

# endrich news

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WE WISH YOU A MERRY CHRISTMAS



AND A HAPPY NEW YEAR!

## PART 2 – ELECTRONICA 2016 – LINE UP RECOMMENDED SAW FILTER FOR ISM, 3G UND LTE

(Part 1  
see issue  
11/2016)

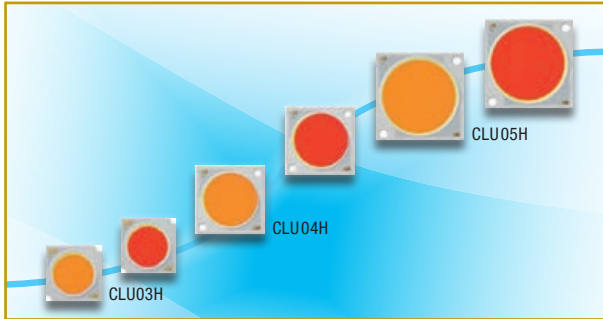
P/N	FREQUENCY (MHz)	INSERTION LOSS (dB)	BAND WIDTH (MHz)	SIZE (mm)
<b>WIFI – SAW FILTER (WIFI, COMBO CHIP, BLUETOOTH)</b>				
TA0222A	2442	1.9	55	3.0 x 3.0
TA0223A	2441.8	2.1	83.5	3.0 x 3.1
TA1218A	2436	3	72	1.4 x 1.1
TA1629A	2450	1.6	100	1.4 x 1.1
TA1468A	2441.8	1.8	83.5	1.4 x 1.1
TA1869A	2442	1.9	79	1.4 x 1.1
TA1834A	2441.75	3	83.5	1.4 x 1.1
<b>SAW FILTER (IOT, SMART MATERING, ALARM &amp; SECURITY, MEDICAL)</b>				
TA0801A	866	2.3	7	3.0 x 3.0
TA0659A	868.3	2.9	1.5	3.0 x 3.0
TA1457A	869.6	2.4	1	3.0 x 3.0
TA0281A	915	2.2	26	3.0 x 3.0
TA1294A	915	2.5	26	1.4 x 1.1
TA0223A	2441.8	2.1	83.5	3.0 x 3.0
TA0222A	2442	1.9	55	3.0 x 3.0
TA1404A	869	2.3	2	3.0 x 3.0 *AEC-Q200
TA14 23A	915	1.9	26	1.4 x 1.1
TA1102A	915	2	26	2.0 x 1.6
TA04 37A	169	2	6	5.0 X 5.0
TA05818	2345	2.8	90	3.0 x 3.0
TA1900A	868.3	3	1.5	3.0 x 3.0
TA1778A	314.45	1.9	1.06	3.0 x 3.0 *AEC-Q200
TA0944A	433.92	1.6	1.6	3.0 x 3.0 *AEC-Q200
TA0657A	315	1.5	0.6	3.0 x 3.0
TA1766A	925.2	2.5	5.8	1.4 x 1.1
<b>SAW FILTER (TPMS)</b>				
TA1565A	433.92	2.6	0.3	3.0 x 3.0
TA1564A	315	2.4	0.36	3.0 x 3.0
<b>SAW FILTER – DUPLEXER (3G, LTE, REPEATER, FEMTOCELL, BASE STATION)</b>				
TF0104A (Band 1)	1950/2140	1.8	60	2.0 x 1.6
TF0105A (Band 2)	1880/1960	2	59	2.0 x 1.6
TF0110A (Band 4)	1732.5/2132.5	1.8	45	2.0 x 1.6
TF0095A (Band 5)	836.5/881.5	1.8	25	2.0 x 1.6
TF0109A (Band 7) *BAW Filter	2535/2655	3.2	70	2.0 x 1.6
TF0093A (Band 8)	897.5/942.4	1.7	25	2.0 x 1.6

