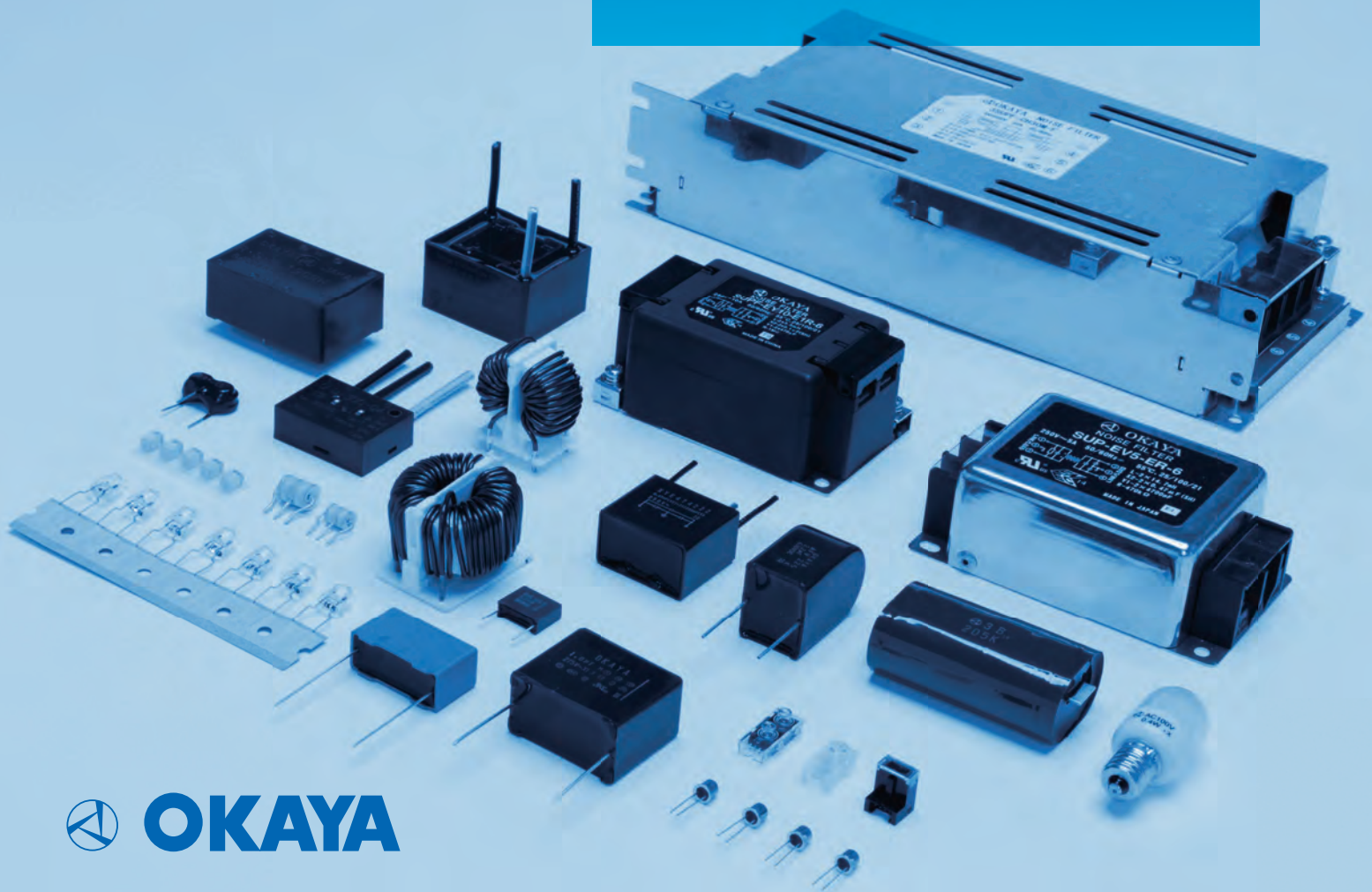


# ELECTRONIC COMPONENTS & DEVICES

<https://www.okayaelec.co.jp/en>



# Proven Reliable Since 1946

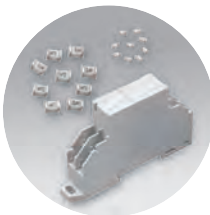


*Okaya is a world wide company that designs, manufactures and markets Electrical Noise Suppression Components and LED products for use in the Electrical and Electronics industry. Okaya is proud to furnish the finest in electrical and electronic support products.*

*Okaya's ISO9000 and ISO14001 Certifications assure that only the very best quality is acceptable for the products we represent. Okaya is honored to invite you to browse through our menu of available products.*



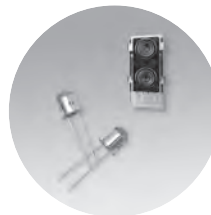
**NOISE SUPPRESSION PRODUCTS**



**SURGE PROTECTIVE DEVICES**



**DISPLAY PRODUCTS**



**SENSOR PRODUCTS**

Company Name:

**OKAYA ELECTRIC INDUSTRIES CO.,LTD.**

Founded: April 11, 1939

Established: June 1, 1946

Business Description:

**Manufacturing and selling electric components**

**Manufacturing and selling electric equipments**



**NOISE SUPPRESSION CAPACITOR**

Suitable for reducing external noise and high frequency noise such as in brush motors. The outer case gives the capacitor reliability and safety.

