

OKAYA Electric Industries, Co., Ltd.

Presentation 2018



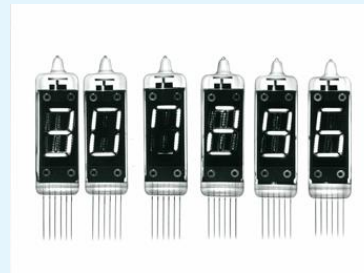
Prepared by : OKAYA ELECTRIC INDUSTRIES CO., LTD.

Company Profile

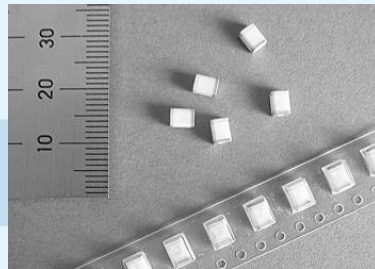
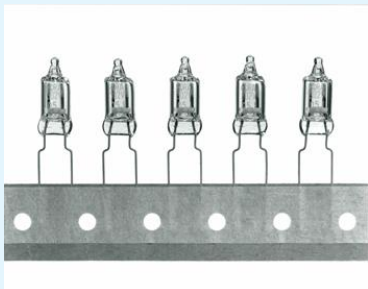
- Year founded : 1946
- First Product in History : Vacuum Tubes
- Capital : US\$ 20M, EUR 18M (2018)
- Sales : US\$ 123M, EUR 105M (2018)
*1USD=JPY111, 1EUR= JPY129
- Employees : 1,902 (Mar 2018)
- Stocks : Listed on Tokyo Stock Exchange
(First section)



OKAYA First Product
Special Vacuum Tubes
For
Japanese Navy
(1942 ~ 1945)



From military to consumer(1950's to 1970's)

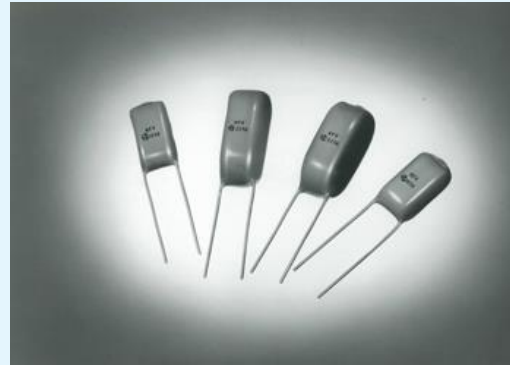


GDT



LED Lighting

Meanwhile, from 1960's,
film caps business launched
at the decline in vacuum tubes business

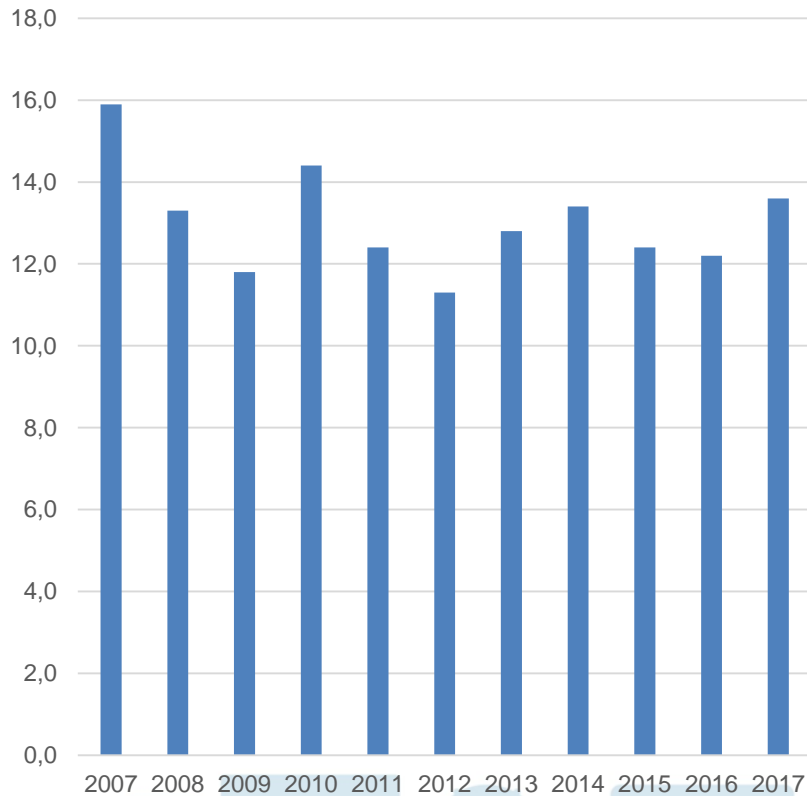


And still remains today...