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<b>SAW FILTER – DUPLEXER (3G, LTE, REPEATER, FEMTOCELL, BASE STATION)</b>				
TF0075A (Band12)	707/737	1.9	18	3.8 x 3.8
TF0091A (Band13)	897.5/942.4	1.5	10	2.0 x 1.6
TF0108A (Band17)	710/740	2	12	2.0 x 1.6
TF0100A (Band20)	806/847	2.8	30	2.0 x 1.6
TF0112A (Band28)	718/773	1.8	30	2.0 x 1.6
TF0120A (Band 1)	1950/2140	1.8	60	1.8 x 1.4
TF0121A (Band 2)	1880/1960	2.3	59.04	1.8 x 1.4
TF0122A (Band 4)	1732.5/2132.5	1.7	45	1.8 x 1.4
TF0123A (Band 5)	836.5/881.5	1.7	25	1.8 x 1.4
TF0124A (Band 7) *BAW Filter	2353/2655	2.3	70	1.8 x 1.4
TF0125A (Band 8)	897.5/942.5	2.1	30.2	1.8 x 1.4
<b>SAW FILTER – SINGLE FILTER (3G, LTE, REPEATER, FEMTOCELL, BASE STATION)</b>				
TA1818A (Band 1)	1950/2140	1.9	60	1.4 x 1.1
TA1817A (Band 2)	1880/1960	3.4	58.5	1.4 x 1.1
TA1818A (Band 4)	1740/2140	1.9	60	1.4 x 1.1
TA1816A (Band 5&6)	836.5/881.5	1.7	25	1.4 x 1.1
TA1726A (Band 8)	897.5/942.5	1.9	30.2	1.4 x 1.1
TA1962A (Band38)	2595	1.8	50	1.4 x 1.1
TA1122A (Band 39)	1900	2	40	1.4 x 1.1
TA1963A (Band40)	2350	1.8	100	1.4 x 1.1
TA1964A (Band41)	2602	2.6	100	1.4 x 1.1
TA1869A (*BAW Filter)	ISM 2.4G	1.9	79	1.4 x 1.1
TA1834A	ISM 2.4G	3	83.5	1.4 x 1.1
TA1845C (Band 1)	1950/2140	1.9	60	1.1 x 0.9
TA1870C (Band 2)	1880/1960	2.8	60	1.1 x 0.9
TA1843C (Band3)	1747.5/1842.5	2	75	1.1 x 0.9
TA1845C (Band 4)	1732.5/2140	1.9	60	1.1 x 0.9
TA1811A (Band 5&6)	836.5/881.5	1.6	25	1.1 x 0.9
TA1847C	25 35/2655	2.5	70	1.1 x 0.9
TA1839C	897.5/942.5	2	35	1.1 x 0.9
<b>SAW FILTER – IF (3G, LTE, REPEATER, FEMTOCELL, BASE STATION)</b>				
TB0194A	70	8	5	13.3 x 6.5
TB0184A	70	21	3.5	13.3 x 6.5
TB0203A	140	10.5	10	13.3 x 6.5
TB0270A	240	7.7	20	7.0 x 5.0
TB0677A	300	3.8	0.2	5.0 x 5.0
TB1024A	872.4	18.2	4.5	13.3 x 6.5

## CITIZEN HORTICULTURE COBS FOR PLANT GROWING

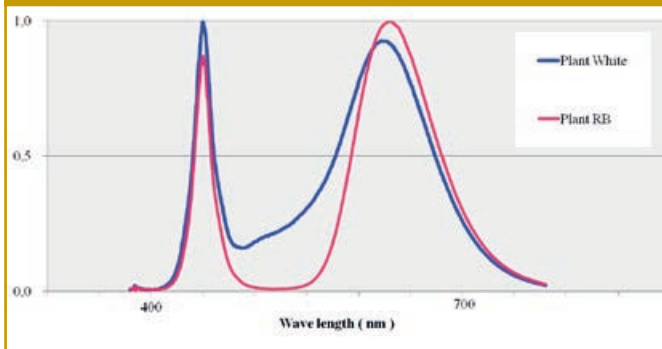


### FEATURES

- Effective replacement for HPS lamps
- Plant White version for end-users
- Plant RB for green housing lighting
- Better plant growing results than HPS lamps
- Life-time L90B50 over 70.000 h

PART NUMBER		CLU03H-25/55-PW-01	CLU03H-25/55-PRB-01	CLU04H-40/85-PW-01	CLU04H-40/85-PRB-01	CLU04H-85/200-PW-01	CLU04H-85/200-PRB-01	CLU05H-170/400-PW-01	CLU05H-170/400-PRB-01
Dimensions (mm)		19 × 19	19 × 19	28 × 28	28 × 28	28 × 28	28 × 28	38 × 38	38 × 38
LES size (mm)		φ14.5	φ14.5	φ22.0	φ22.0	φ22.0	φ22.0	φ32.8	φ32.8
Color		White	RB	White	RB	White	RB	White	RB
Rated Drive at T <sub>j</sub> = 85°C	I <sub>f</sub> (mA)	720	720	1080	1080	1620	1620	1620	1620
	V <sub>f</sub> (V)	34.6	34.6	34.6	34.6	52.0	52.0	103.9	103.9
	P <sub>d</sub> (W)	24.9	24.9	37.4	37.4	84.2	84.2	168.3	168.3
	PPF (μmol/s)	40.1	38.8	58.7	56.7	132.1	127.7	273.0	257.3
	A-PPF (μmol/s)	27.1	31.4	39.3	46	88.4	103.5	183.2	207.9
	Flux (lm)	(2135)	(1365)	(3082)	(2019)	(6933)	(4542)	(14255)	(9169)