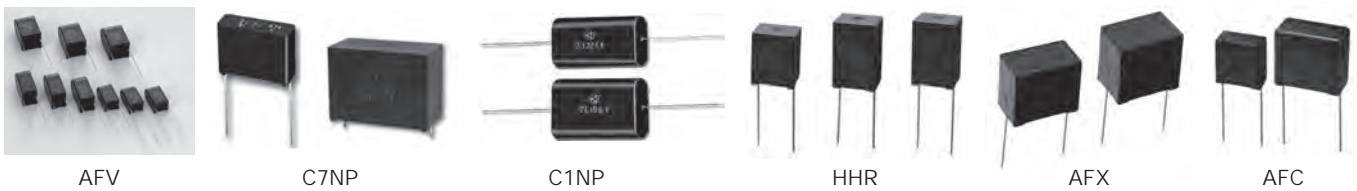


Model Number	Capacitance (μF)	Rated Voltage (Vac)	Class	Test Voltage 50/60Hz 60sec.		Safety Standard												Features	Lead Type *4		
				Line to Line (Vac)	Line to Case (Vac)	UL	CSA(c-UL)	VDE	ESTI	SEMKO	DEMKO	NEMKO	FIMKO	IMQ	ÖVE	TÜV	ENEC			CQC	KC
LE-FX	0.047~2.2	310	X2	1,000	2,100	○	○	-	-	○	-	-	-	-	-	-	○	○	○	Variable lead spacing and lead diameter with same capacitance	②
LE-MX	0.1~2.2	310	X2	1,000	2,100	○	○	-	-	○	-	-	-	-	-	-	○	○	○	Small and multipurpose type and operating temp is up to 110°C	②
LE	0.01~3.3	275	X2	1,250 <sup>*1</sup>	2,100	○	○	-	-	○	-	-	-	-	-	-	○	○	○	Small and multipurpose type of capacitor for MPP	②
LE-K, LE-K-M	1.5~10	300	X2	1,250 <sup>*2</sup>	2,100	○	○	-	-	○	-	-	-	-	-	-	○	-	○	Small package but high capacitance for 300Vac rated voltage	②
RE-L	0.01~2.2	275	X2	1,250	2,100	○	○	○	○	○	○	○	○	-	-	-	○	-	○	Multipurpose type for MPP	②
PA-L	0.01~2.2	275	X2	1,250	2,000	○	○	○	○	○	○	○	○	-	-	-	-	-	-	Multipurpose type for MPET	②
XH	0.001~0.0068	500	-	2,200	2,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Rated Voltage 500Vac	②
	0.01~0.47	500	X2	2,000	2,200	○	○	-	-	-	-	-	-	-	-	-	○	-	-		
REB	0.047~1.0	275	X2	1,250	2,000	○	○	-	-	○	-	-	-	-	-	-	-	○	-	RE-L Series Flexible wire leads	①
XE-Z	0.001~0.0068	X1:275, Y2:250	X1-Y2	2,000	2,100	○	○	-	-	○	○	○	○	○	○	-	-	-	-	Compliance with Class Y2 with 250Vac	②
	0.01~1.0	275	X1	1,250	2,100	○	○	○	○	○	○	○	○	○	-	-	-	-	-		
YF	0.01~0.47	300	Y2	2,000	2,000	○	○	-	-	○	-	-	-	-	-	-	○	-	-	Compliance with Class Y2 with rated voltage 300Vac and 110°C	②
YE	0.001~0.1	250	Y2	2,000	2,000	○	○	○	-	-	-	-	-	-	-	-	○	-	-	Compliance with Class Y2	②
3XYG	X 0.1μF+Y3,000pF	440	-	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Three phase Capacitor with combined X and Y. Flexible wire leads type	①
3XYG-TY	X 0.1μF+Y3,000pF	440	-	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Three phase Capacitor with combined X and Y. Bare wire type	②

\*1 3.3μF:1,000Vac \*2 C≥4.7μF:1,770Vdc \*3 3.3μF is not CQC approved.

\*4 ①Flex PVC Wire ②Bare Wire

**HIGH PULSE CAPACITOR·SNUBBER CAPACITOR·CAPACITOR FOR ELECTRICAL EQUIPMENT**



Model Number	Rated Voltage	Capacitance (μF)	Tolerance (±)	Operating Temperature Topr (°C)	Features
AFV	450Vdc	0.47/1.0/2.2	10%	-40~+85	Suitable for active filter and snubbers for high frequency electronic circuit. The resin case is small-footprint type.
	630Vdc	0.47/1.0/2.2	10%	-40~+85	
C7NP	250Vdc	0.1~22.0	5%, 10%	-40~+85	Suitable for high frequency snubbers electronic circuit
	400Vdc	0.047~10.0	5%, 10%	-40~+85	
	630Vdc	0.01~6.8	5%, 10%	-40~+85	
	1,250Vdc	0.0047~1.0	5%, 10%	-40~+85	
HCP-S	1,600Vdc	0.001~0.047	5%, 10%	-40~+85	Suitable for high frequency snubbers electronic circuit, small multipurpose type
	450Vdc	0.047~1.0	10%	-40~+85	
	630Vdc	0.01~2.2	10%	-40~+85	
C1NP	1,000Vdc	0.1/0.47/1.0	10%	-40~+85	Suitable for high frequency snubbers electronic circuit, small multipurpose type
	1,250Vdc	0.01~0.47	10%	-40~+85	
	250Vdc	2.2~12.0	5%, 10%	-40~+85	
	400Vdc	1.2~4.7	5%, 10%	-40~+85	
HHC	630Vdc	0.82~3.3	5%, 10%	-40~+85	Suitable for high frequency snubbers electronic circuit, reeling type
	1,250Vdc	1.0~4.7	5%, 10%	-40~+85	
	400Vdc	0.033~0.22	5%, 10%	-40~+105	
HHR	630Vdc	0.01~0.22	5%, 10%	-40~+105	Suitable for high frequency resonant circuit with high current, small-footprint
	1,250Vdc	0.001~0.033	5%, 10%	-40~+105	
	800Vdc	0.01~0.068	3%	-40~+105	
AFX	450Vdc	0.47~2.2	10%	-40~+105 <sup>*5</sup>	Suitable for Active filters(PFC) circuit, small-footprint, lowering vibration
AFS	450Vdc	0.47~4.7	10%	-40~+105 <sup>*5</sup>	Suitable for Active filters(PFC) circuit, small-footprint
AFC	450Vdc, 630Vdc	0.47~4.7	10%	-40~+105 <sup>*6</sup>	Suitable for Active filters(PFC) circuit
AFP	450Vdc, 630Vdc	0.1~2.2	10%	-55~+100	Suitable for Active filters(PFC) circuit

\*5 It is possible to use from more than 85°C to 105°C by derating of rated voltage. \*6 630Vdc: It is possible to use by derating of rated voltage.