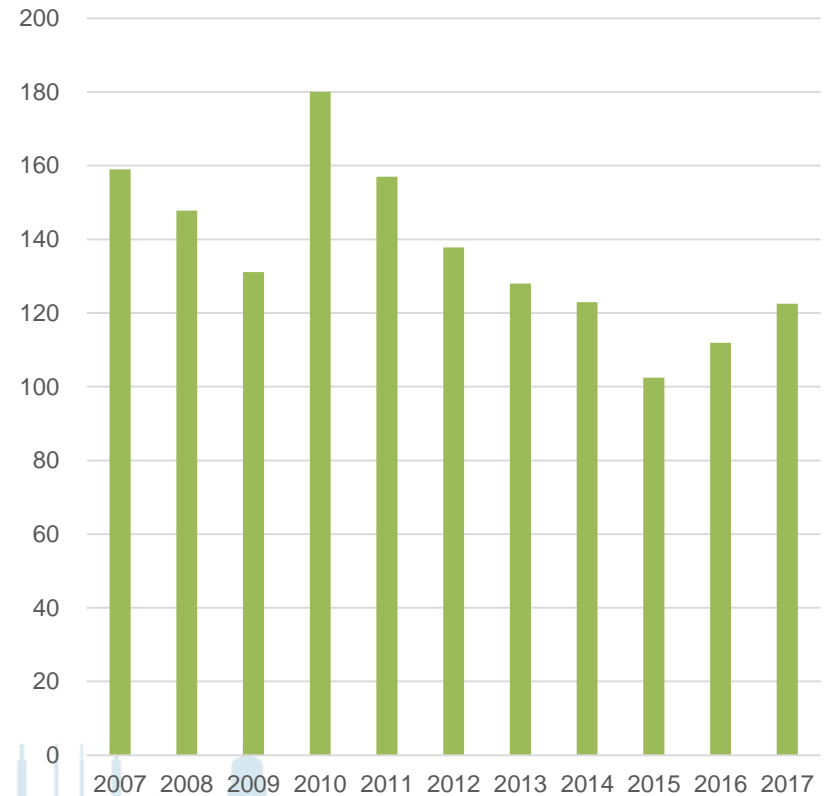
Turnover history

JPY(Billion)



■ B JPY

USD(Million)



■ M USD



OKAYA

Shareholders

As of April 2018

- Oki Electric Industry Co., Ltd. 15.7%
- Meiji Yasuda Life Insurance Company. 9.0%
- TPR Co., Ltd. 6.3%
- Mizuho Bank, Ltd. 4.7%
- Yasuda Real Estate Co., Ltd. 2.8%



Product Range

NOISE

- Noise Suppression Capacitor
- Spark Quencher
- Snubber capacitor
- Capacitor for PFC circuit
- Noise filter
- Common Mode Choke Coil