### PACKAGE CHARACTERISTICS:



### RESULT FOR PLANT GROWING:

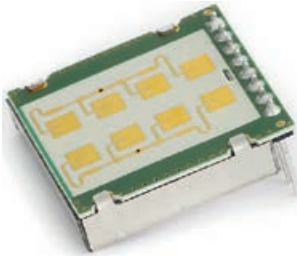
	Day 21	Day 35	SPAD
HPS lamp			7.0
Plant White COB			15.0
Plant RB COB			16.5

### SUITABLE NON-DIMMABLE DRIVERS FOR HORTICULTURE COBS:

Part number	EUC-036S070SV	EUC-052S105SV	EUC-096S175SV	EUC-200S175SV
Power	36 W	52 W	96 W	200 W
I <sub>f</sub> (mA)	700 mA	1050 mA	1750 mA	1750 mA
V <sub>f</sub> (V)	26 ... 52 V	25 ... 50 V	27 ... 54,8 V	68 ... 114 V



# K-LD2 RADAR TRANSCEIVER



**The K-LD2** is an easy to use  $2 \times 4$  patch Doppler module with an asymmetrical beam for lowcost short distance applications. This transceiver includes a RFbeam RSP1 Signal processor and all necessary circuitry.

It outputs a detection signal and also the direction of the movement. Important parameters can be adjusted with external potentiometers. Object speed can be measured using the integrated serial connection.

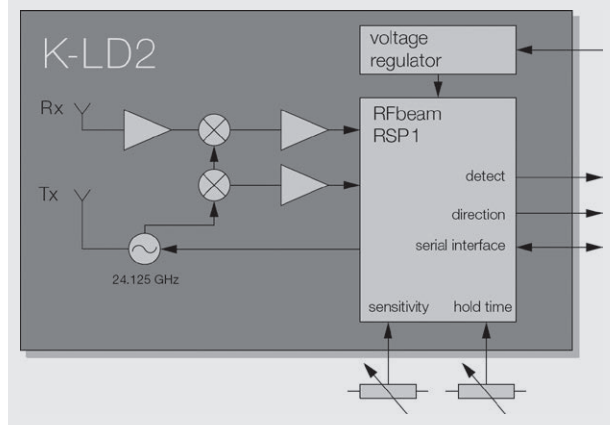
There is no need to write own signal processing algorithms or handle small and noisy signals. This module contains everything what is necessary to build a simple but reliable movement detector. An extremely slim construction with only 6 mm depth gives you maximum flexibility in your equipment design.

A powerful starterkit with signal visualization on a PC is available.

## FEATURES

- 24 GHz miniature I / Q transceiver
- Integrated FFT Signal Processing with digital output
- Lowcost design
- Digital outputs for detection and direction
- Sensitivity and holdtime can be set using analog inputs
- Additional configuration possible with serial input
- $2 \times 4$  patch antenna with  $80^\circ / 34^\circ$  beam aperture
- $25 \times 25 \text{ mm}^2$  surface, thickness  $< 6.5 \text{ mm}$

