

AC Input

Conformity to RoHS Directive

Single Output, Long Life, UL/C-UL/TÜV Approved

R Series RKW(30W to 1.5kW)

TDK answers a wide range of customers' needs with preparations of 68 models under 7 types of 30/50/100/150/300/600W and 1.5kW of the definitive compact power supplies which have achieved the most space-saving and lightweight designs in the industry by commanding the latest circuit and thermal analysis simulation technologies.

FEATURES

- Harmonics current requirement EN61000-3-2 meet(Applicable for 50W min. products).
- Universal input (AC.100 to 200V; Switching not required).
- Immunity EN50082-2 meet.
- Radiated noise and conductive noise FCC-B and VCCI-B meet.
- Continuously variable within the range of 0V to 120% of the rated output voltage when using RV terminal (300/600/1.5kW).
- Corresponds to products with CE marking.
- Life of electrolytic capacitor: 60000H min.
- Lightweight design.
- Warranty period: 5 years (10 years for F-type product)
- Cover (30 to 150W) type is semi-standard specification product (The temperature condition is different from standard type.).
- Specific bromine inflammable materials (PBDPEs, PBBs) are not included in use.
- 24V model can supply the peak current(30 to 150W).
- It is a product conforming to RoHS directive.



PART NUMBERS AND RATINGS

Output voltage(V)	30W		50W		100W		150W	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
3.3	7	RKW03-7R0	12	RKW03-12R	25	RKW03-25R	35	RKW03-35R
5	6	RKW05-6R0	10	RKW05-10R	20	RKW05-20R	30	RKW05-30R
12	2.5	RKW12-2R5	4.3	RKW12-4R3	8.5	RKW12-8R5	13	RKW12-13R
15	2	RKW15-2R0	3.5	RKW15-3R5	7	RKW15-7R0	10	RKW15-10R
24	1.3	RKW24-1R3	2.2	RKW24-2R2	4.5	RKW24-4R5	6.5	RKW24-6R5
28					3.8	RKW28-3R8	5.5	RKW28-5R5
48	0.65	RKW48-R65	1.1	RKW48-1R1	2.1	RKW48-2R1	3.3	RKW48-3R3

PART NUMBERS AND RATINGS

Output voltage(V)	300W		600W		1.5kW	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
3.3	70	RKW03-70R	150	RKW03-150	375	RKW03-375
5	60	RKW05-60R	120	RKW05-120	300	RKW05-300
12	27	RKW12-27R	53	RKW12-53R	125	RKW12-125
15	22	RKW15-22R	43	RKW15-43R	100	RKW15-100
24	14	RKW24-14R	27	RKW24-27R	65	RKW24-65R
28	12	RKW28-12R	23	RKW28-23R	55	RKW28-55R
48	7	RKW48-7R0	13	RKW48-13R	32	RKW48-32R

PART NUMBERS AND RATINGS(F TYPE)

Output voltage(V)	300W		600W		1.5kW	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
3.3	70	RKW03-70RF	150	RKW03-150F	375	RKW03-375F
5	60	RKW05-60RF	120	RKW05-120F	300	RKW05-300F
12	27	RKW12-27RF	53	RKW12-53RF	125	RKW12-125F
15	22	RKW15-22RF	43	RKW15-43RF	100	RKW15-100F
24	14	RKW24-14RF	27	RKW24-27RF	65	RKW24-65RF
28	12	RKW28-12RF	23	RKW28-23RF	55	RKW28-55RF
48	7	RKW48-7R0F	13	RKW48-13RF	32	RKW48-32RF

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

AC Input

Conformity to RoHS Directive

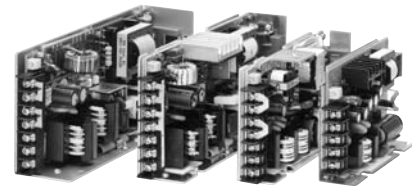
Single Output, Long Life, UL/C-UL/TÜV Approved

R Series RKW(30 to 150W)

TDK answers a wide range of customers' needs with preparations of 26 models under 4 types of 30/50/100W and 150W of the definitive compact power supplies which have achieved the most space-saving and lightweight designs in the industry by commanding the latest circuit and thermal analysis simulation technologies.

FEATURES

- Harmonics current requirement EN61000-3-2 meet(Applicable for 50W min. products).
- Universal input (AC.100 to 200V; Switching not required).
- Immunity EN50082-2 meet.
- Radiated noise and conductive noise FCC-B and VCCI-B meet.
- Corresponds to products with CE marking.
- Life of electrolytic capacitor: 60000H min.
- Low profile and lightweight design.
- Warranty period: 5 years
- Cover type is semi-standard specification product(The temperature condition is different from standard type.).
- Specific bromine inflammable materials (PBDPEs, PBBs) are not included in use.
- 24V model can supply the peak current(30 to 150W).
- It is a product conforming to RoHS directive.



