein- und Kleinwagen zu produzieren. Eine gute Chance also für französische, italienische und rumänischen Fahrzeuge, aber deutsche Mittelklasse und Premiumautos sind unter 7-8 Liter/100 km Treibstoff nicht zu bekommen, es sei denn, man wechselt auf Autos mit Elektroantrieb, die bekanntlich kein CO₂ ausstoßen und kein Stickoxid. Dass Elektrotankstellen fehlen, ist ein anderes Thema.

Trotzdem wäre eine Erfüllung dieser Forderung reine Augenwischerei, denn wenn der Strom nicht aus Windkraftanlagen oder Solaranlagen stammt, aber von Braunkohle produziert wird, dann sieht die Rechnung nämlich völlig anders aus! Dann erreicht man bei der Herstellung von Strom höhere CO₂ Werte, als bei modernen Dieselmotoren, weil die Kohlekraftwerke nur einen thermischen Wirkungsgrad von ca. 45 % haben, bei der Verteilung des Stromes nochmals min. 6 % verloren gehen und der Durchlauf des Stromes durch die Batterien bis zur Erzeugung von Bewegungsenergie max. einen Wirkungsgrad von 80 % zu lässt. Zugegeben, eine komplizierte Rechenaufgabe! Auf jeden Fall liegt der mit Braunkohlestrom betriebene Elektromotor dann bei einem Wirkungsgrad von 34 % während moderne Dieselmotoren immerhin auf 45 % kommen.

Und betrachtet man dann den aktuellen Energieträgermix, den wir in Deutschland haben, ergibt sich ein um 60 % höherer CO₂ Ausstoß bei Elektromobilen gegenüber dem CO₂ Ausstoß beim reinen Diesel. Dies, obwohl heute aus regenerativen Quellen bereits ein erheblicher Teil des Stromes gewonnen wird.

Oder eine andere Überlegung:

Wenn in Deutschland infolge der Elektromobilität Erdöl gespart wird, das wir ja komplett importieren, dann wird dieses Öl mit

