Panasonic
ideas for life

High-sensitive human detection sensor with built-in amp.

PIR MOTION SENSOR (((PaPIRs)))

WL series / VZ series

Standard type | Long distance detection type

NaPiOn series

Standard type | Slight motion detection type | Spot detection type | 10m detection type

RoHS compliant

ADVANTAGES

- **Simplified circuitry with fully integrated circuit design**
- **1μA low current consumption with the proprietary design**
- **Excellent resistance to electromagnetic noise**
- **High Signal/Noise ratio to minimize false operation**
- **Environment-friendliness with "Lead-free" element**

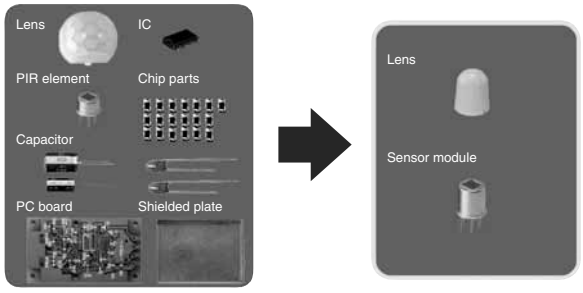
TYPICAL APPLICATIONS

- **Lighting: lamp, automatic switch, street lighting**
- **Anti-crime devices: security camera, crime-prevention sensor**
- **Home appliance: air conditioner, air purifier, fan heater**
- **Commercial equipments: vending machine, copy machine**
- **Audio and Visual devices: TV, PC, display**

FEATURES

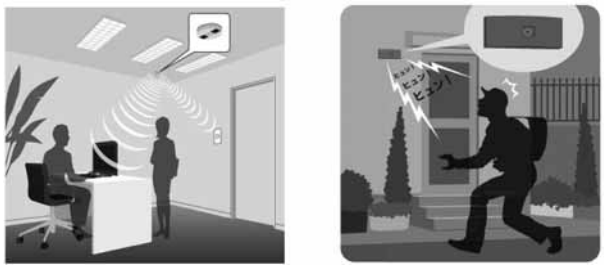
1. Sensing circuits enclosed in a TO5 can

The high-density embedded circuit design eliminates external sensing circuits. Advantages include reduced development and design schedules.



2. Super low current consumption

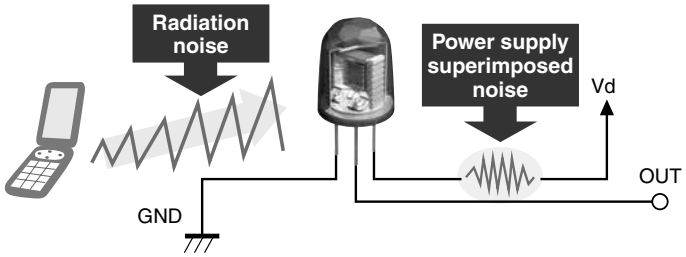
Reduction of current consumption allows battery life to be extended for battery driven products, including wireless based and low power consumption devices.



3. Excellent noise resistance

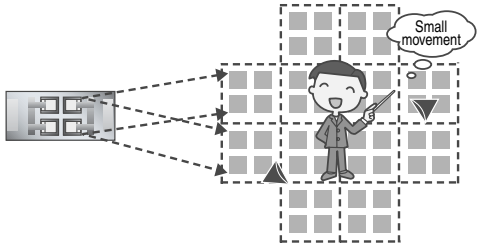
(Radiations noise, power supply noise)

The entire circuitry is enclosed in a metal package, which means it has high electromagnetic shielding capability.



4. Miniaturized lenses with small elements

A short focal length is all that's required even when detecting at the same distance, which means both downsizing and high-sensitivity are achieved.



PRODUCT TYPES

1. WL series

Detection performance	Lens color	Consumption current		
		1μA	2μA	6μA
Standard type	White	EKMB1101111	EKMB1201111	EKMB1301111K
	Black	EKMB1101112	EKMB1201112	EKMB1301112K
	Pearl White	EKMB1101113	EKMB1201113	EKMB1301113K
Long distance detection type	White	EKMB1103111	EKMB1203111	EKMB1303111K
	Black	EKMB1103112	EKMB1203112	EKMB1303112K
	Pearl White	EKMB1103113	EKMB1203113	EKMB1303113K

2. VZ series

Detection performance	Lens color	Consumption current 170μA
Standard type	White	EKMC1601111
	Black	EKMC1601112
	Pearl White	EKMC1601113
Long distance detection type	White	EKMC1603111
	Black	EKMC1603112
	Pearl White	EKMC1603113

3. NaPiOn series

Detection performance	Lens color	Digital output	Analog output
Standard type	Black	AMN31111	AMN21111
	White	AMN31112	AMN21112
Slight motion detection type	Black	AMN32111	AMN22111
	White	AMN32112	AMN22112
Spot detection type	Black	AMN33111	AMN23111
	White	AMN33112	AMN23112
10m detection type	Black	AMN34111	AMN24111
	White	AMN34112	AMN24112

RATING

1. Absolute maximum rating (Measuring condition: ambient temperature = 25°C 77°F)

Power supply voltage	–0.3 to 7.0VDC (for VZ series, NaPiOn series), –0.3 to 4.5VDC (for WL series)
Usage ambient temperature	–20 to 60°C –3 to 140°F (No freezing and condensing at low temperature)
Storage temperature	–20 to 70°C –4 to 158°F

2. Electrical characteristics

1) WL series VZ series

Items	Symbol	WL series			VZ series	Measuring conditions
Rated consumption current (Stand by) Note)	Iw	1μA ave.	2μA ave.	6μA ave.	170μA ave.	Ambient temperature = 25°C 77°F Iout = 0 Operating voltage 5V (VZ) 3V (WL)
Rated operating voltage	Vdd	2.3VDC min. 4.0VDC max.			3.0VDC min. 6.0VDC max.	
Output current (When detecting)	Iout	100μA max.			100μA max.	Ambient temperature = 25°C 77°F Vout ≧ Vdd-0.5V Operating voltage 5V (VZ) 3V (WL)
Output voltage (When detecting)	Vout	Vdd-0.5VDC min.			Vdd-0.5VDC min.	Ambient temperature = 25°C 77°F Open when not detecting Operating voltage 5V (VZ) 3V (WL)
Circuit stability time	Twu	25s typ. 210s max.		10s max.	30s max.	Ambient temperature = 25°C 77°F Iout = 0 Operating voltage 5V (VZ) 3V (WL) Ts [°C] = Const. (WL)

Note: The current which is consumed during detection consist of the standby consumed current plus the output current.