surge

- Gas Discharge Tubes
- Surge protective device
- Avalanche Breakdown Diode

LED Display

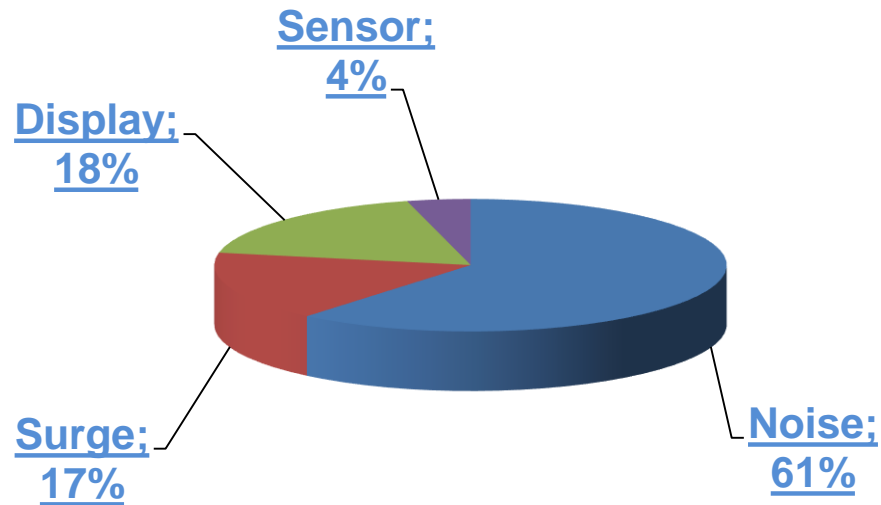
- High Power LED
- Bo-Jo LED
- LED Display

Sensor

- Infrared LED
- High Power Infrared LED
- Transmissive Photo Interrupter
- Photo Reflector



Sales Breakdown



- Noise (Capacitor & Noise filter) 61%
- Surge Absorbers 17%
- Display 18%
- Sensor 4%



Noise/Surge Products

Noise Suppression Capacitors

Noise suppression capacitors are most widely applied in power line applications as countermeasures to noise occurring in inverters, switching power supplies, brush motors, and to the full range of office automation equipment.

OKAYA has many variety of noise suppression capacitors.

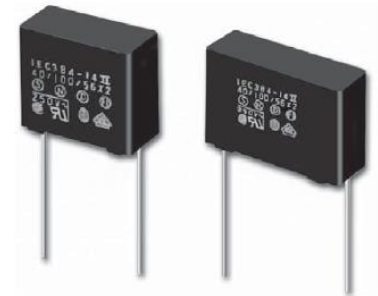


Noise/Surge Products

Spark Quencher

Spark Quenchers are easily selectable electronic components designed to prevent or substantially minimize the occurrence of arcing and noise generation in relay and switch contacts. They also serve as snubbing circuits for solid state switching devices.

Spark Quenchers consist of specially designed capacitors and resistors connected in series. Spark discharges and induced noise are absorbed over a wide range by the accumulation characteristic and impedance of the capacitor, while the RC time constant delays and averages surge voltage and oscillation.



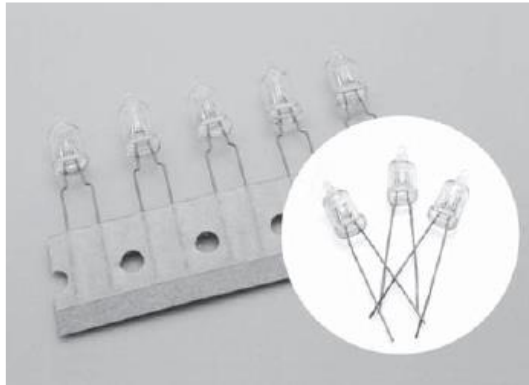
Noise/Surge Products

EMI/RFI Power Line Noise Filters

Conductive noise interferes with electric components and systems by being transmitted along power lines and the wiring of electronic circuits. OKAYA's power line filters are designed to suppress conducted EMI/RFI emissions over a broad range of frequencies. Single Phase and 3-Phase Filters are available with voltage ratings to 500VAC and power rating to 250A. All filters have Safety agency approvals for worldwide acceptance.



Noise/Surge Products

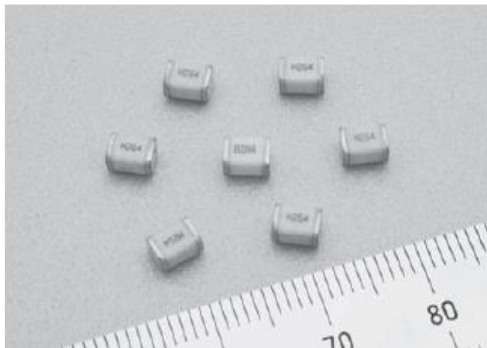


Gas discharge tube(GDT)