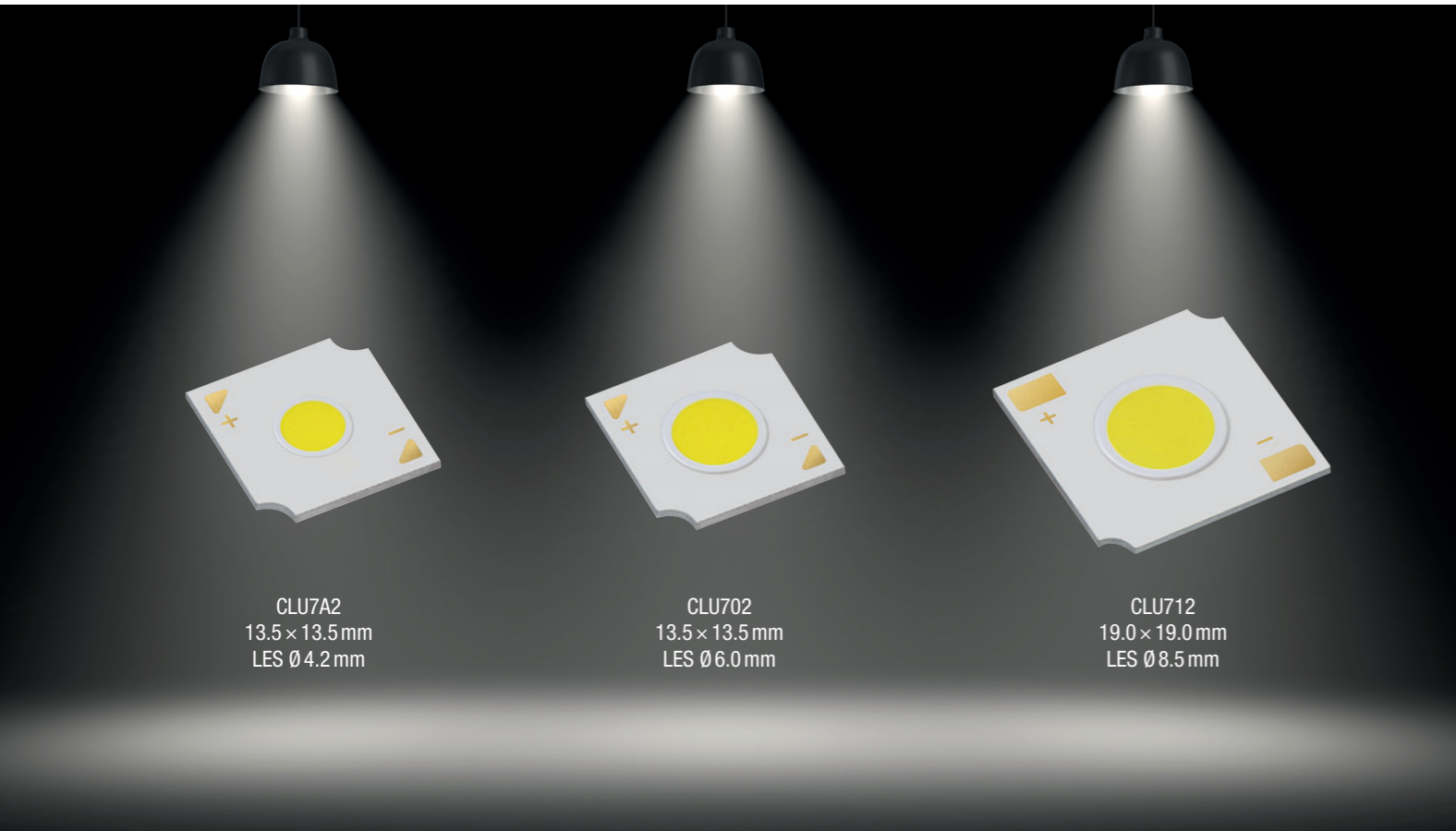
absoluter Sicherheit auf anderen europäischen Märkten oder Fernost verkauft und in Fahrzeugmotoren verbrannt. Eine wirklich wirksame Einsparung von CO₂ weltweit könnte man nur erreichen, wenn die Förderländer USA, Angola, Iran und Russland ihre Förderung drastisch reduzieren würden. Aber das ist völlig illusorisch, denn das würde bedeuten, dass ihre Einnahmen aus Ölexporten dramatisch zurück gehen und, von der USA mal abgesehen, wirtschaftlich kaum verkraften könnten. Also bleibt alles beim Alten. Deutschland reduziert seinen Erdölverbrauch und reduziert damit die CO₂ Erzeugung. Aber die übrige Welt dreht weiter an der Schraube „Dieselagasausstoß“. Dies ist schlichtweg Selbstbetrug, das der CO₂ Spiegel trotzdem steigt, anstelle dass er abnimmt. Eigentlich schade, dass diesen Zahlen so wenig bekannt sind, vor allem in der Politik und dass man nur versucht, gegenüber den anderen mit einer weißen Weste dazustehen, denn man hat ja seinen CO₂ Ausstoß reduziert. Ein Irrwitz der Geschichte, denn bei der Erderwärmung ist es eigentlich egal, wo das CO₂ herkommt, aus Deutschland, aus China oder sonst wo her. Die Polkappen schmelzen weiter, dank der Unvernunft im Bereich der Politik. Schön wäre eine Erfindung, wie man den CO₂ Gehalt in den oberen Luftschichten wirkungsvoll reduzieren könnte. Man darf ja mal träumen !!!

**Alle Zahlen aus der Wirtschaftswoche, Ausgabe Oktober 2018*

Mit freundlichen Grüßen
W. Endrich



CITIZEN HIGH INTENSITY GENERATION 3



CLU7A2
13.5 × 13.5 mm
LES Ø4.2 mm

CLU702
13.5 × 13.5 mm
LES Ø6.0 mm

CLU712
19.0 × 19.0 mm
LES Ø8.5 mm

Our supplier Citizen Electronics developed a new COB generation CLU7x2 for high density application with narrow beam angle. With the new 4,2mm LES we are offering the smallest LES on the COB market. The high intensity COBs will be also available with CRI 97. All available holders which could be used for CLU7x1 can be also used for CLU7x2. Pad-layout size of CLU712 is changed that all holders for CLU038 and CLU711 could be also used for this type.

