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embedded 2014

Nuremberg, Germany

25. - 27. 2. 2014

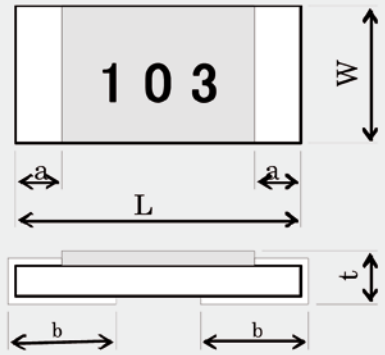
Welcome to our

stand 259 in hall 1

THICK FILM CHIP RESISTORS LINE UP 2014

HIGH POWER – TFR-S SERIES

DIMENSION (mm)

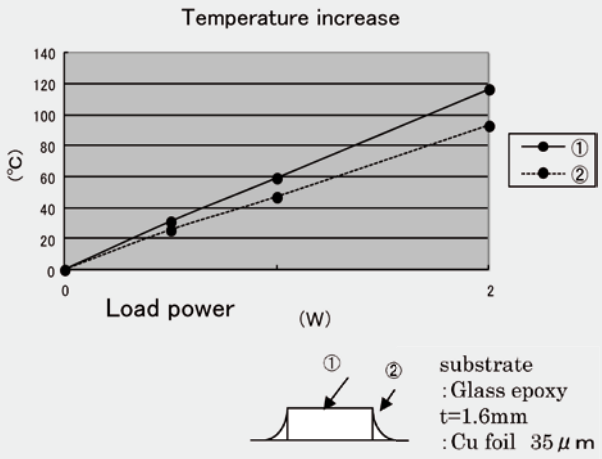


L: 6.30±0.20
W: 3.20±0.20
t: 0.60±0.10
a: 0.70±0.20
b: 2.20±0.20

FEATURES

- Using 2512 size with narrow side-electrode
- TFR-S series can achieve to create 2 W product
- The unique back electrode and recommended land pattern can increase heat dissipation
- Resistance values 0.1 Ω ... 1 MΩ (E96/E24), ±1 %

TEMPERATURE INCREASE VS. LOAD POWER

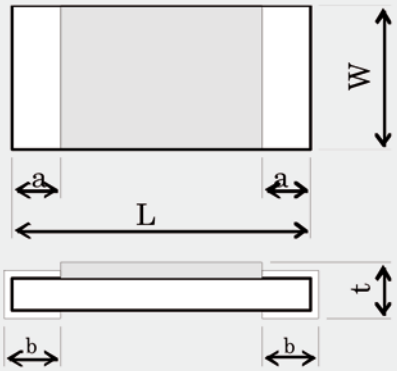


APPLICATIONS

- Using 2512 size with narrow side-electrode, TFR-S series can perform in a control and power supply unit of inner machines that require a control against high power

HIGH VOLTAGE – TFR-V SERIES

DIMENSIONS (mm)



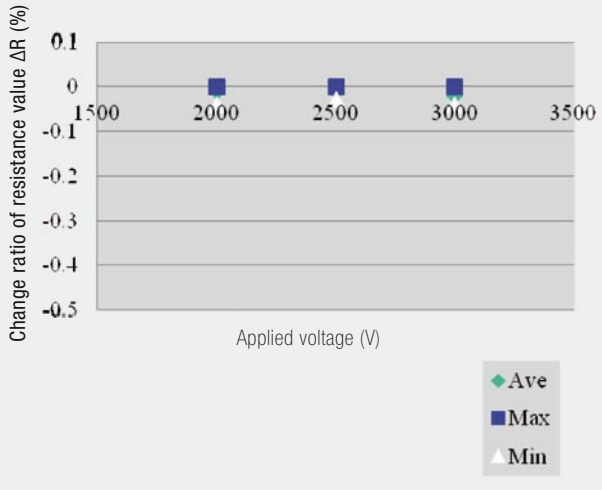
TFR1V
L: 6.30±0.20
W: 3.20±0.20
t: 0.60±0.10
a: 0.70±0.20
b: 0.70±0.20