PART NUMBERS AND RATINGS

Output voltage(V)	30W		50W		100W		150W	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
3.3	7	RKW03-7R0	12	RKW03-12R	25	RKW03-25R	35	RKW03-35R
5	6	RKW05-6R0	10	RKW05-10R	20	RKW05-20R	30	RKW05-30R
12	2.5	RKW12-2R5	4.3	RKW12-4R3	8.5	RKW12-8R5	13	RKW12-13R
15	2	RKW15-2R0	3.5	RKW15-3R5	7	RKW15-7R0	10	RKW15-10R
24	1.3	RKW24-1R3	2.2	RKW24-2R2	4.5	RKW24-4R5	6.5	RKW24-6R5
28					3.8	RKW28-3R8	5.5	RKW28-5R5
48	0.65	RKW48-R65	1.1	RKW48-1R1	2.1	RKW48-2R1	3.3	RKW48-3R3

- Standard type and cover type: Stock products.

OPTIONAL SPECIFICATION TYPE

To answer customer's various needs, the RKW series prepares the semi-standard power supply. Please order by adding the under-mentioned symbol to the product number's end of standard type.

Symbol	Optional functions		
	With cover	Remote control	Damp proof treatment
No	Standard type		
C	✓		
A		✓	
B			✓
E	✓	✓	
G	✓		✓
J		✓	✓
N	✓	✓	✓

Example) RKW05-6R0G : Indicates the products upon receipt of order.

Example) RKW05-6R0G

Output voltage: 5V

Output current: 6A

Optional functions: With cover and damp proof treatment

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

RKW30W Type

SPECIFICATIONS AND STANDARDS

Part No.		Without cover	RKW03-7R0	RKW05-6R0	RKW12-2R5	RKW15-2R0	RKW24-1R3	RKW48-R65	
		With cover	RKW03-7R0C	RKW05-6R0C	RKW12-2R5C	RKW15-2R0C	RKW24-1R3C	RKW48-R65C	
Rated output voltage and current*1			3.3V • 7A	5V • 6A	12V • 2.5A	15V • 2A	24V • 1.3A*3	48V • 0.65A	
Maximum output power		W	23.1	30	30	30	31.2	31.2	
Input conditions									
Input voltage Eac		V	85 to 265[Rated: 100 to 240]						
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)						
Input current		A	0.85max./0.45max.[AC.100/200V](3.3V : 0.7max./0.4max.)						
Fuse rating		A	2.0[Built-in]						
Surge current		A	12.5typ./25typ.[AC.100/200V, 1st surge current, cold start.]						
Leakage current		mA	0.55max./0.75max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]						
Power factor			0.56typ./0.42typ.[AC.100/240V]						
Efficiency		%	100V	75typ.	77typ.	81typ.	81typ.	84typ.	84typ.
		%	200V	76typ.	78typ.	82typ.	83typ.	85typ.	85typ.
Output characteristics									
Output voltage Edc		V	3.3	5	12	15	24	48	
Voltage variable range Edc		V	2.85 to 4.0	4.0 to 5.8	9.6 to 13.2	12 to 16.5	19.2 to 26.4	38.4 to 52.8	
Maximum output current		A	7	6	2.5	2	1.3(Peak 2.0)	0.65	
Minimum output current		A	0	0	0	0	0	0	
Overvoltage threshold*2		V	4.2 to 5.2	6.0 to 6.9	13.7 to 15.7	17 to 19	27.0 to 30.5	55.0 to 60.0	
Overcurrent threshold		A	7.9min.	6.3min.	2.6min.	2.1min.	2.1min.	0.68min.	
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range]						
	Load effect	%	0.6max.(0.3typ.)(0 to 100% load]						
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +71°C]						
	Drift(Time effect)	%	0.5max.(0.2typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h]						
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs](3.3V : ±200mV max.)						
Ripple Ep-p		mV	80max.	80max.	100max.	100max.	100max.	130max.	
Ripple noise Ep-p		mV	120max.	120max.	150max.	150max.	150max.	200max.	
Start up time		ms	900max.(600typ.)/400max.(200typ.)(AC.100/240V]						
Hold up time		ms	20min.(35typ.)/130min.(230typ.)(AC.100/240V]						
Maximum load capacitor		μF	60000	60000	12000	12000	3000	600	
Auxiliary functions									
Indicator display			LED(Green) indicates when voltage output is ON.						
Overvoltage protection*2			Voltage shut-down type						
Output low voltage detection			No						
Overcurrent protection			Rectangular type, automatic recovery(Winker operation).						
Alarm output			No						
Overheat protection			No						
Remote ON-OFF			Supported with option(Floating).						
Remote sensing			No						
Parallel operation			Impossible						
Output voltage external variable function			No						
Master slave operation			No						
Standards									
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.						
Noise terminal voltage			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Immunity			EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.						
Input harmonics current requirement			Outside correspondence.						
Radiation field intensity			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Constructions									
External dimensions		mm	85×31×124[H×W×L]						
Weight		kg	0.3max.						
Mounting method			Can be attached to 2 sides						
Case material			Frame: Iron, cover: Iron, circuit board: CEM-3						