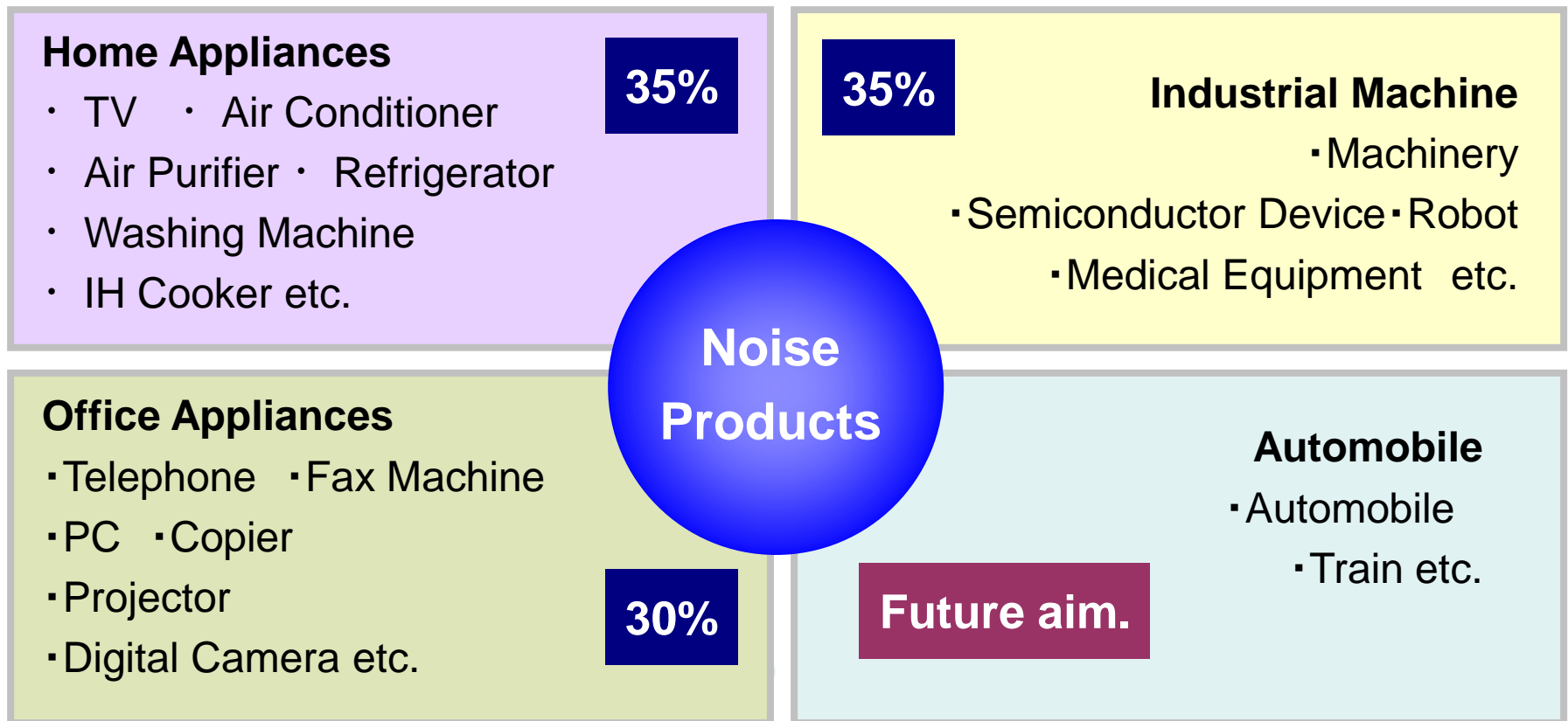
/Surge protective device(SPD)

Power surges, both voltage and current, are occurring continually in today's power systems. Whether they occur naturally, such as from lightning and static electricity; or are man made, such as from inductive surges from motor, transformers, solenoids, etc. Power surges are a fact of life. These power surges have a very high voltage and current level as compared to electrical noise.