## BLOCKDIAGRAM



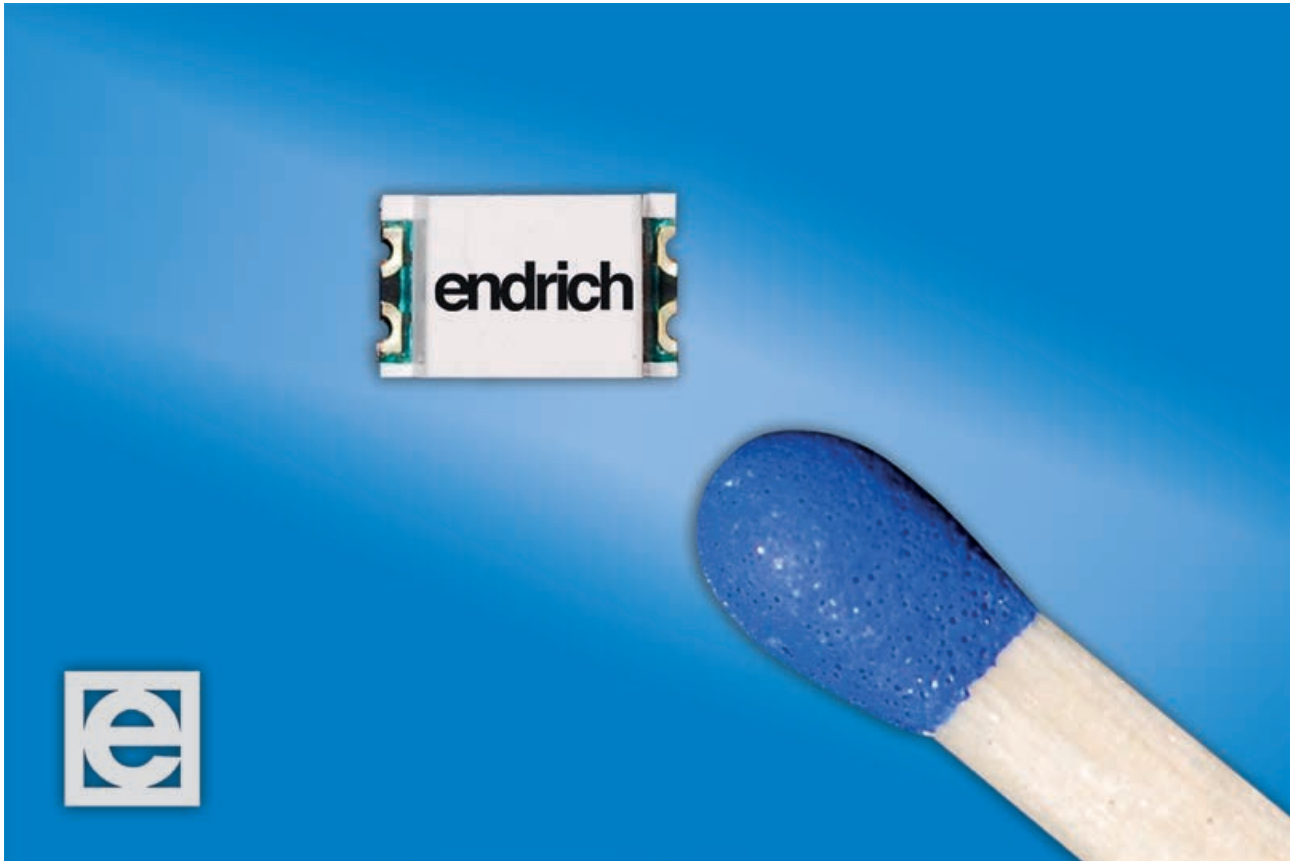
## APPLICATIONS

- General movement detection applications
- Door opener
- Indoor and outdoor lighting control applications
- Object speed measurement systems
- Industrial sensors

PARAMETER	CONDITIONS / NOTES	SYMBOL	MIN	TYP	MAX	UNIT
<b>OPERATING CONDITIONS</b>						
Supply voltage		$V_{CC}$	3.15		6.0	V
Supply current		$I_{CC}$		55		mA
Operating temperature		$T_{op}$	-20		+85	$^\circ\text{C}$
Storage temperature		$T_{st}$	-20		+105	$^\circ\text{C}$
<b>SIGNAL PROCESSING</b>						
Velocity processing				256 point FFT		
Sample rate		$f_{sample}$	1.28		22.5	kHz
Speed range	Depending on sampling frequency	$r_{speed}$	0		255	km/h
Response time	Depending on sampling frequency	$t_{detect}$		100		ms



## CT MICRO'S NEW 4-PIN DFN PACKAGE OPTOCOUPLER, WITH LOW INPUT CURRENT



**Flatest phototransistor optocoupler in the world!**

**In an Optocoupler world,** the word “small” might not be well applicable given the main function of the package is to provide physical isolation between two different potential voltages on any system. However, when the current slimmest package is not good enough for a customer, and other manufacturer say that thinner is not possible at the moment, we implement the “not possible”, by introducing the slimmest DFN Optocoupler package in the world. This brand new ultra slim package has a 25 % reduced thickness compared to the

2 mm height of a Mini-Flat Package or 65 % slimmer if compared to the most common 4Pin DIP Coupler in the market. This great achievement in thickness is possible by using the patented Double-Molded Co-planar (DMCTM) technology which helps to realize a 2.5 kVrms/min of isolation voltage and to be able to ensure a physical internal isolation distance of 0.5 mm. On optical performance wise, the new CTP17 phototransistor opto coupler comes with a CTR performance guarantee at low driving input of 1 mA.