**■ SPARK QUENCHER**

A combination of a high-reliability film capacitor and resistor that prevents the occurrence of arcing and sparks at contact points.



S CR AU, TA CRE CRH 3CRE

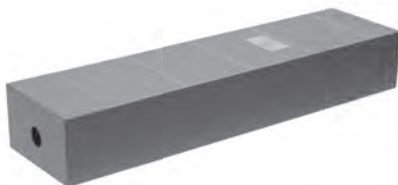
Model Number	Rated Voltage (Vac)	Class	Capacitance (μF)	Test Voltage 50/60Hz 60sec.		Safety Standard										Features	Lead Type *2		
				Line to Line (Vac)	Line to Case (Vac)	UL	CSA(c-UL)	VDE	SEMKO	DENKO	NEMKO	FMKO	ESTI	ENEC	CQC				
S	150	-	0.033~0.5	375	1,500	-	-	-	-	-	-	-	-	-	-	-	-	Multipurpose small foot-print	②
SB	150	-	0.033~0.3	375	1,500	-	-	-	-	-	-	-	-	-	-	-	-	Multipurpose small foot-print	①
AU	250	X2	0.033~0.1	1,250 <sup>*3</sup>	2,000	○	○	○	-	-	-	-	-	○	-	-	-	Multipurpose small foot-print	②
TA	250	X2	0.033	1,080 <sup>*3</sup>	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Suitable for Europe, American standards, small-footprint	②
RE	275	X2	0.01~0.2	1,000	2,000	○	○	○	○	○	○	○	○	○	-	○	-	Suitable for all over the standards, small-footprint	②
XE	250	X2	0.01~1.0	1,250	2,000	○	○	○	○	○	○	○	○	○	-	-	-	Suitable for all over the standards	②
XEB	250	X2	0.01~1.0	1,250	2,000	○	○	○	○	○	○	○	○	○	-	-	-	Suitable for all over the standards	①
CR	250	-	0.1~0.5	625	2,000	-	-	-	-	-	-	-	-	-	-	-	-	Suitable for Japan industrial machine (250Vac)	①
RMTE-FA, MA	250	-	0.22	625	2,000	-	-	-	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
RMTE	250	X2	0.22	1,000	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
CRE	250	X2	0.1~0.5	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Suitable for Europe, American standards	①
3CRE *1	250	X2	0.3/1phase 0.5/1phase	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Suitable for Europe, American standards (Three phase delta connection)	①
CRH	500	X2	0.1~0.47	1,250	2,000	○	○	-	-	-	-	-	-	-	-	-	-	Suitable for America standards(single phase), rated voltage 500Vac	①
3CRH	500	X2	0.47/1phase 0.33/1phase	1,250	2,000	○	○	-	-	-	-	-	-	-	-	-	-	Suitable for America standards(three phase delta connection), rated voltage 500Vac	①
SK01D2E-12033	250	X2	0.33/1phase	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
SK02D2E-04747	250	X2	0.47/1phase	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
SK03D2E-12033	250	X2	0.33/1phase	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
SK07D2E-04747	250	X2	0.47/1phase	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
SK08D2E-04747	250	X2	0.47/1phase	625	2,000	○	○	○	-	-	-	-	-	-	-	-	-	Connect to electromagnetic switch and contactor directly	③
SK10A2E-12033	250	X2	0.33/1phase	625	2,000	○	○	-	-	-	-	-	-	○	-	-	-	Compatible with F-QuiQ series manufactured by Fuji Electric Co., Ltd.	①

○: ENEC approved \*1 3CRE30680: UL unapproved \*2 Lead Type ①: Flex PVC Wire, ②: Bare Wire, ③: Terminal \*3 50/60Hz 2~5sec.

**■ LINE FILTER FOR ANECHOIC CHAMBER**



DR2□□□D-D10F



DR1□□□D-D00F



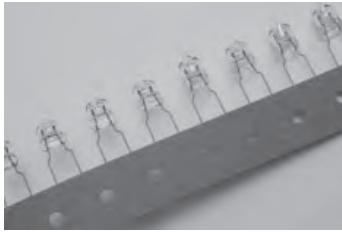
DR3□□□D-D10F

Model Number	Type of Phase	Rated Voltage (Vac)	Rated Current (A)	Frequency Band	Insertion Loss (dB)	Features
DR2□□□D-D10F	Single-phase 2 wire system	500	10, 20, 30, 50, 60, 100, 150	150KHz~18GHz	100	Common mode, low leakage current
DR3□□□D-D10F	Three-phase 3 wire system	500	10, 20, 30, 50, 60, 100	150KHz~18GHz	100	Common mode, low leakage current
DR4□□□D-D10F	Three-phase 4 wire system	500	20, 30, 50, 100	150KHz~18GHz	100	Common mode, low leakage current
DR1□□□D-D10F	1 wire system	300	10, 20, 30, 50, 60, 100, 150	100KHz~18GHz	100	Normal mode
DR2□□□D-D00F	Single-phase 2 wire system	500	10, 20, 30, 50, 60, 100, 200	14KHz~18GHz	100	Common mode, low leakage current
DR3□□□D-D00F	Three-phase 3 wire system	500	10, 20, 30, 50, 100, 200	14KHz~18GHz	100	Common mode, low leakage current
DR4□□□D-D00F	Three-phase 4 wire system	500	20, 50, 100, 300	14KHz~18GHz	100	Common mode, low leakage current
DR1□□□D-D00F	1 wire system	300	10, 20, 30, 50, 60, 100, 150, 300	14KHz~18GHz	100	Normal mode
DR2□□□D-D00F-UL	Single-phase 2 wire system	250	6, 32, 63, 100	14KHz~18GHz	100	Common mode, UL1283 approved
DR4□□□D-D00F-UL	Single-phase 4 wire system	440	32, 63, 100	14KHz~18GHz	100	Common mode, UL1283 approved