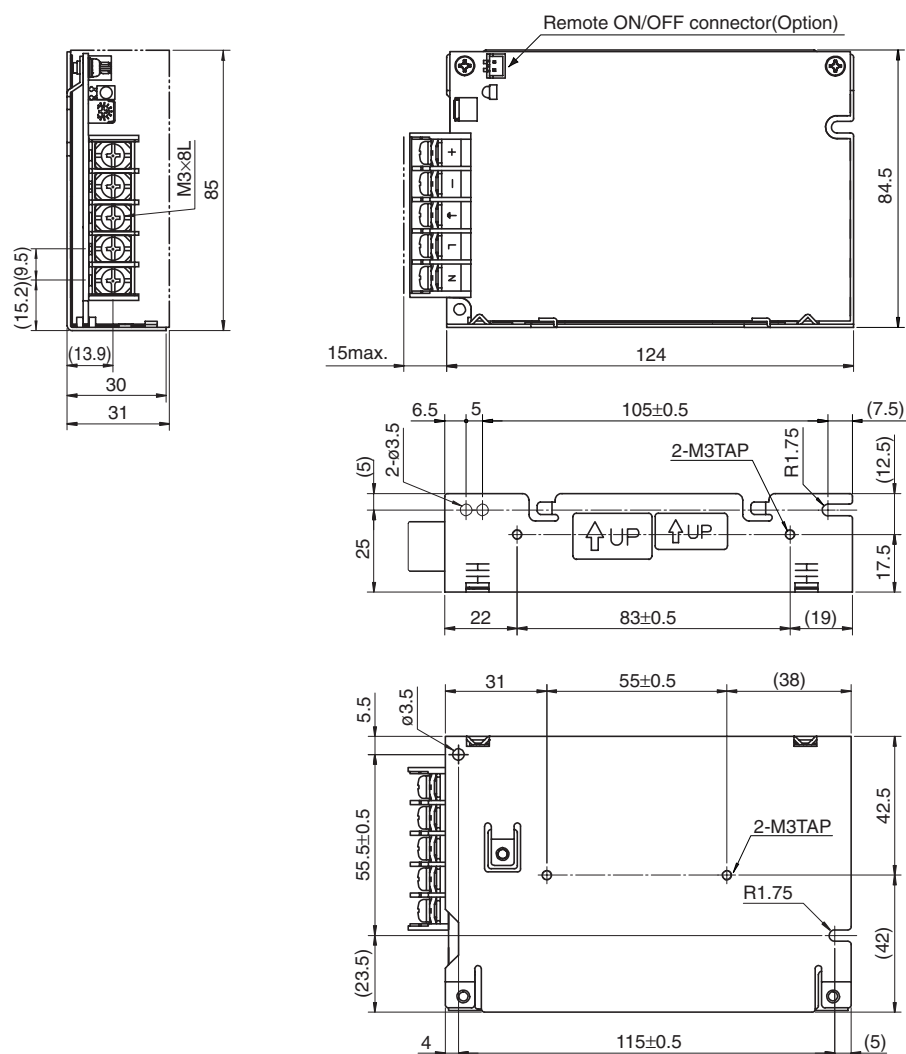
*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

*2 Recovers upon reset(interval approx. 60s).

*3 24V model can supply the peak current. Please refer "Characteristics, Functions, and Applications" section about the conditions.

RKW30W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

- Do not insert M3 tap installation screws more than 6mm into the power supply.



RKW50W Type

SPECIFICATIONS AND STANDARDS

Part No.		Without cover	RKW03-12R	RKW05-10R	RKW12-4R3	RKW15-3R5	RKW24-2R2	RKW48-1R1
		With cover	RKW03-12RC	RKW05-10RC	RKW12-4R3C	RKW15-3R5C	RKW24-2R2C	RKW48-1R1C
Rated output voltage and current*1			3.3V • 12.5A	5V • 10A	12V • 4.3A	15V • 3.5A	24V • 2.2A*3	48V • 1.1A
Maximum output power		W	41.2	50	51.6	52.5	52.8	52.8
Input conditions								
Input voltage Eac		V	85 to 265[Rated: 100 to 240]					
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)					
Input current		A	0.8max./0.4max.[AC.100/240V](3.3V : 0.7max./0.35max.)					
Fuse rating		A	2.0[Built-in]					
Surge current		A	14typ./28typ.[AC.100/200V, 1st surge current, cold start.]					
Leakage current		mA	0.32max./0.48max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]					
Power factor			0.99typ.					
Efficiency	%	100V	71typ.	75typ.	78typ.	78typ.	79typ.	80typ.
	%	200V	73typ.	78typ.	80typ.	80typ.	82typ.	83typ.
Output characteristics								
Output voltage Edc		V	3.3	5	12	15	24	48
Voltage variable range Edc		V	2.85 to 4.0	4.0 to 5.8	9.6 to 13.2	12 to 16.5	19.2 to 26.4	38.4 to 52.8
Maximum output current		A	12.5	10	4.3	3.5	2.2(Peak 3.2)	1.1
Minimum output current		A	0	0	0	0	0	0
Overvoltage threshold*2		V	4.2 to 5.2	6.0 to 6.9	13.7 to 15.7	17 to 19	27.0 to 30.5	55.0 to 60.0
Overcurrent threshold		A	13.1min.	10.5min.	4.5min.	3.6min.	2.3min.	1.15min.
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range]					
	Load effect	%	0.4max.(0.1typ.)(0 to 100% load]				Total effect±1.8max.(±0.9typ.)	
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +71°C]					
	Drift(Time effect)	%	0.5max.(0.2typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h]					
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs]					
Ripple Ep-p		mV	80max.	80max.	100max.	100max.	100max.	130max.
Ripple noise Ep-p		mV	120max.	120max.	150max.	150max.	150max.	200max.
Start up time		ms	500max.(300typ.)/200max.(100typ.)(AC.100/240V]					
Hold up time		ms	20min.(30typ.)/25min.(40typ.)(AC.100/240V]					
Maximum load capacitor		μF	10000					
Auxiliary functions								
Indicator display			LED(Green) indicates when voltage output is ON.					
Overvoltage protection*2			Voltage shut-down type					
Output low voltage detection			No					
Overcurrent protection			Rectangular type, automatic recovery.					
Alarm output			No					
Overheat protection			No					
Remote ON-OFF			Supported with option(Floating).					
Remote sensing			Yes					
Parallel operation			Impossible					
Output voltage external variable function			No					
Master slave operation			No					
Standards								
Safety standards			UL60950, CSA C22.2 No.60950(C-UL), EN60950-1(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.					
Noise terminal voltage			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.					
Immunity			EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.					
Input harmonics current requirement			EN61000-3-2 meet.					
Radiation field intensity			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.					
Constructions								
External dimensions		mm	85×31×150[H×W×L]					
Weight		kg	0.38max.					
Mounting method			Can be attached to 2 sides					
Case material			Frame: Aluminum, cover: Iron, circuit board: CEM-3					