TFR2V
L: 5.00±0.20
W: 2.50±0.20
t: 0.60±0.10
a: 0.60±0.20
b: 0.50±0.30

FEATURES

- Using unique resistance pattern, highest maximum overvoltage of 4 kV (TFR1V)/3 kV (TFR2V) are guaranteed
- Ideal adhesive strength of side terminals
- Resistance values 0.1 Ω ... 1 MΩ (E96/E24), ±1 %

SHORT TIME - OVERVOLTAGE TEST TFR2V



APPLICATIONS

- Control unit of car electronics such as ignition that requires voltage control in the range of kV
- Medical machines, e. g. defibrillator

new

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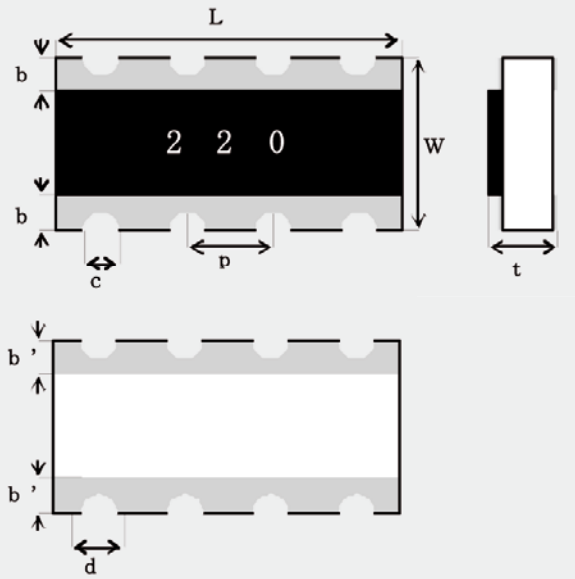
THICK FILM CHIP RESISTORS LINE UP 2014

LONG SIDE ELECTRODE
THICK FILM CHIP RESISTORS
TFH-G SERIES

DIMENSIONS (mm)



TFH8G		TFH1G	
L:	3.20±0.15	L:	6.40±0.20
W:	1.60±0.15	W:	3.10±0.20
t:	0.60±0.10	t:	0.60±0.10
b:	0.30±0.20	b:	0.35±0.15
b':	0.40±0.20	b':	0.70±0.20
c:	(0.30)	c:	(0.30)
d:	0.40±0.20	d:	0.40±0.20
p:	(0.80)	p:	(1.27)

APPLICATIONS

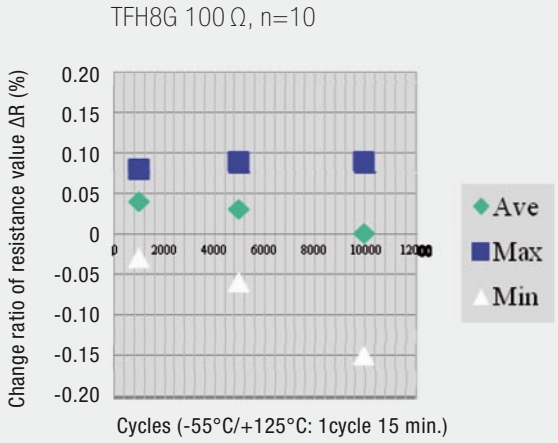
With a tendency that environmental temperature suddenly change

- Automotive – Control and power unit of car electronics
- Industrial – Machine control systems

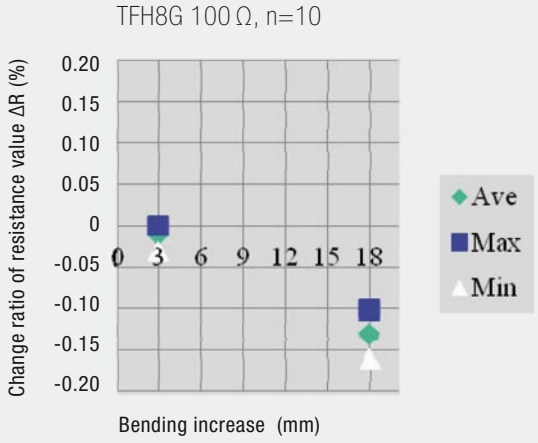
FEATURES

- Using concave type network substrate, TFH-G series can enhance solder bond strength
- With the achievement of unique location of resistance body, laser trimming and long side electrode, TFH-G series enhance heat dissipation
- 1206 size can perform 0.75 W (1.0 W: 0.1 Ω ~ 1 Ω)
- Resistance values 20 Ω ... 1 MΩ (E96/E24), ±1 %