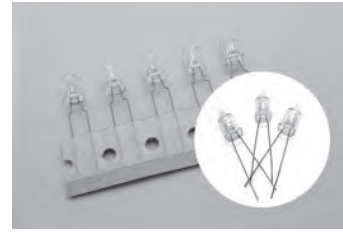
We offer products that are appropriate for each facility's security level and also accept custom made orders.







RA-MX-V7-Y,Y(5)



RA-C6

### ■ GAS DISCHARGE TUBE RA-MX-V7-Y,Y(5) Series

The RA-MX series is a radial type high voltage surge absorber that can tolerate withstand voltage tests.

Model Number	DC Breakdown Voltage (V)	Impulse Sparkover Voltage 1.2/50 $\mu$ s		Insulation Resistance (M $\Omega$ ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20 $\mu$ s 100A (Times)	Impulse Current Capacity 8/20 $\mu$ s (A)	Withstand Voltage Test	Safety Standard			
		Applied Voltage	Specification						UL1449/ cUL C22.2 No.269.5	TUV IEC/EN 62368-1		
RA-501MX-V7-Y/Y(5)	500(400~600)	-	-	1,000(DC100V)	1.0	300	3,500	-	○ <sup>*1</sup> *3	-		
RA-601MX-V7-Y/Y(5)	600(480~720)			○ <sup>*1</sup> *3				-				
RA-102MX-V7-Y/Y(5)	1,000(800~1,200)			○ <sup>*2</sup> *3				-				
RA-152MX-V7-Y/Y(5)	1,500(1,200~1,800)			○ <sup>*2</sup> *3				-				
RA-242MX-V7-Y/Y(5)	2,400(1,920~2,880) <sup>*5</sup>			○ <sup>*2</sup> *3				-				
RA-302MX-V7-Y/Y(5)	3,000(2,400~3,600) <sup>*5</sup>	5,000V	5,000V max.	1,000(DC500V)	1.0	300	3,500	AC1,250V 3s	○ <sup>*2</sup> *3	-		
RA-362MX-V7-Y/Y(5)	3,600(2,880~4,320) <sup>*5</sup>							AC1,500V 60s	○ <sup>*1</sup> *3	○ <sup>*4</sup>		
RA-402MX-V7-Y/Y(5)	4,000(3,200~4,800) <sup>*5</sup>							7,500V	7,500V max.	AC1,800V 3s	○ <sup>*1</sup> *3	○ <sup>*4</sup>
RA-452MX-V7-Y/Y(5)	4,500(3,600~5,400) <sup>*5</sup>							8,000V	8,000V max.	1,000(DC1000V)	AC2,000V 60s	○ <sup>*1</sup> *3

\*1 Rated voltage AC125V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 270V, D $\geq$  7mm)

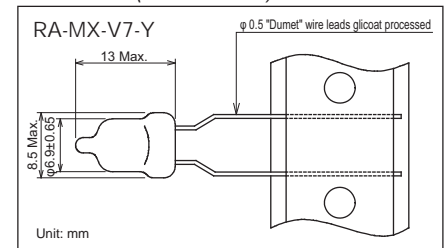
\*2 Rated voltage AC125V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 270V, D $\geq$  5mm)

\*3 Rated voltage AC250V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 390V, D $\geq$  7mm)

\*4 Rated voltage AC125V/AC250V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 470V, D $\geq$  5mm)

\*5 Reference value

#### Dimensions (RA-MX-V7-Y)



### ■ GAS DISCHARGE TUBE RA-C6 Series

Model Number P: No markings M: Markings	DC Breakdown Voltage (V)	Impulse Sparkover Voltage		Insulation Resistance (M $\Omega$ ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20 $\mu$ s 100A (Times)	Impulse Current Capacity 8/20 $\mu$ s (A)	Withstand Voltage Test	Safety Standard				
		Applied Voltage	Specification						UL 497B	UL 1449	cUL C22.2 No.269.5	TUV IEC/EN 62368-1	
RA-800P/M-C6	80(64~96)	-	-	1,000(DC50V)	1.0	300	2,000	-	○	-	-	-	
RA-201P/M-C6	200(160~240)			○				-	-				
RA-231P/M-C6	230(184~276)			○				-	-				
RA-311P/M-C6	310(264~356)			○				-	-				
RA-351P/M-C6	350(280~420)			○				-	-				
RA-391P/M-C6	390(312~468)	1kV/10 $\mu$ s	600V max.	1,000(DC100V)	1.0	300	2,000	-	○	○ <sup>*1</sup>	-	-	
RA-501P/M-C6	500(400~600)							○	○ <sup>*1</sup>	-	-		
RA-601P/M-C6	600(480~720)							○	○ <sup>*1</sup>	-	-		
RA-102P/M-C6	1,000(800~1,200)							○	○ <sup>*1</sup>	-	-		
RA-152P/M-C6	1,500(1,200~1,800)							○	○ <sup>*1</sup>	-	-		
RA-272M-C6	2,700(2,160~3,240) <sup>*5</sup>	1.2/50 $\mu$ s	5,000V max.	1,000(DC500V)	1.0	300	2,000	AC1,250V 3s	-	○ <sup>*1</sup>	○ <sup>*1</sup>	○ <sup>*3</sup>	
RA-302M-C6	3,000(2,400~3,600) <sup>*5</sup>							AC1,500V 60s	-	○ <sup>*1</sup> *2	○ <sup>*1</sup> *2	○ <sup>*4</sup>	
RA-302M-C6(AC)	3,000(2,700~3,900) <sup>*5</sup>							5kV	AC1,800V 3s	-	○ <sup>*1</sup> *2	○ <sup>*1</sup> *2	○ <sup>*4</sup>