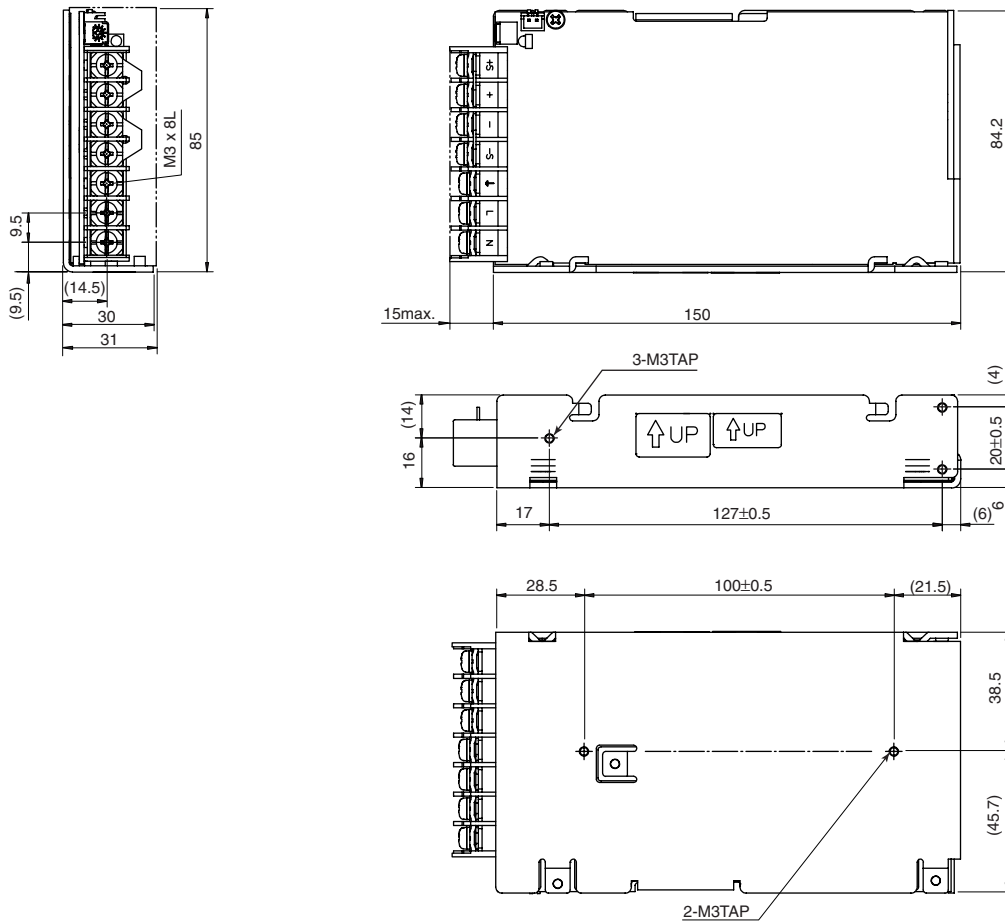
*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

*2 Recovers upon reset(interval approx. 30s).

*3 24V model can supply the peak current. Please refer "Characteristics, Functions, and Applications" section about the conditions.

RKW50W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

- Do not insert M3 tap installation screws more than 6mm into the power supply.