# CT MICRO'S NEW 4-PIN DFN PACKAGE OPTOCOUPLER, WITH LOW INPUT CURRENT

## FEATURES

- Patented Double-Molded Coplanar(DMCTM) design which offers top-of-the-class high isolation voltage performance and overall package robustness for ultra slim package type.
- A guaranteed CTR of 100 % - 300 % at test conditions of  $I_F = 1 \text{ mA}/V_{ce} = 5 \text{ V}$  for low current design flexibility & overall system performance as well as efficiency.
- Low Forward Voltage of typ. 1.24 V @  $I_F = 10 \text{ mA}$

## FEATURES

- 2.5 kVrms/min of high isolation voltage with physical internal isolation of  $\geq 0.4 \text{ mm}$
- High operating temperature of 110°C (125°C under development) to improve the overall high temperature reliability
- Easily expandable to dual and quad channel device with unique DFN package design to serve high density system.
- 100 % Pb-free & RoHS compliant with optional on Halogen Free selection to meet all green environmental initiative

## ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETERS	RATINGS	UNITS	NOTES
<b>ABSOLUTE MAXIMUM RATING AT 25°C</b>				
<b>Viso</b>	Isolation voltage	2500	$V_{RMS}$	
<b>P<sub>TOT</sub></b>	Total power dissipation	135	mW	
<b>T<sub>OPR</sub></b>	Operating temperature	-55 ~ +125	°C	
<b>T<sub>STG</sub></b>	Storage temperature	-55 ~ +150	°C	
<b>T<sub>SOL</sub></b>	Soldering temperature	260	°C	

SYMBOL	PARAMETERS	TEST CONDITIONS	MIN	TYP	MAX	UNITS	NOTES
<b>EMITTER CHARACTERISTICS</b>							
<b>V<sub>F</sub></b>	Forward voltage	$I_F = 10 \text{ mA}$	-	1.24	1.4	V	
<b>I<sub>R</sub></b>	Reverse Current	$V_R = 6 \text{ V}$	-	-	5	$\mu\text{A}$	
<b>C<sub>IN</sub></b>	Input Capacitance	$f = 1 \text{ MHz}$	-	10	30	pF	

# ABC INDUCTORS EXTENDS THE AVAILABLE CASE SIZES OF THE QS SERIES



**For their QS series, ABC chose** square type ferrite cores instead of the commonly used round version which enables the total automatization of all process steps. This change enlarges the available space for the winding. The application of modern ferrite mixtures helps to further optimize all electronic performances, especially the Rdc, which leads to a reduction of total losses. By omitting the manual process steps, the production yield rate and quality are significantly increased.

## FEATURES

- Improved construction and modern materials help to optimize the performance.
- Magnetically shielded for optimal EMC
- Value Range 1.0 ... 1000  $\mu$ H
- Improved DCR
- Wide, rectangular terminals for optimal connection

## APPLICATIONS:

- General DC/DC converter in consumer and industrial electronics
- Electronic measuring, control and regulating technology
- Metering devices
- Peripheral and IT devices
- Suitable for Automotive (AEC-Q200)



## GENERAL PARAMETERS

In M/P	QS3818-L	3.8×3.8×1.8	1.0 ~ 100	27.5 ~ 2040	2.1 ~ 0.2	3.6 ~ 0.34
New in M/P	QS3828-L	3.8×3.8×2.8	3.3 ~ 100	37 ~ 956	1.7 ~ 0.32	2.5 ~ 0.48
In M/P	QS4818-L	4.8×4.8×1.8	1.0 ~ 100	19.2 ~ 1158.4	3.6 ~ 0.33	5.1 ~ 0.5
In M/P	QS4828-L	4.8×4.8×2.8	1.2 ~ 560	18.5 ~ 2605.5	3.0 ~ 0.15	5.0 ~ 0.3
New in M/P	QS5828-L	5.8×5.8×2.8	2.6 ~ 680	23 ~ 4045	3.15 ~ 0.21	4.5 ~ 0.31
New in M/P	QS5818-L	5.8×5.8×1.8	1.5 ~ 220	24 ~ 3085	3.9 ~ 0.32	4.8 ~ 0.33
New in M/P	QS6828-L	6.8×6.8×2.8	2.5 ~ 1000	23 ~ 4070	3.4 ~ 0.17	4.9 ~ 0.3
Coming soon	QS3228-L	3.2×3.2×2.8				
Coming soon	QS5218-L	5.2×5.2×1.8				
Coming soon	QS5218-L	5.2×5.2×2.8				
Coming soon	QS6222-L	6.2×6.2×2.2				



Coming soon

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