TEMPERATURE CYCLE TEST



BENDING TEST



new

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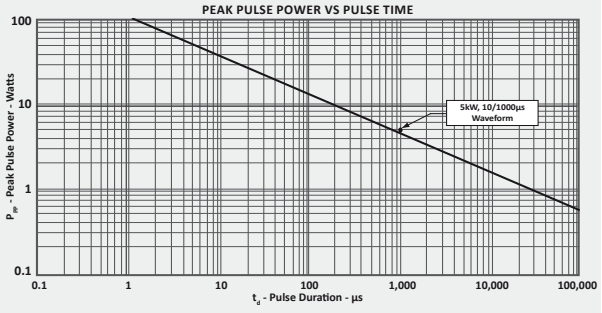
PAM25DF25K33 – AEC-Q101 QUALIFIED 5 kW PROTECTION SOLUTION

The **ProTek Devices' PAM25DF25K33** is a high-powered surface mount TVS component designed for automotive circuit protection from damaging effects of high voltage spikes.

The device provides 5,000 watts of peak pulse power dissipation for a 10/1000µs waveform. It is AEC-Q101 qualified. It is also compatible with IEC 61000-4-5 (surge): 48A, 8/20µs - L3 (line-ground), L4 (line-line) and L1 (power).
It allows unidirectional configuration and easy mounting to printed circuit boards.
The PAM25DF25K33 is RoHS and REACH compliant.
The DFN-2-5KW surface mount package configuration provides a lower profile at a reduced cost.
It has an approximate weight of just 2.5 grams.
It has lead-free silver plating and features a solder reflow temperature of 260-270 degrees Celsius.
It also boasts a flammability rating of UL 94V-0.

PEAK PULSE POWER VS. PULSE DURATION



MAXIMUM RATINGS

PARAMETER		VALUE	UNIT
Operating temperature	T_{OPR}	-55 ... +150	°C
Storage temperature	T_{STG}	-55 ... +150	°C
Peak pulse power (tp=8/20µs)	p_{FP}	5000	W

ELECTRICAL CHARACTERISTICS PER LINE

PART NUMBER	MARKING CODE	RATED STAND-OFF VOLTAGE V_{WM} [V]	MIN. BREAKDOWN VOLTAGE V_{BR} [V]@ 5mA	MAX. CLAMPING VOLT. [V] @ 10/1000µs, I_{FP}	MAX. LEAKAGE CURRENT I_D (µA) @ 33V
PAM25DF25K33	5U33	33	36.8	53.3 V @ 94.0 A	8

new

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NEW GNSS SOLUTIONS

LOCOSYS Technology, a research and development focused company, providing design capabilities and technical expertise in developing GPS/GNSS (Global Navigation Satellite System) modules, und TMC (Traffic Message Channel) devices and G-mouse. LOCOSYS is official value-added partner or strategic partner of main GNSS chipset makers from world market leader such as Mediatek, CSR / SiRF and STM. Optimized products for applications in markets such as Automotive, telematics, monitoring, tracking or security.Mass production of these products is manufactured by self-owned ISO/TS 16949 production line. Based on the agreement, Endrich will offer the LOCOSYS portfolio of GPS/GNSS related end-products on a pan-European level to its customers. GNSS has become a standard request from customers as they benefit from the advantages as faster cold start times and more precise accuracy enhancing their applications. LOCOSYS has announced several new GNSS solutions in various form factors supporting GPS, GLONASS, GALILEO, QZSS and SBAS in single compact GNSS modules with hybrid A-GPS support. GNSS modules are available with Flash or ROM integrated on the board as well as products with embedded antenna (Smart Antenna). LOCOSYS GNSS modules are specified for temperature range of -40°C to +85°C. Testing software and Evaluation kit are available.