\*1 Rated voltage AC125V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 270V, D $\geq$  5mm)

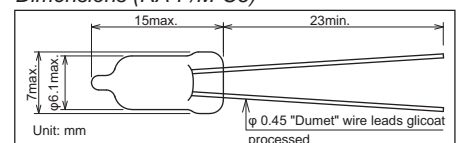
\*2 Rated voltage AC250V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 390V, D $\geq$  7mm)

\*3 Rated voltage AC125V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 470V, D $\geq$  5mm)

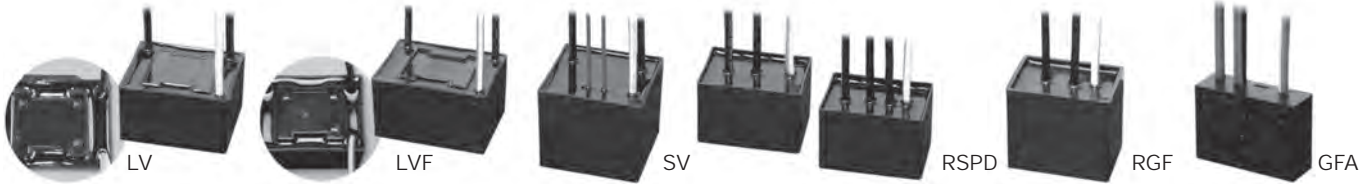
\*4 Rated voltage AC125V/250V: Approved if it is connected to UL approved varistor (V1.0mA $\geq$ 470V, D $\geq$  5mm)

\*5 Reference value

#### Dimensions (RA-P/M-C6)



Taping specifications are also available.



### ■ SURGE PROTECTIVE DEVICE LV Series

Model Number	Max. Continuous Operating Voltage 50/60Hz		DC Operating Voltage (V) $\pm 25\%$	Voltage Protection Level (V)	Nominal Discharge Current 8/20 $\mu$ s (A)	Max. Discharge Current 8/20 $\mu$ s (A)	Impulse Life Test 8/20 $\mu$ s 1,000A (times)	Safety Standard		
								UL 1449	cUL C22.2 No.269.5	UL-EU IEC/EN 61643-11
LV150DI-Q4	1 Phase	AC150V	450	1,200	2,500	5,000	Approx. 500	○	○	-
LV275DI-Q4	1 Phase	AC275V	800	1,500				○	○	○
LV275DI-U4	3 Phase	AC275V						○	○	○
LV480DI-Q4	1 Phase	AC480V	1,400	2,000				○	○	○
LV480DI-U4	3 Phase	AC480V						○	○	○
LV550DI-U4	3 Phase	AC550V						1,600	2,500	○

### ■ SURGE PROTECTIVE DEVICE LVF Series

Model Number	Max. Continuous Operating Voltage 50/60Hz		DC Operating Voltage (V) $\pm 25\%$	Voltage Protection Level (V)	Nominal Discharge Current 8/20 $\mu$ s (A)	Max. Discharge Current 8/20 $\mu$ s (A)	Impulse Life Test 8/20 $\mu$ s 1,000A (times)	Safety Standard		
								UL 1449	cUL C22.2 No.269.5	UL-EU IEC/EN 61643-11
LVF150DI-Q4	1 Phase	AC150V	450	1,200	5,000	10,000	Approx. 500	-	-	-
LVF250DI-Q4	1 Phase	AC250V	700	1,500				-	-	-
LVF250DI-U4	3 Phase	AC250V						-	-	-
LVF300DI-Q4	1 Phase	AC300V	1,000	2,000				-	-	-
LVF300DI-U4	3 Phase	AC300V						-	-	-
LVF480DI-Q4	1 Phase	AC480V						1,400	2,500	-
LVF480DI-U4	3 Phase	AC480V	-	-	-					

### ■ SURGE PROTECTIVE DEVICE SV Series

Model Number	Max. Continuous Operating Voltage 50/60Hz		DC Operating Voltage (V) $\pm 25\%$	Voltage Protection Level (V)	Nominal Discharge Current 8/20 $\mu$ s (A)	Max. Discharge Current 8/20 $\mu$ s (A)	Impulse Life Test 8/20 $\mu$ s 1,000A (times)	Safety Standard		
								UL 1449	cUL C22.2 No.269.4	UL-EU IEC/EN 61643-11
SV150DA-Q4	1 Phase	AC150V	450	1,200	2,500	5,000	Approx. 500	-	-	-
SV275DA-Q4	1 Phase	AC275V	800	1,500				-	-	-
SV275DA-U4	3 Phase	AC275V						○	○	○
SV480DA-Q4	1 Phase	AC480V	1,400	2,000				-	-	-
SV480DA-U4	3 Phase	AC480V						-	-	-
SV550DA-U4	3 Phase	AC550V						1,600	2,500	-