APPLICATIONS

- Spotlight with narrow beam angle
- Truck light
- Downlight

ADDITIONAL INFORMATION

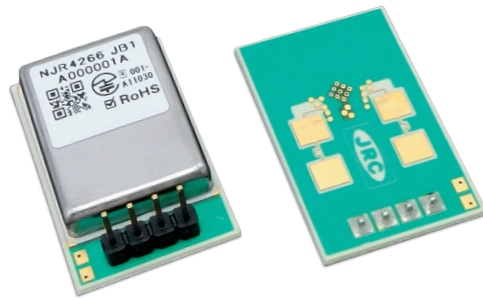
- Ra 97 will be also added to the line-up
- 5 Years Warranty
- Samples are available
- UL certification available
- Mac Adam Step 3 Binning

CITIZEN HIGH INTENSITY GENERATION 3

Product code	Electro-Optical Characteristics								Absolute Max. Rating
	Ra	CCT	Forward Current	Voltage Typ.	Input power typ.	Luminous flux Typ.	Luminous efficacy Typ.	Thermal resistance Rj-C	Forward current
CLU7A2-1201C9-273M2R1	80 Min.	2,700 K	175 mA	35.6 V	6.2 W	745 lm	120 lm/W	3.0 °C/W	300 mA
CLU7A2-1201C9-303M2R1	80 Min.	3,000 K	175 mA	35.6 V	6.2 W	771 lm	124 lm/W	3.0 °C/W	300 mA
CLU7A2-1201C9-403M2R1	80 Min.	4,000 K	175 mA	35.6 V	6.2 W	810 lm	130 lm/W	3.0 °C/W	300 mA
CLU7A2-1201C9-273H5R2	90 Min.	2,700 K	175 mA	35.6 V	6.2 W	625 lm	100 lm/W	3.0 °C/W	300 mA
CLU7A2-1201C9-303H5R2	90 Min.	3,000 K	175 mA	35.6 V	6.2 W	660 lm	106 lm/W	3.0 °C/W	300 mA
CLU7A2-1201C9-403H5R2	90 Min.	4,000 K	175 mA	35.6 V	6.2 W	716 lm	115 lm/W	3.0 °C/W	300 mA
CLU702-1202C9-273M2R1	80 Min.	2,700 K	350 mA	35.6 V	12.5 W	1,518 lm	122 lm/W	1.6 °C/W	600 mA
CLU702-1202C9-303M2R1	80 Min.	3,000 K	350 mA	35.6 V	12.5 W	1,576 lm	126 lm/W	1.6 °C/W	600 mA
CLU702-1202C9-403M2R1	80 Min.	4,000 K	350 mA	35.6 V	12.5 W	1,658 lm	133 lm/W	1.6 °C/W	600 mA
CLU702-1202C9-273H5R2	90 Min.	2,700 K	350 mA	35.6 V	12.5 W	1,246 lm	100 lm/W	1.6 °C/W	600 mA
CLU702-1202C9-303H5R2	90 Min.	3,000 K	350 mA	35.6 V	12.5 W	1,342 lm	108 lm/W	1.6 °C/W	600 mA
CLU702-1202C9-403H5R2	90 Min.	4,000 K	350 mA	35.6 V	12.5 W	1,424 lm	114 lm/W	1.6 °C/W	600 mA
CLU712-1204C9-273M2R1	80 Min.	2,700 K	700 mA	35.6 V	24.9 W	3,079 lm	124 lm/W	0.91 °C/W	1,200 mA
CLU712-1204C9-303M2R1	80 Min.	3,000 K	700 mA	35.6 V	24.9 W	3,196 lm	128 lm/W	0.91 °C/W	1,200 mA
CLU712-1204C9-403M2R1	80 Min.	4,000 K	700 mA	35.6 V	24.9 W	3,363 lm	135 lm/W	0.91 °C/W	1,200 mA
CLU712-1204C9-273H5R2	90 Min.	2,700 K	700 mA	35.6 V	24.9 W	2,535 lm	102 lm/W	0.91 °C/W	1,200 mA
CLU712-1204C9-303H5R2	90 Min.	3,000 K	700 mA	35.6 V	24.9 W	2,701 lm	108 lm/W	0.91 °C/W	1,200 mA
CLU712-1204C9-403H5R2	90 Min.	4,000 K	700 mA	35.6 V	24.9 W	2,891 lm	116 lm/W	0.91 °C/W	1,200 mA