LINE UP 2014

New GNSS solutions:
CSR(SiRF Star V) series

New SiRF Star V series GNSS solutions will be launched in 2014 Q1, and it will have options on form factor and memory types. Customers can easily upgrade from LOCOSYS' existing solutions without hardware modifications. Contact us to get more information

New form factor for easy design

The new MC-1108 modules are available now. With additional LNA in a compact small size 11.4×8.8 mm and simplified pin define. Options include GPS ROM base (MC-1108-2R), GPS flash base (MC-1108) and GNSS flash base (MC-1108-G/-B). Samples and EVK are available now, please contact us!

Combo solutions
(GPS/GNSS +
GSM/GPRS modules)

LOCOSYS' combo module CHM-3335 combines certified GNSS and GSM/GPRS solution in a small-form-factor combo module; it's capable of providing precise autonomous position, velocity, and delivering GSM/GPRS performance for voice, SMS and data. The module can simultaneously acquire and track multiple satellite constellations including GPS, BeiDou, GLONASS, QZSS and SBAS. Optional SMD type: CSM-2228.

BeiDou Mouse „plug and play"

Compact design and easy integration makes customers to add GNSS receiver so simple! Optional connector types: USB, PS2, RJ11, phone plug and mini USB. Besides GNSS mouse, LOCOSYS has other selective solutions: GPS mouse (ROM base/flash base).

ST-1612-T
Precision timing GNSS module

LOCOSYS ST-1612-T module can simultaneously acquire and track multiple satellite constellations that include GPS and GLONASS. The ST-1612-T has timing features of T-RAIM algorithm and position hold auto survey mode. Besides, 1PPS output is available with only one visible satellite. Its precision GNSS timing is suitable for applications such as communication base stations and electrical power grids.

Please note:
Fine tune is strongly recommended when customer choose the antenna size smaller than 25 mm × 25 mm.

new

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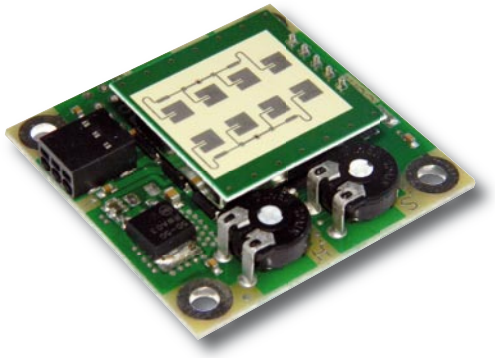
LOW POWER MOVEMENT DETECTOR – RFA1



The **RFA1** is a radar based movement detector for objects moving up to 80 km/h in continuous mode. It consists of a radar sensor and a processing board. The output is an open collector driver with adjustable hold time from 1second to 30 minutes. Advanced pulsed technology allows low current operation at less than 10 mA.
Sensitivity is adjustable between 1 m and 10 m for persons.

FEATURES

- Low power radar movement detector
- Adjustable sensitivity 1 m to 10 m for persons
- Adjustable hold 1 second … 30 minutes
- Object detection from 1 cm/s … 80 km/h
- Selectable continuous and pulsed mode
- Power supply DC 6 V … 15 V
- 7 mA supply current in pulsed mode
- Fluorescent lamp interference suppression

APPLICATIONS

- Energy saving applications
- General movement and presence detection
- Surveillance applications
- Lighting control