### ■ SURGE PROTECTIVE DEVICE RSPD Series

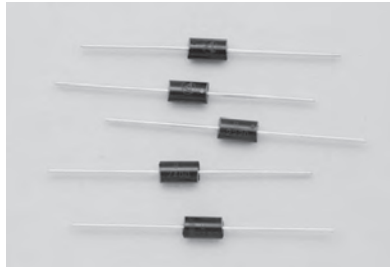
Model Number	Max. Continuous Operating Voltage 50/60Hz		DC Operating Voltage (V) $\pm 25\%$	Voltage Protection Level (V)	Nominal Discharge Current 8/20 $\mu$ s (A)	Max. Discharge Current 8/20 $\mu$ s (A)	Impulse Life Test 8/20 $\mu$ s 1,000A (times)	Safety Standard		
								UL 1449	cUL C22.2 No.269.5	TÜV IEC/EN 62368-1
RSPD-150-Q-4/5	1 Phase	AC150V	400	800	2,500	5,000	Approx.300	○	○	○
RSPD-250-Q-4/5	1 Phase	AC250V	700	1,300				○	○	○
RSPD-250-U-4/5	3 Phase	AC250V						○	○	○
RSPD-420-Q-4/5	1 Phase	AC420V	1,100	1,500				○	○	○
RSPD-420-U-4/5	3 Phase	AC420V						○	○	○
RSPD-500-Q-4/5	1 Phase	AC500V						1,300	2,000	○
RSPD-500-U-4/5	3 Phase	AC500V	○	○	○					
RSPD-600-Q-4/5	1 Phase	AC600V	1,500	2,500	○	○	○			
RSPD-600-U-4/5	3 Phase	AC600V			○	○	○			

### ■ SURGE PROTECTIVE DEVICE RGF Series

Model Number	Max. Continuous Operating Voltage 50/60Hz	Varistor Voltage (V) $\pm 10\%$	DC Breakdown Voltage Ez(V) $\pm 30\%$	Impulse Life Test 8/20 $\mu$ s 1,000A (times)	Nominal Discharge Current 8/20 $\mu$ s (A)	Max. Discharge Current 8/20 $\mu$ s (A)	Voltage Protection Level (V)	Safety Standard	
								UL1449	cUL C22.2 No.269.5
RGF10-152-Q4	1-2	300	470	Approx. 500	5,000	10,000	1,500	○	○
	1,2- $\frac{1}{2}$	-	-						

### ■ SURGE PROTECTIVE DEVICE GFA Series

Model Number	Max. Continuous Operating Voltage 50/60Hz	Varistor Voltage (V) $\pm 10\%$	DC Breakdown Voltage Ez(V) $\pm 30\%$	Impulse Life Test 8/20 $\mu$ s 1,000A (times)	Nominal Discharge Current 8/20 $\mu$ s (A)	Max. Discharge Current 8/20 $\mu$ s (A)	Voltage Protection Level (V)	Safety Standard		
								UL 1449	cUL C22.2 No.269.5	UL-EU IEC/EN 61643-11
GFA-300-Q4	L-N	300	480	Approx.300	2,500	5,000	1,400	○	○	○
	L, N-G	-	-							
GFD-300-Q4	L-N	300	480	Approx.300	2,500	5,000	1,400	○	○	-
	L, N-G	-	-							



B, U

**■ AVALANCHE BREAKDOWN DIODE 2000 Series**  
Rated Peak Impulse Power Dissipation 18,000W (8/20µs)

Model Number	Nominal Breakdown Voltage VBR (V)	Maximum Working Voltage VWM (V)
U2007	7.5	6.05
B2008	8.2	6.63
B2010	10.0	8.10
B2012	12.0	9.72
□2018	18.0	14.50
□2022	22.0	17.80
B2027	27.0	21.80
□2033	33.0	26.80
□2039	39.0	31.60
□2047	47.0	38.10
B2056	56.0	45.50
B2068	68.0	55.10
B2082	82.0	66.40
B2100	100.0	81.00
B2150	150.0	121.00
□2180	180.0	146.00
B2220	220.0	175.00
B2250	250.0	202.00
B2300	300.0	243.00
B2400	400.0	324.00

\* U: Uni-Polar type, B: Bi-Polar Type, □: Either U or B  
\* Please feel free to inquire about any other request.

**■ AVALANCHE BREAKDOWN DIODE 3000 Series**  
Rated Peak Impulse Power Dissipation 34,000W (8/20µs)

Model Number	Nominal Breakdown Voltage VBR (V)	Maximum Working Voltage VWM (V)
B3008	8.2	6.63
B3010	10.0	8.10
□3015	15.0	12.10
□3018	18.0	14.50
U3022	22.0	17.80
□3033	33.0	26.80
B3036	36.0	29.16
U3039	39.0	31.60
B3056	56.0	45.50
□3068	68.0	55.10
B3082	82.0	66.40
U3180	180.0	146.00

\* U: Uni-Polar type, B: Bi-Polar Type, □: Either U or B

**■ AVALANCHE BREAKDOWN DIODE 5000 Series**  
Rated Peak Impulse Power Dissipation 44,000W (8/20µs)


Model Number	Nominal Breakdown Voltage VBR (V)	Maximum Working Voltage VWM (V)
B5008	8.2	6.63
B5010	10.0	8.10
□5015	15.0	12.10
□5018	18.0	14.50
U5022	22.0	17.80
□5033	33.0	26.80
B5036	36.0	29.16
U5039	39.0	31.60
B5056	56.0	45.50
□5068	68.0	55.10
B5082	82.0	66.40
U5180	180.0	146.00