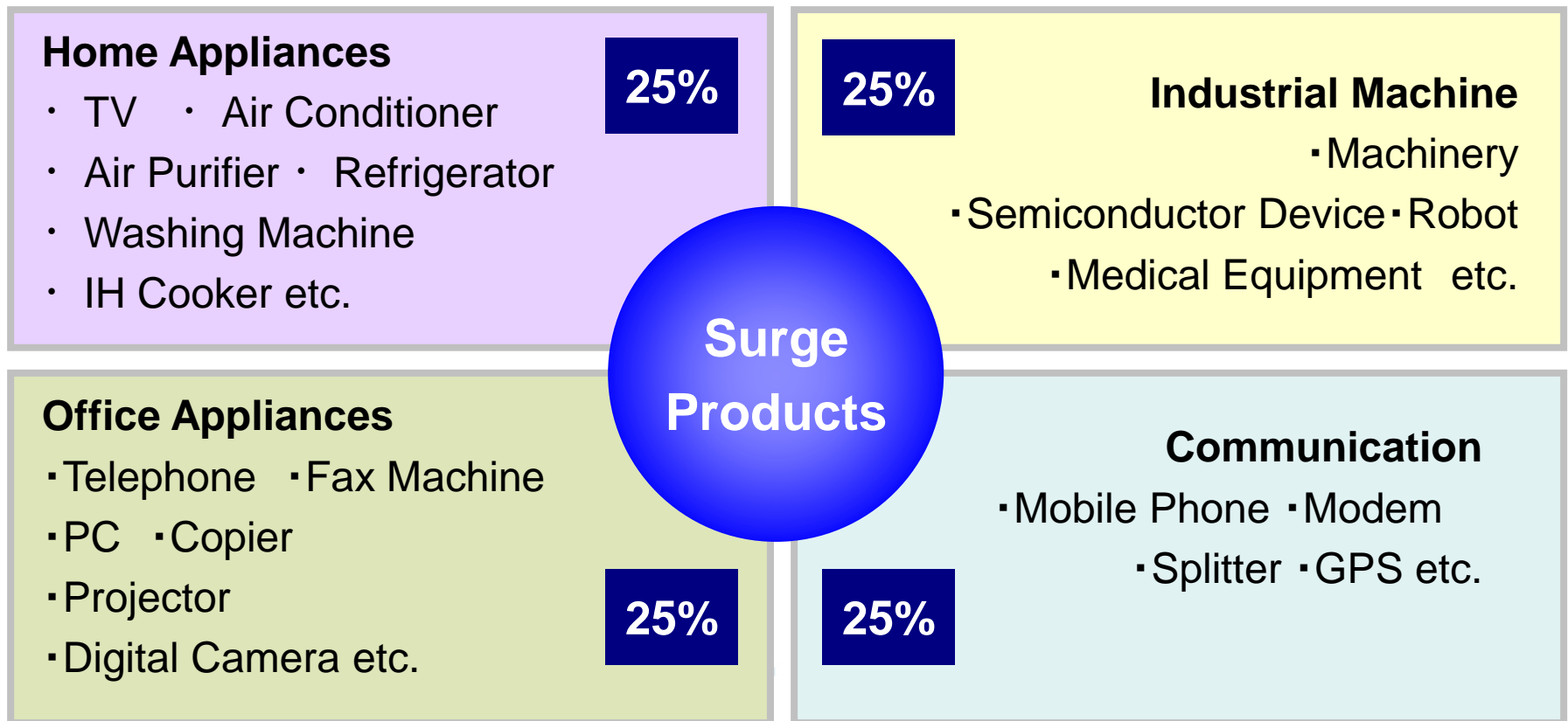
OKAYA's GDT and SPD are designed to aid in the suppression of high-energy transient voltage surges. Products ranging from Gas Tubes to Suppression Systems have worldwide approvals to meet safety agency requirements.