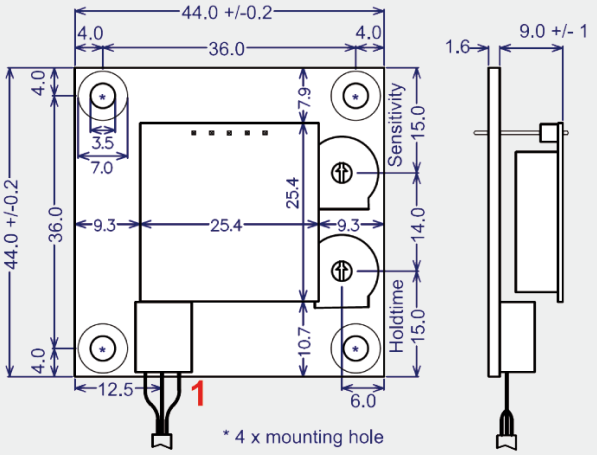
PIN ASSIGNMENT

1 GRD
2 Vcc 6 .. 24 V
3 OUT (open collector)

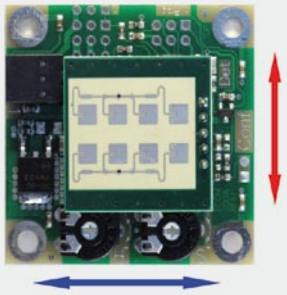
DETECTION FIELD

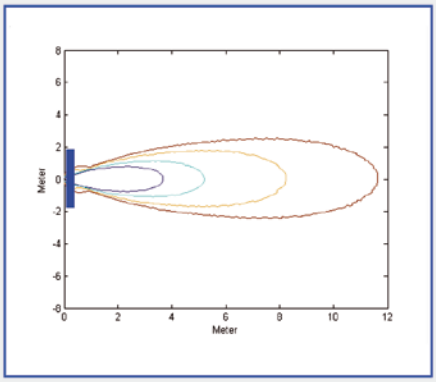
RFA1 can be mounted as shown below to get horizontally a "narrow field". Rotating the module by 90° results in a wider field (see right diagram of the typical detection fields for a walking person at different sensitivity settings).

DIMENSIONS (mm)

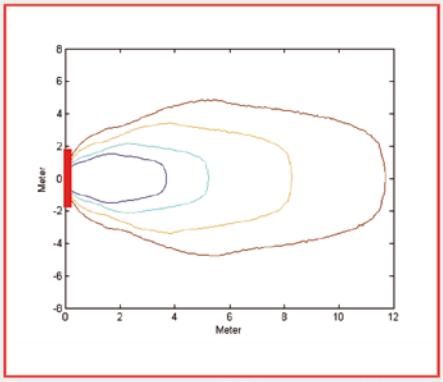


RESPONSE DIAGRAMS VS. MOUNTING VERSION





Frontal response diagram



Frontal response, RFA1 turned by 90°

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LOW POWER MOVEMENT DETECTOR – RFA1

PRINCIPLE OF OPERATION

The **RFA1** is a movement sensor containig a Doppler Radar module K-LC1a (technical datas see next page). Signal acquisition, amplifier and digitizer are built in hardware, while timing and output are processed in a microcontroller.

The **RFA1** can operate in two modes:

- Continuous mode, where the Radar module is always powered.
- In pulsed mode, the Radar module is powered during approx. 4 µs and switched off during 200 µs (i.e. duty cycle of around 2%).

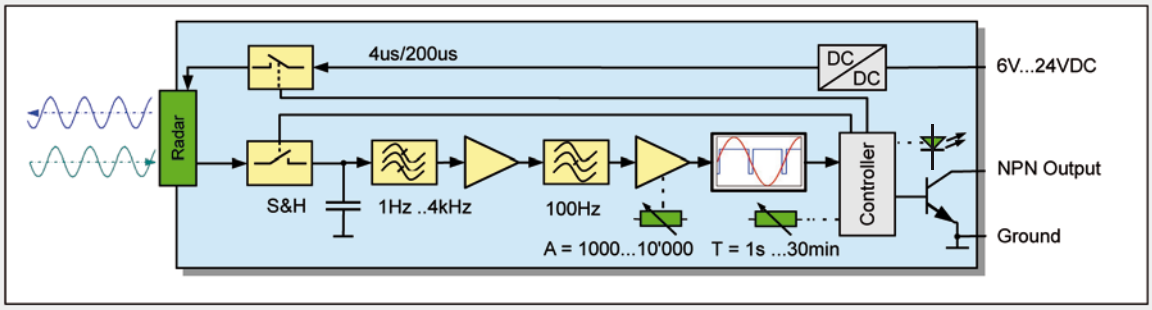
During the off time, signal is stored in a sample & hold (S&H) circuit. Signal output frequency of the Radar module is 44 Hz/km/h or 158 Hz/m/s.