RKW100W Type

SPECIFICATIONS AND STANDARDS

Part No.		Without cover	RKW03-25R	RKW05-20R	RKW12-8R5	RKW15-7R0	RKW24-4R5	RKW28-3R8	RKW48-2R1
		With cover	RKW03-25RC	RKW05-20RC	RKW12-8R5C	RKW15-7R0C	RKW24-4R5C	RKW28-3R8C	RKW48-2R1C
Rated output voltage and current*1			3.3V • 25A	5V • 20A	12V • 8.5A	15V • 7A	24V • 4.5A*3	28V • 3.8A	48V • 2.1A
Maximum output power		W	82.5	100	102	105	108	106.4	100.8
Input conditions									
Input voltage Eac		V	85 to 265[Rated: 100 to 240]						
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)						
Input current		A	1.4max./0.7max.[AC.100/240V](3.3V : 1.2max./0.6max.)						
Fuse rating		A	3.15[Built-in]						
Surge current		A	14typ./28typ.[AC.100/200V, 1st surge current, cold start.]						
Leakage current		mA	0.55max./0.7max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]						
Power factor			0.99typ.						
Efficiency	%	100V	74typ.	77typ.	80typ.	80typ.	81typ.	81typ.	83typ.
	%	200V	77typ.	82typ.	84typ.	84typ.	85typ.	85typ.	86typ.
Output characteristics									
Output voltage Edc		V	3.3	5	12	15	24	28	48
Voltage variable range Edc		V	2.85 to 4.0	4.0 to 5.8	9.6 to 13.2	12 to 16.5	19.2 to 26.4	22.4 to 30.8	38.4 to 52.8
Maximum output current		A	25	20	8.5	7	4.5(Peak 6.5)	3.8	2.1
Minimum output current		A	0	0	0	0	0	0	0
Overvoltage threshold*2		V	4.2 to 5.2	6.0 to 6.9	13.7 to 15.7	17 to 19	27.0 to 30.5	32.0 to 35.0	55.0 to 60.0
Overcurrent threshold		A	26.25min.	21min.	8.92min.	7.35min.	4.72min.	3.99min.	2.2min.
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range]						
	Load effect	%	0.4max.(0.1typ.)(0 to 100% load]						
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +71°C]						
	Drift(Time effect)	%	0.5max.(0.2typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h]						
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs]						
Ripple Ep-p		mV	80max.	80max.	100max.	100max.	100max.	100max.	130max.
Ripple noise Ep-p		mV	120max.	120max.	150max.	150max.	150max.	150max.	200max.
Start up time		ms	500max.(300typ.)/200max.(100typ.)(AC.100/240V]						
Hold up time		ms	20min.(37typ.)/25min.(45typ.)(AC.100/240V]						
Maximum load capacitor		μF	10000						
Auxiliary functions									
Indicator display			LED(Green) indicates when voltage output is ON.						
Overvoltage protection*2			Voltage shut-down type						
Output low voltage detection			No						
Overcurrent protection			Rectangular type, automatic recovery.						
Alarm output			No						
Overheat protection			No						
Remote ON-OFF			Supported with option(Floating).						
Remote sensing			Yes						
Parallel operation			Impossible						
Output voltage external variable function			No						
Master slave operation			No						
Standards									
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.						
Noise terminal voltage			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Immunity			EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.						
Input harmonics current requirement			EN61000-3-2 meet.						
Radiation field intensity			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Constructions									
External dimensions		mm	92×40×180[H×W×L]						
Weight		kg	0.6max.						
Mounting method			Can be attached to 2 sides						
Case material			Frame: Aluminum, cover: Iron, circuit board: CEM-3						