DOPPLER SENSOR MODULE SERIES NJR4266

HAVE A LOOK



Intelligent low speed K-band motion sensor for short distance. NJR4266 is an intelligent human motion sensor module series that can detect objects moving at low speed like a pedestrian in a short distance range (approx. 7 to 14 m). It incorporates a 24 GHz band microwave circuit, antenna, signal processing circuit and MCU in a low profile package of only 17.2 mm x 27.3 mm x 5.1 mm. Signal processing technology greatly reduces false detection of environmental noise and achieves stable detection results.

It also reduces power consumption by sensitivity setting. The NJR4266 series is available in multiple antenna versions so that the users can select the ideal detection angle best suitable for their specific application. Moreover, the user can select between UART and stand alone version (digital output / analog range setting) as interface type.

FEATURES

- Motion sensor based on 24 Ghz microwave doppler effect
- Antenna, microwave RF circuit, IF amplifier, MCU and voltage regulator are integrated in low-profile package (17.2 mm x 27.3 mm x 5.1 mm)
- Low power consumption (intermittent mode 1.9 mA min@3.3 V)
- Sleep mode for power reduction
- Decreasing mutual interference between sensors
- Available in 4 antenna versions to select the optimum detection angle
- Selectable between UART interface or digital output / analog sensitivity setting version
- UART interface version offers identification of direction (approaching and leaving) for moving objects

APPLICATIONS

- Various control equipment by human sensing
- Lighting sensors
- Safety and security equipment
- Energy saving management
- Entrance and exit management

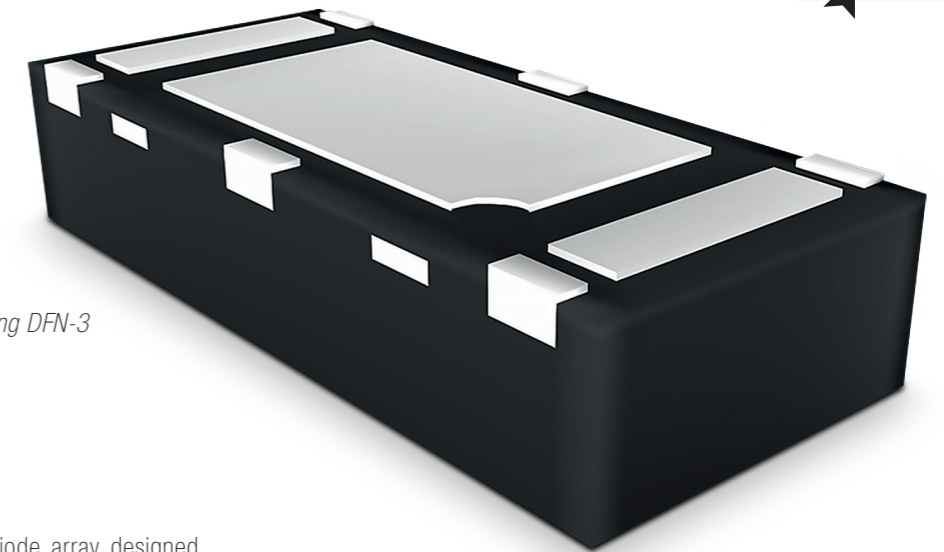
Product Line-up	CENTER FREQUENCY	REGION
NJR4266Jxx	24.05 ... 24.25 GHz	Japan [MIC Techn. Conf. ARIB STD-T73]
NJR42366F2xx	24.15 ... 24.25 GHz	All of EU regions [RED 2014/53/EU (CE Marking)]
NJR4266F3xx	24.075 ... 24.175 GHz	United States [FCC Part 15.245]

Ordering information	ANTENNA PATCH ARRAY	DETECTION RANGE	DETECTION ANGLE	INTERFACE
NJR4266F2C1	TX/RX: 4 x 1	15 m	76°/ 32°	C1: UART
NJR4266F2C2	TX/RX: 4 x 1	15 m	76°/ 32°	C2: Analog Threshold / CMOS Output

Note: As 1x1 type, 4x1 type and 2x2 type are being developed, design values are listed for detection angle and detection distance.