Radar output voltage depends on reflectivity and distance of the moving object. It ranges from a few µV to some mV.

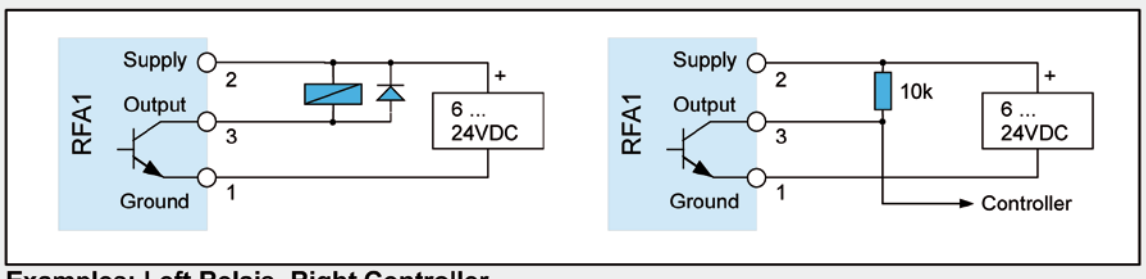
This signal is filtered and passes a band-stop at 100 Hz. This reduces the influence of fluorescent lights in countries with a mains frequency if 50 Hz.

After a gain-adjustable amplifier, the amplified signal passes a window comparator. Comparator signal contains double frequency of the input signal and is read by a microcontroller. Microcontroller performs some digital filtering, timing and output control.

BLOCK DIAGRAM



APPLICATIONS



Examples: Left Relais, Right Controller

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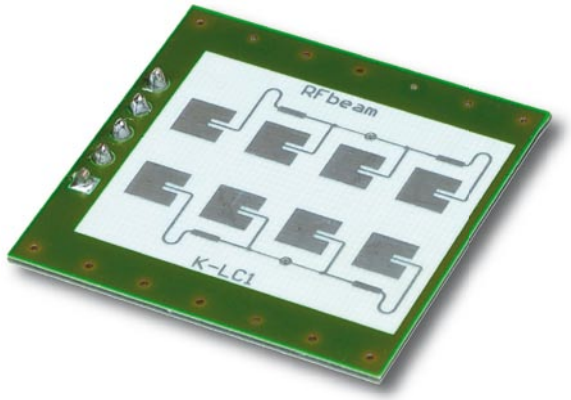
RADAR TRANSCEIVER K-LC1A



The radar module **K-LC1a** is a 8 patch Doppler module with an asymmetrical beam for lowcost short distance applications.
Its typical applications are movement sensors in the security and lighting control. In building automation this module may be an alternative for infrared PIR thanks to its outstanding performance/cost ratio.
The module is extremely small and lightweight.
With its IF bandwidth from DC to 50 MHz it opens many new applications. FM and FSK are possible thanks to the uniqueRFbeam oscillator design. This allows to use this low-cost module even in ranging applications.

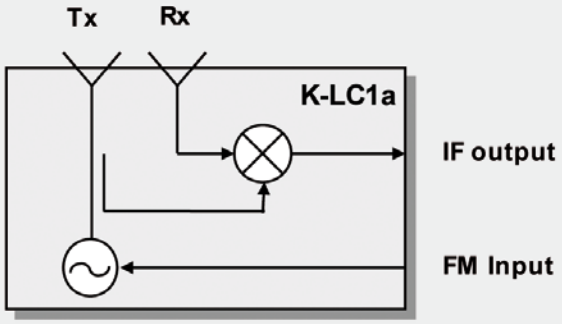
FEATURES

- 24 GHz short range transceiver
- Beam aperture 80°/34°
- 100 MHz typical sweep rate
- Low cost design
- Compact size: 25mm × 25mm × 6mm
- Detection distance for persons: 12 m

APPLICATIONS

- Security systems
- Industrial sensors
- Simple short range distance detection
- High speed short range data transmission
- Movement detectors for Lighting and general building applications

BLOCK DIAGRAM



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