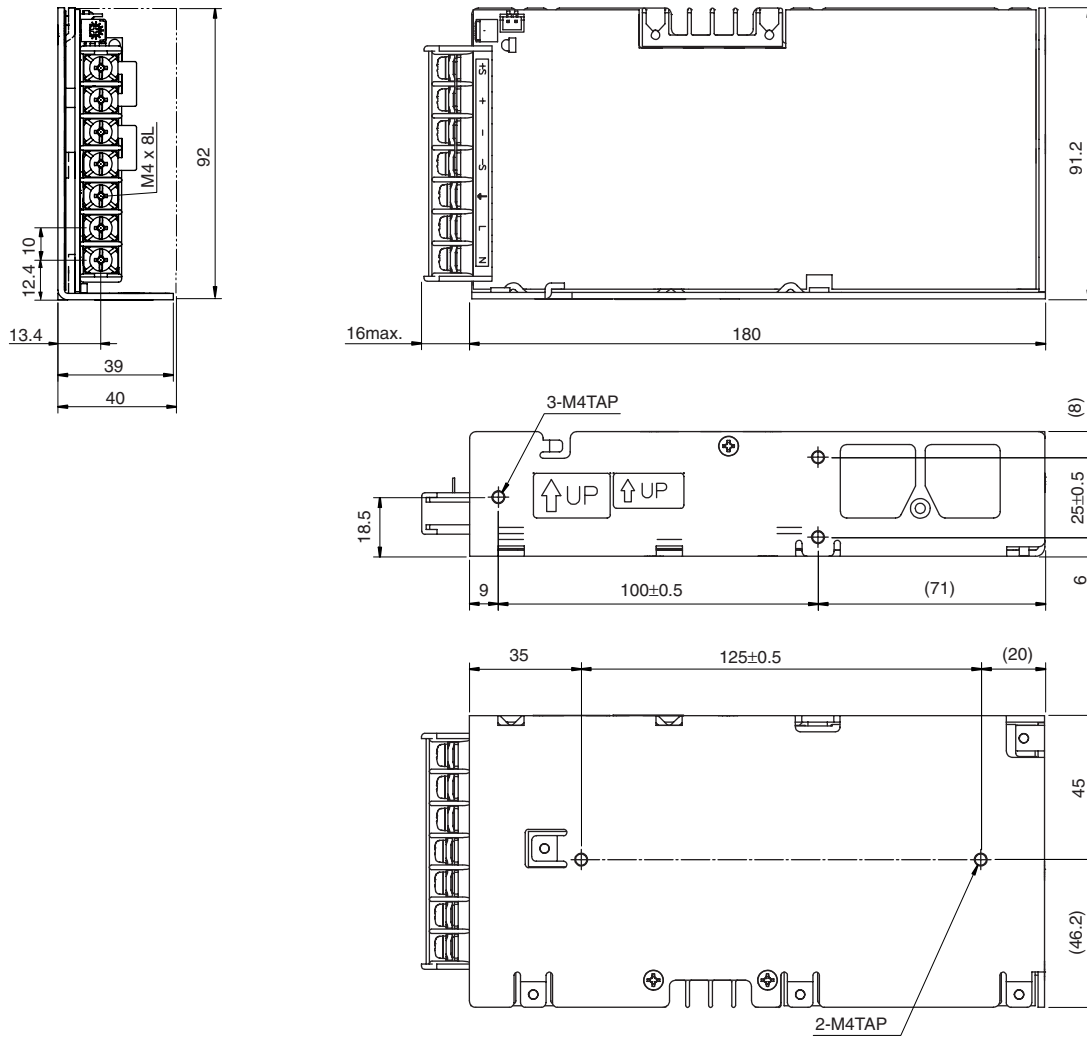
*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

*2 Recovers upon reset(interval approx. 30s).

*3 24V model can supply the peak current. Please refer "Characteristics, Functions, and Applications" section about the conditions.

RKW100W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

- Do not insert M4 tap installation screws more than 6mm into the power supply.



RKW150W Type

SPECIFICATIONS AND STANDARDS

Part No.	Without cover	RKW03-35R	RKW05-30R	RKW12-13R	RKW15-10R	RKW24-6R5	RKW28-5R5	RKW48-3R3
	With cover	RKW03-35RC	RKW05-30RC	RKW12-13RC	RKW15-10RC	RKW24-6R5C	RKW28-5R5C	RKW48-3R3C
Rated output voltage and current*1		3.3V • 35A	5V • 30A	12V • 13A	15V • 10A	24V • 6.5A*3	28V • 5.5A	48V • 3.3A
Maximum output power		W	115.5	150	156	150	156	154
Input conditions								
Input voltage Eac		V	85 to 265[Rated: 100 to 240]					
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)					
Input current		A	2.0max./1.0max.[AC.100/240V](3.3V : 1.75max./0.85max.)					
Fuse rating		A	5[Built-in]					
Surge current		A	25typ./50typ.[AC.100/200V, 1st surge current, cold start.]					
Leakage current		mA	0.55max./0.7max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]					
Power factor			0.99typ.					
Efficiency	%	100V	73typ.	77typ.	80typ.	80typ.	82typ.	82typ.
	%	200V	76typ.	82typ.	84typ.	84typ.	86typ.	86typ.
Output characteristics								
Output voltage Edc		V	3.3	5	12	15	24	28
Voltage variable range Edc		V	2.85 to 4.0	4.0 to 5.8	9.6 to 13.2	12 to 16.5	19.2 to 26.4	22.4 to 30.8
Maximum output current		A	35	30	13	10	6.5(Peak 10)	5.5
Minimum output current		A	0	0	0	0	0	0
Overvoltage threshold*2		V	4.2 to 5.2	6.0 to 6.9	13.7 to 15.7	17 to 19	27.0 to 30.5	32.0 to 35.0
Overcurrent threshold		A	36.75min.	31.5min.	13.65min.	10.5min.	6.82min.	5.78min.
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range]					
	Load effect	%	0.4max.(0.1typ.)(0 to 100% load]					
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +71°C]					
	Drift(Time effect)	%	0.5max.(0.2typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h]					
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs]					
Ripple Ep-p		mV	80max.	80max.	100max.	100max.	100max.	100max.
Ripple noise Ep-p		mV	120max.	120max.	150max.	150max.	150max.	150max.
Start up time		ms	350max.(150typ.)/200max.(100typ.)(AC.100/240V]					
Hold up time		ms	20min.(35typ.)/25min.(40typ.)(AC.100/240V]					
Maximum load capacitor		μF	10000					
Auxiliary functions								
Indicator display			LED(Green) indicates when voltage output is ON.					
Overvoltage protection*2			Voltage shut-down type					
Output low voltage detection			No					
Overcurrent protection			Rectangular type, automatic recovery.					
Alarm output			No					
Overheat protection			No					
Remote ON-OFF			Supported with option(Floating).					
Remote sensing			Yes					
Parallel operation			Impossible					
Output voltage external variable function			No					
Master slave operation			No					
Standards								
Safety standards			UL60950, CSA C22.2 No.60950(C-UL), EN60950-1(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.					
Noise terminal voltage			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.					
Immunity			EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.					
Input harmonics current requirement			EN61000-3-2 meet.					
Radiation field intensity			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.					
Constructions								
External dimensions		mm	92×50×195[H×W×L]					
Weight		kg	0.72max.					
Mounting method			Can be attached to 2 sides					
Case material			Frame: Aluminum, cover: Iron, circuit board: CEM-3					