NEW TVS DIODE ARRAY FOR AUTOMATED FACTORY SENSOR CIRCUIT PROTECTION

HAVE A LOOK



compact board space saving DFN-3 package solution

ProTek Devices has introduced a TVS diode array designed for circuit protection of proximity sensors in automated factory sensory applications. The new device features a double diode array for switch protection and reverse blocking protection.

The PDFN3-32 is designed to protect 24 volt proximity sensors for factory automation sensory applications. It is compliant with IEC standards 61000-4-2 (ESD), 61000-4-4 (EFT), 61000-4-5 (surge) and IEC 61131-2 (interfaces with logic input types 1, 2, 3). This transient voltage suppressor diode array's minimum breakdown voltage (VBR) is 34V and maximum clamping voltage is 55V at 25A, 8/20 micro seconds. The blocking diode drop forward voltage (VF) is 1.1V at 300mA and the blocking diode maximum 10ms square pulse current (IFSM) is 3A. The ambient operating temperature is -40 degrees Celsius to 100 degrees Celsius. The PDFN3-32 is also RoHS and REACH compliant.

Now available, the PDFN3-32 is an ideal solution where board space is at a premium, as it is provided in a molded DFN-3 package.

Other key mechanical characteristics include lead-free plating and a solder reflow temperature of 260-270 degrees Celsius. The device's flammability rating is UL 94V-0. It is delivered on 8mm tape and reel, per EIA standard 481, in minimum quantities of 3,000.

FEATURES

- Compatible with:
 - IEC 61000-4-2 (ESD): Air ±15 kV, Contact ±8 kV
 - IEC 61000-4-4 (EFT): 40A - 5/50ns
 - IEC 61000-4-5 (Surge): 40A, 8/20µs
- IEC61132-2 (Interfaces with Logic Input Type 1,2,3)
- 2800 Watts Peak Pulse Power (tp = 8 / 20 µs)
- ESD Protection +/- 30 kilovolts
- Clamping Voltage: VC Max 70V @ 40A, 8 / 20 µs
- REACH & RoHS Compliant

APPLICATIONS

- Factory Automation Sensors
- Proximity Sensor Interfaces

DIELECTRIC FILTER LINE UP FOR 5G



5G, the fifth and next generation telecommunication standard for cellular mobile communications, will change the world!

It succeeds the 4G (LTE/WiMax), 3G (UMTS) and 2G (GSM) systems and coming soon, companies already started with field tests. 5G improves data rate, reduce cost, save energy and due higher system capacity increase massive device connectivity compared to the former systems. The new 5G radio operate in lower frequencies range around 600 MHz up to 6 GHz.

TaiSaw Technology is well prepared to support the market with suitable products. A dedicated new product line of Dielectric Filter (DR filter) offer high frequency filter for networking, automotive, industry applications which will use 5G in the next generation of products

DR filter mainly focus on higher frequency band as higher frequency can integrate more data. People consider DR is old tech but ceramic is changing, advancing every day, every year.

TST produce a full line if have DR filter. 2.4GHz, 3G, and all the way up to 6GHz for high power application. Small radio cell for certain application need higher power. The more cells, the more data can spread into the network. Making it usable for gaming, self-driving cars, and smart cities, for instance. In cities, the millimeter-wave network will be super fast. 5G will become the most important radio standard for industrial uses, e.g. industrial robots.

The first generation of driverless cars will be self-contained, but future generations interact with other cars (C2C) and smart roads to improve safety and managing the traffic.

Beside the standard Dielectric Filters TST can provide customize DR filter as well a wide range on SAW filter, TC SAW, BAW Filter and suitable high end oscillator. Timing and filtering products used in wireless device, mobile device and any radio application.