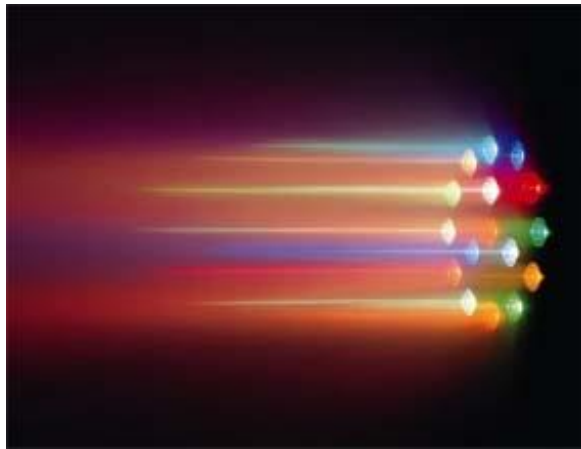
Noise Product Market by Application



Surge Product Market by Application



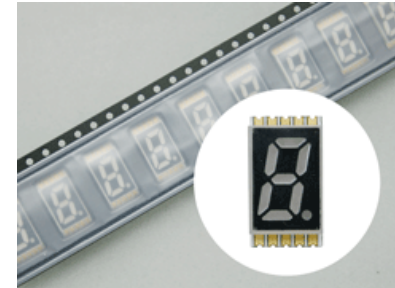
LED Display Products



High Power LED



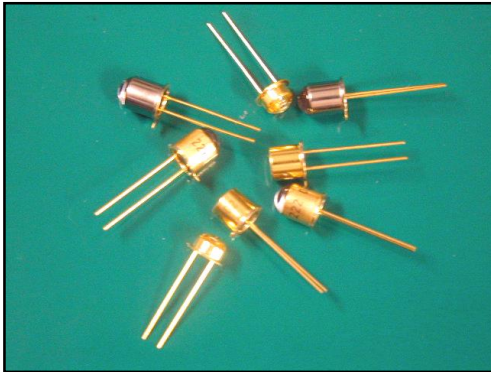
Bo-Jo LED



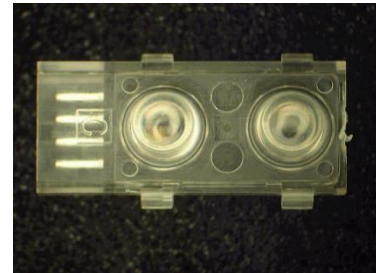
7-segments



Sensor Products



Infrared LED



Transmissive Photo Interrupter

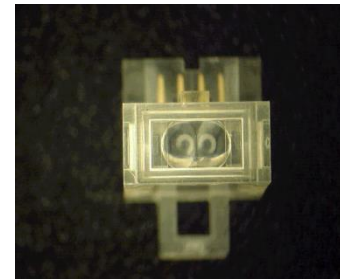


Photo Reflector



Major Customers

- Sony
- Panasonic
- NEC
- Toshiba
- Hitachi
- Fujitsu
- Sharp
- Ricoh
- Sanyo
- Epson
- Pioneer
- Oki
- Mitsubishi
- Fuji
- JVC
- Murata

- Siemens
- Schneider
- Schaffner
- IBM
- HP
- HP/Compaq
- Honeywell
- Electrolux
- Motorola
- Dell
- GE
- Whirlpool
- Rockwell
- Kodak
- Alcatel
- Fanuc
- SMC Corp

Sales Network

- Okaya Japan (OEI) Japan, Middle East, Africa, Oceania, EU
- Okaya America (OEA) North/South America
- Okaya Hong Kong (OHT) Asia- China, Taiwan, Korea
- Okaya Singapore (OES) Asia- the rest of Asia
- Okaya Thailand (OET) Asia- Thailand



R&D Locations

Nagano Tech Center

(Nagano, Japan)



- Film Capacitor
- LED
- Sensor

Saitama Tech Center

(Saitama, Japan)



- EMI Filter, Coil
- Gas Discharge Tube
- Surge Protective Device
- Avalanche Breakdown Diode

Factory Locations

Iwate, Japan



- Film Capacitor

Fukushima, Japan



- Noise Filter
- LED
- Sensor

Saitama, Japan



- GDT
- SPD
- ABD

Donguang, China



- Film Capacitor
- Noise Filter
- Common mode Choke Coil
- SPD
- LED

Katunayake, Sri Lanka



- Film Capacitor
- Common mode Choke Coil

Quality Management System



Thank you for your attention

Dziękuję za uwagę

Vielen Dank für Ihre Aufmerksamkeit

İlginiz için teşekkür ederim

Grazie per l'attenzione

Gracias por su atención

Merci de votre attention