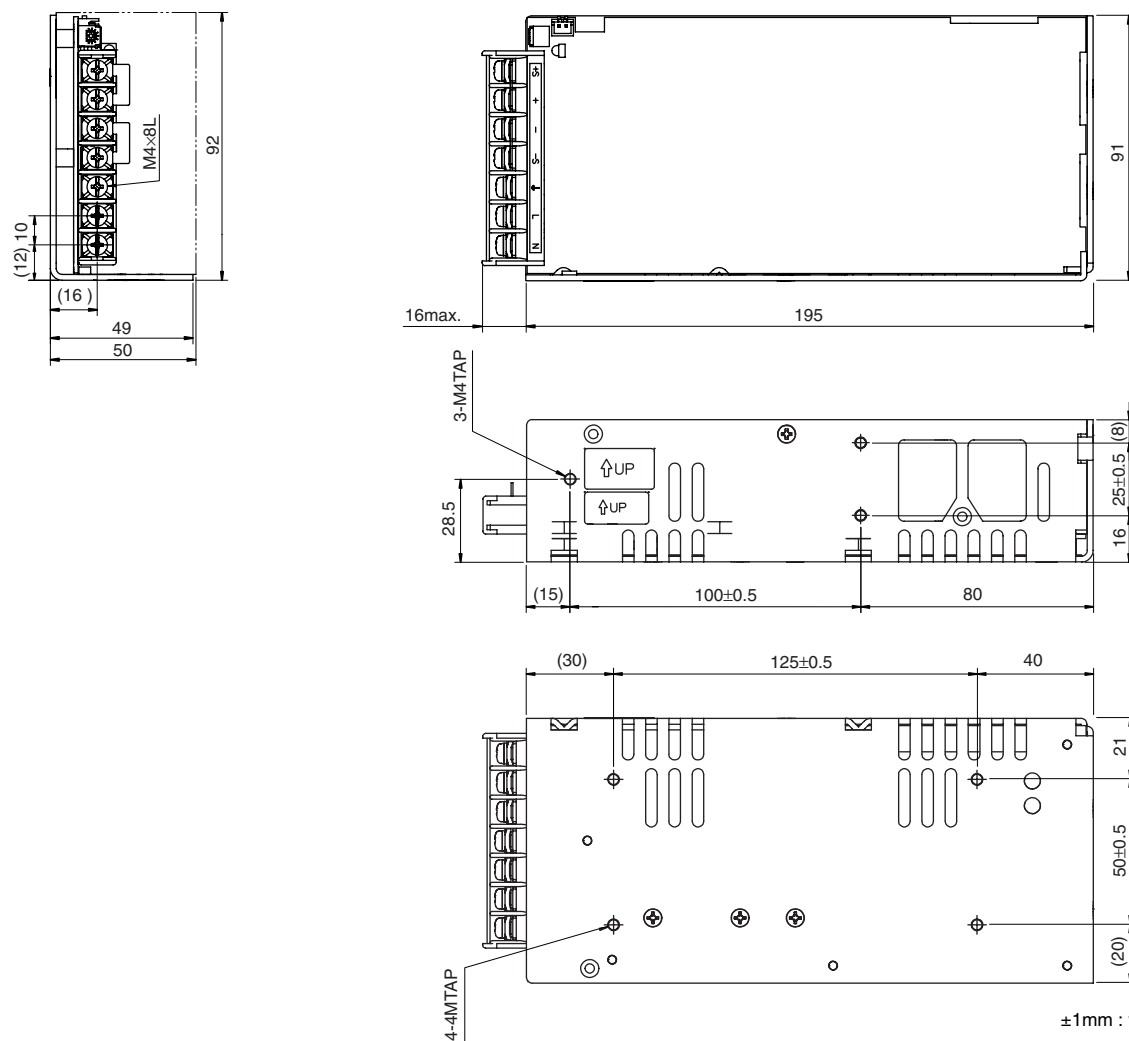
*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

*2 Recovers upon reset(interval approx. 30s).

*3 24V model can supply the peak current. Please refer "Characteristics, Functions, and Applications" section about the conditions.