DIELECTRIC FILTER LINE UP FOR 5G

TST PIN	TYPE	CENTER FREQUENCY	PASS BAND	BANDWIDTH	INSERTION LOSS (MAX)	ATTENUATION	SIZE	APPLICATION
DIELECTRIC FILTER								
TR0001A	DR	3625 MHz	3550 ~ 3700 MHz	150 MHz	3.0 dB	25 dB @3340-3450M	26 x 11.5 mm	LTE Band 48
TR0003A	DR	3500 MHz	3400 ~ 3600 MHz	200 MHz	2.5 dB	8 dB @3320&3680M	4.5 x 3.8 mm	LTE Band 42
TR0004A	DR	3500 MHz	3400 ~ 3600 MHz	200 MHz	2.0 dB	25 dB @3320&3680M	15.9 x 6.2 mm	LTE Band 42
TR0005A	DR	3700 MHz	3600 ~ 3800 MHz	200 MHz	2.5 dB	8 dB @3520&3880M	4.5 x 3.8 mm	LTE Band 43
TR0006A	DR	3700 MHz	3600 ~ 3800 MHz	200 MHz	2.0 dB	25 dB @3520&3880M	15.9 x 6.2 mm	LTE Band 43
TR0008A	DR	5240 MHz	5140 ~ 5340 MHz	200 MHz	2.1 dB	19 dB @5480-5860M	3.25 x 2.58 mm	5G Wi-Fi
TR0012A	DR	5670 MHz	5480 ~ 5860 MHz	380 MHz	2.1 dB	19 dB @5150-5340M	3.25 x 2.58 mm	5G Wi-Fi
TR0009A	DR	5245 MHz	5150 ~ 5340 MHz	190 MHz	2.0 dB	30 dB @5480-5850M	8.05 x 4.05 mm	5G Wi-Fi
TR0011A	DR	5665 MHz	5480 ~ 5850 MHz	370 MHz	2.0 dB	35 dB @5150-5340M	8.05 x 3.45 mm	5G Wi-Fi
TR0010A	DR	5250 MHz	5170 ~ 5330 MHz	160 MHz	2.5 dB	40 dB @5490-5935M	8.05 x 4.05 mm	5G Wi-Fi
TR0013A	DR	5710 MHz	5490 ~ 5935 MHz	445 MHz	2.5 dB	40 dB @5170-5330M	8.05 x 3.45 mm	5G Wi-Fi
TR0007B	DR	5235 MHz	5150 ~ 5330 MHz	180 MHz	2.5 dB @5150-5320 3.5 dB @5360	50 dB @5490-5850M	8.6 x 4.05 mm	5G Wi-Fi
TR0014B	DR	5697 MHz	5490 ~ 5850 MHz	360 MHz	2.5 dB	50 dB @5150-5330M	8.6 x 3.45 mm	5G Wi-Fi
TR0015A	DR	1975 MHz	1840 ~ 2110 MHz	270 MHz	1.0 dB	35 dB @1725&2225M	26 x 11.5 mm	V-set
TR0002A	DR	5825 MHz	5725 ~ 5925 MHz	200 MHz	2.0 dB	35 dB @4995M	4.4 x 3.9 mm	V2X
LTCC FILTER								
TL0001A	LTCC	3550 MHz	3300 ~ 3800 MHz	500 MHz	0.9 dB	25 dB @2600M	1.6 x 0.8 mm	LTE Band 42/43
TL0002A	LTCC	3500 MHz	3300 ~ 3800 MHz	500 MHz	0.6 dB	35 dB @6600-7600M 35 dB @9900-11400M	1.6 x 0.8 mm	LTE Band 42/43
TL0003A	LTCC	2450 MHz	2300 ~ 2600 MHz	300 MHz	1.0 dB	27 dB @4600-5200M 25 dB @6900-7800M	1.0 x 0.5 mm	LTE, IoT
TL0004A	LTCC	1845 MHz	1710 ~ 1980 MHz	270 MHz	1.0 dB	30 dB @3420-3960M 25 dB @5130-5940M	1.0 x 0.5 mm	LTE, IoT
TL0005A	LTCC	824 MHz	699 ~ 849 MHz	250 MHz	1.2 dB	21 dB @1400-1559M	1.0 x 0.5 mm	LTE, IoT
TL0006A	LTCC	807 MHz	699 ~ 915 MHz	216 MHz	1.2 dB	21 dB @1400-1559M	1.0 x 0.5 mm	LTE, IoT
TL0007A	LTCC	2247.5 MHz	1805 ~ 2690 MHz	885 MHz	1.5 dB	15 dB @600-900M	2.0 x 1.25 mm	LTE, IoT
TL0008A	LTCC	2002.5 MHz	1805 ~ 2200 MHz	395 MHz	1.8 dB	10 dB @2705-3300M	1.4 x 1.1 mm	LTE, IoT
TL0009A	LTCC	2450 MHz	2400 ~ 2500 MHz	100 MHz	1.7 dB	25 dB @1850-1910M 25 dB @4800-5000M	1.6 x 0.8 mm	Bluetooth, Wireless LAN
TL0015A	LTCC	829.5 MHz	699 ~ 960 MHz	261 MHz	0.7 dB	25 dB @1427-1920M 25 dB @2097-2880M	1.6 x 0.8 mm	NB-IoT
TL0016A	LTCC	1850 MHz	1710 ~ 1990 MHz	280 MHz	0.6 dB	30 dB @3420-3980M	1.6 x 0.8 mm	NB-IoT
TL0017A	LTCC	2.4/5.5G	2400 ~ 2500 MHz 5150 ~ 5850 MHz	100/700 MHz	0.6 dB @2400-2500 1.5 dB @5150-5850	25 dB @4800-5000M 25 dB @2380M	1.6 x 0.8 mm	2.4G/5G Wi-Fi
TL0010A	LTCC	2450 MHz	2400 ~ 2500 MHz	100 MHz	2.5 dB	27 dB @880-900M 34 dB @4800-5000M	1.6 x 0.8 mm	2.4G Wi-Fi
TL0011A	LTCC	5410 MHz	4900 ~ 5920 MHz	1050 MHz	2.0 dB	30 dB @3500M	2.0 x 1.25 mm	5G Wi-Fi