\* U: Uni-Polar type, B: Bi-Polar Type, □: Either U or B


**■ SURGE PROTECTIVE DEVICE R-A-M-LED Series**

Model Number	Max. Continuous Operating Voltage 50/60Hz (Vac)	Varistor Voltage (V) ±10%	DC Breakdown Voltage Ez (V) +30/-20%	Impulse Discharge Current 8/20µs(A)	Insulation Resistance IR (MΩ) min. DC500V	Withstand Voltage Test (Vac)	Safety Standard
							TÜV
R-A-M-242BWZ(LED)	1-2	140	540	-	2,000	1,000	-
	1,2- $\frac{1}{2}$	-	-	2,400			AC1,000V 60s AC1,250V 3s
R-A-M-302BWZ(LED)	1-2	300	940	-	2,000	1,000	-
	1,2- $\frac{1}{2}$	-	-	3,000			AC1,500V 60s
R-A-M-362BWZ(LED)	1-2	300	940	-	2,000	1,000	-
	1,2- $\frac{1}{2}$	-	-	3,600			AC1,500V 60s AC1,800V 3s
R-A-M-362BXZ(LED)	1-2,3-1	300	940	-	2,000	1,000	-
	1,2,3- $\frac{1}{2}$	-	-	3,600			AC1,500V 60s AC1,800V 3s
R-A-M-302BUZ-N(LED)	1-2,3-1	300	470	-	2,000	1,000	-
	1,2,3- $\frac{1}{2}$	-	-	3,000			AC1,500V 60s
R-A-M-152BOZ(LED)	1-2	300	470	-	2,000	1,000	-
	1,2- $\frac{1}{2}$	-	-	1,200±30%			-

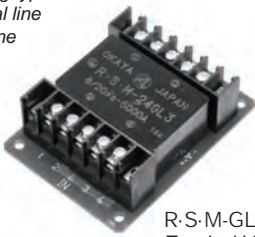
**■ SURGE PROTECTIVE DEVICE**




**RSP-DC**  
For DC circuits, composite products of silicon surge absorber




**R-S-M-GL**  
PCB mounting type SPD for data signal line and control line



**R-S-M-GL-PT**  
Terminal block type SPD for data signal line and control line

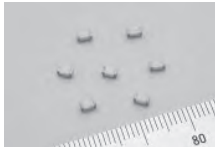


**RSD5-485**  
For RS-485 and RS-422 signal circuit  
\*DIN rail is optional.

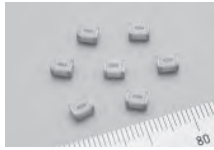


**RLAN2**  
Surge Protective Device For LAN





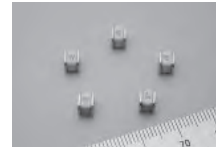
RHCA3216



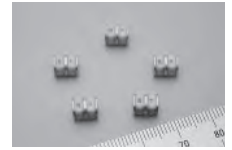
RHCA4532



RHCA5039(335)



R5K



R5K3

### ■ GAS DISCHARGE TUBE RHCA3216 Series

Model Number *	DC Breakdown Voltage (V)	Insulation Resistance (MΩ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20μs 50A (times)	Impulse Current Capacity 8/20μs Positive/Negative 5 times (A)	Impulse Withstanding Voltage Capacity 10/700μs Positive/ Negative 5times (V)	Safety Standard
RHCA-900□31U	90	100(DC50V)	0.15	300	500(R=2Ω)	4,000(R=40Ω)	UL497B
RHCA-201□31U	200						○
RHCA-301□31U	300	○					
RHCA-401□31U	400	○					
RHCA-501□31U	500	○					

\* □: Tolerance ±20%=P, ±30%=Q

### ■ GAS DISCHARGE TUBE RHCA4532 Series

Model Number *	DC Breakdown Voltage (V)	Insulation Resistance (MΩ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20μs 100A (times)	Impulse Current Capacity 8/20μs Positive/Negative 5 times (A)	Impulse Withstanding Voltage Capacity 10/700μs Positive/ Negative 5 times (V)	Safety Standard
RHCA-900□43U	90	1,000(DC50V)	0.25	300	2,000(R=2Ω)	4,000(R=40Ω)	UL497B
RHCA-201□43U	200						○
RHCA-301□43U	300						○
RHCA-351□43U	350						○
RHCA-401□43U	400						○
RHCA-501□43U	500						○
RHCA-601□43U	600						○

\* □: Tolerance ±20%=P, ±30%=Q

### ■ GAS DISCHARGE TUBE RHCA5039(335) Series

Model Number	Impulse Sparkover Voltage 1.2/50μs		Withstand Voltage Test	Insulation Resistance (MΩ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20μs 100A (times)	Impulse Current Capacity 8/20μs (A)	DC Breakdown Voltage (V) ±20%	Safety Standard			
	Applied Voltage	Specification							UL1449	cUL C22.2 No.269.5	UL-EU IEC/EN 61643-311	
RHCA-102P53U(335)	-	-	-	1,000(DC500V)	0.6	300	3,500	1,000 ±20%	○ <sup>1,2</sup>	○ <sup>1,2</sup>	○	
RHCA-102Q53U(335)	-	-	-					1,000 ±30%	○ <sup>1,2</sup>	○ <sup>1,2</sup>	○	
RHCA-202H53U(335)	5,000V	4,500V max.	AC1,000V 60s					2,000 ±20% <sup>3</sup>	○ <sup>1</sup>	○ <sup>1</sup>	○	
RHCA-242H53U(335)			AC1,000V 60s AC1,200V 3s					2,400 ±20% <sup>3</sup>	○ <sup>1</sup>	○ <sup>1</sup>	○	
RHCA-272H53U(335)			AC1,200V 60s					2,700 ±20% <sup>3</sup>	○ <sup>1</sup>	○ <sup>1</sup>	○	
RHCA-302H53U(335)			4,700V max.					AC1,500V 60s	3,000 ±20% <sup>3</sup>	○ <sup>1,2</sup>	○ <sup>1,2</sup>	○
RHCA-362H53U(335)			4,950V max.					AC1,500V 60s AC1,800V 3s	3,600 ±20% <sup>3</sup>	○ <sup>1,2</sup>	○ <sup>1,2</sup>	○
RHCA-402H53U(335)			7,500V					7,450V max.	4,000 ±20% <sup>3</sup>	○ <sup>1,2</sup>	○ <sup>1,2</sup>	○
RHCA-452H53U(335)	8,000V	7,950V max.	AC2,000V 60s					4,500 ±20% <sup>3</sup>	○ <sup>1,2</sup>	○ <sup>1,2</sup>	○	