SMT RADIO MODUL, UNI DIRECTIONAL COMMUNICATION FOR ISM BAND FREQUENCY 433 MHz

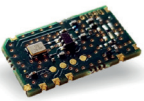


AUREL S-p-A produce a full line of standard RF solution on free-license frequencies in 433 MHz, 868 MHz and 2.4 GHz compliant with the european normative is available. With more than fifty years of expertise in the design, industrialization, production of wireless radio solutions.

For uni directional communication using the ISM Band frequency 433 MHz, Aurel release a new line of SMD ASK receiver and transmitter. Optional the transmitters are using an integrated loop antenna. Ideal to be integrated in key fobs, small hardware and portable devices. Typically used in short range communication up to 100 m distance.

APPLICATIONS

- Security alarm system
- Tubular motor control
- Cooking hoods
- Heating system control
- Gate / garage opener
- Automatic driver recognition system
- Street lighting
- Tarpaulin systems

SMT RADIO MODULS

	TX-434-SMALL P.N. 650201459G	SMT 433 MHz ASK transmitter for external antenna connection, operating at 433.92 MHz.
	TX.42-SMALL P.N. 650201465G	SMT 433.42 MHz ASK transmitter for external antenna connection, operating at 433.42 MHz.
	TX-434-SMALL-IA P.N. 650201460G	SMT 433 MHz ASK transmitter with integrated antenna, operating at 433.92 MHz
	TX.42-SMALL-IA P.N. 650201466G	SMT 433.42 MHz ASK transmitter with integrated antenna, operating at 433.42 MHz.
	RX-4MR50-SMD P.N. 650201464G	Band pass filtered Super Het OOK Receiver, 433.92 MHz, RED compliant (Radio Equipment Directive 2014/53/EU), and in particular with harmonics standards: EN 301 489-3 : V2.1.1 (final draft), EN 300 220-2 : V3.1.1 The low cost SMT OOK receiver with band pass filter, ESD antenna protection in compliance with EN61000-4-2.

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

HEADQUARTERS

ENDRICH Bauelemente Vertriebs GmbH
P.O.Box 1251 · 72192 Nagold, Germany
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

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

Bulgaria
Sofia:
bulgaria@endrich.com

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

Romania
Timisoara:
romania@endrich.com

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

Switzerland – Novitronic
Zurich:
T +41/44 306 91 91
info@novitronic.ch