\*1 Rated voltage AC125V: Approved if it is connected to UL approved varistor (V1.0mA≥270V, D≥φ 7mm)

\*2 Rated voltage AC250V: Approved if it is connected to UL approved varistor (V1.0mA≥470V, D≥φ 7mm)

\*3 Reference value

### ■ GAS DISCHARGE TUBE R5K Series

Model Number *	DC Breakdown Voltage (V)	Insulation Resistance (MΩ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20μs 100A (times)	Impulse Withstanding Voltage Capacity 8/20μs Positive/Negative 5 times (V)	Impulse Withstanding Voltage Capacity <sup>2</sup> 10/700μs Positive/Negative 5 times (V)
R5K-750□45U	75	1,000(DC50V)	1.0	300	5,000(R=2Ω)	15,000(R=40Ω)
R5K-900□45U	90					
R5K-231□45U	230					
R5K-351□45U	350					
R5K-421□45U	420					
R5K-501□45U	500					
R5K-601□45U	600					

\* □: Tolerance ±20%=P, ±30%=Q

### ■ GAS DISCHARGE TUBE R5K3 Series

Model Number *	DC Breakdown Voltage (V)	Insulation Resistance (MΩ) min.	Capacitance 1MHz (pF) max.	Impulse Life Test 8/20μs 100A (times)	Impulse Withstanding Voltage Capacity 8/20μs Positive/Negative 5 times (V)	Impulse Withstanding Voltage Capacity <sup>2</sup> 10/700μs Positive/Negative 5 times (V)
R5K3-750□65U	75	1,000(DC50V)	1.0	300	5,000(R=2Ω)	15,000(R=40Ω)
R5K3-900□65U	90					
R5K3-231□65U	230					
R5K3-351□65U	350					
R5K3-421□65U	420					
R5K3-501□65U	500					
R5K3-601□65U	600					

\* □: Tolerance ±20%=P, ±30%=Q



■ BAR TYPE LED *RLB Series*

Features

- 9.5mm thin design
- Waterproof construction is equivalent to IP64.(except for terminal of cable)
- DC24V CE certified
- With protective function against surge, overcurrent, backward voltage
- Constant current control

Applications

- Inner lighting inside machine tool
- Lighting for difficult place to replace
- Lighting for maintenance of fire-prevention equipment
- Safe light for plant facilities and building facilities



Specification

Ta=25°C

Model Number	Rated Voltage	Emitting Color	Dissipation Power (W) typ.	Operating Temperature Limit (°C)	Storage Temperature Limit (°C)	Luminous Flux (lm) typ.	Color Temperature (K) typ.	Directivity Angle 2θ1/2 (°) typ.	Weight (g) Cable Length: 500mm
RLB-DWLC-D2□	DC24V	Day white	4.15	-20~+50	-20~+70	440	6,500	110	56
RLB-DWSC-D2□	DC24V	Day white	2.2	-20~+50	-20~+70	115	6,500	110	34
RLB-DWLC-A2□	AC100~240V	Day white	3.4	-20~+50	-20~+60	320	6,500	110	70

If any additional information is needed, please feel free to ask.

AC power type is PSE-compliant (Blinking at 100/120Hz. Can not use it as general lighting)

■ LED 7 SEGMENT DISPLAY & LED INDICATOR



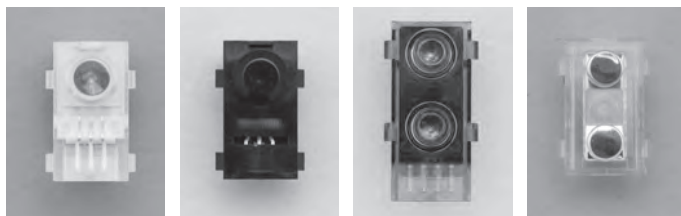
RCN-SDA03R3NL



BDR Series

■ SENSOR PRODUCTS

TRANSMISSIVE PHOTOINTERRUPTER



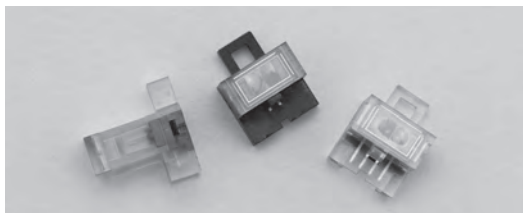
Separate type emitter

Separate type receiver

Integral type emitter / receiver

Prism

PHOTO REFLECTER



INFRARED LED EMITTING COLLIMATED LIGHT



Features

- CAN Type: Hermetic seal attains high reliability.
- SMD Type (RLD414): One of a kind aspheric lens provides excellent parallelism and flatness.





Applications

- Light source for encoder
- Switch of light
- Automated industrial machine





## MAIN PRODUCTS

-  NOISE SUPPRESSION PRODUCTS
-  SURGE PROTECTIVE DEVICES
-  DISPLAY PRODUCTS
-  SENSOR PRODUCTS

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For improvement, specifications are subject to change without prior notice.



### CAUTION FOR SAFETY

Please review individual technical data, specification, and manual before use.

- Please make inquiries for application of these products in final products such as aerospace equipment, undersea cable, nuclear reaction control system, life maintenance device, automobile, transportation equipment, and traffic control system.