RKW150W Type

SHAPES AND DIMENSIONS



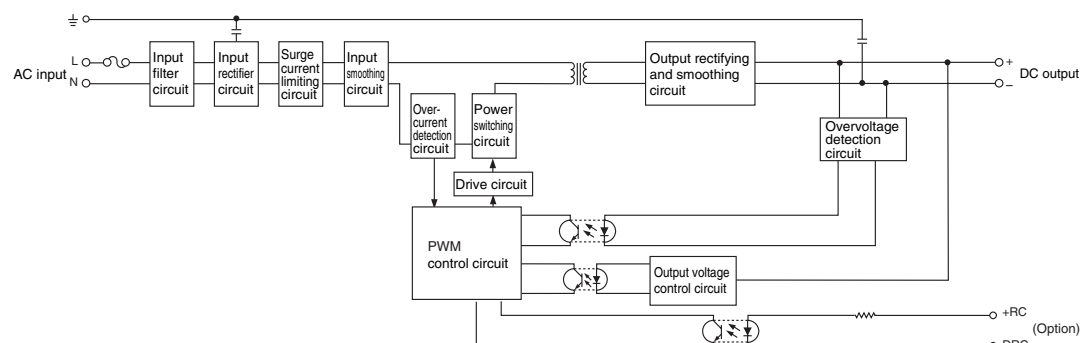
- Do not insert M4 tap installation screws more than 6mm into the power supply.



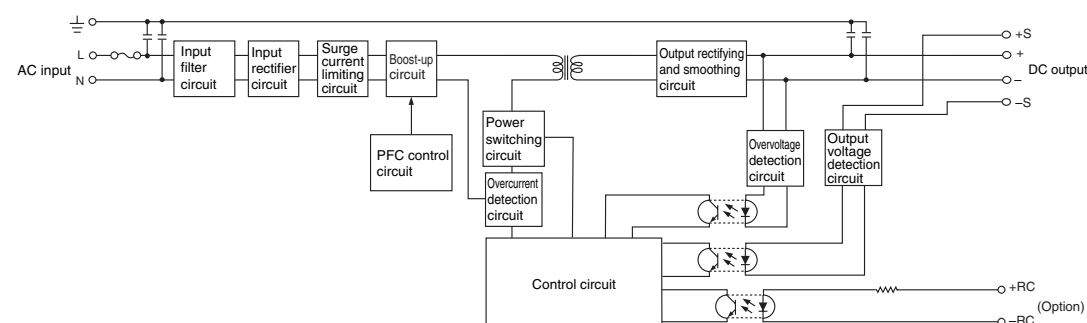
Characteristics, Functions, and Applications

BLOCK DIAGRAMS

30W



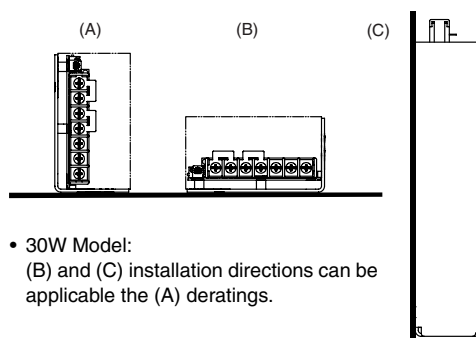
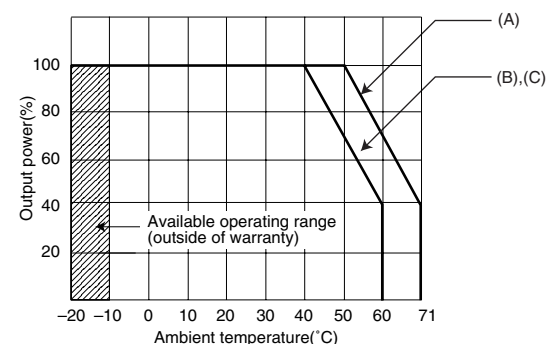
50W, 100W, 150W



COMMON SPECIFICATIONS

Temperature and humidity		
Temperature range	Operating(°C)	−10 to +71[please refer to Derating curve.]
	Operating available(°C)	−20 to −10
	Storage(°C)	−30 to +75
Humidity range	Operating(%)RH	10 to 95[Maximum wet-bulb temperature: 35°C, without dewing]
	Storage(%)RH	
Vibration and shock		
Vibration	5 to 10Hz	All amplitude 10mm[3 directions, each 1h]
	10 to 200Hz	Acceleration 19.6m/s²(2G)[3 directions, each 1h]
Shock	Acceleration	588m/s²(60G)[3 directions, each 3 times]
	Pulse duration	11±5ms
Withstand voltage and insulation resistance		
Withstand voltage	Input terminal to case(G)	Eac: 2.0kV, 1min[Normal temperature, normal humidity, cutout current 20mA]
	Input terminal to output terminal	Eac: 3.0kV, 1min[Normal temperature, normal humidity, cutout current 20mA]
	Output terminal to case(G)	Eac: 500V, 1min[Normal temperature, normal humidity cutout current 20mA]
Insulation resistance	Input terminal to case(G)	Edc: 500V, 100MΩ min. [Normal temperature, normal humidity]
	Input terminal to output terminal	
	Output terminal to case(G)	

OUTPUT POWER-AMBIENT TEMPERATURE(DERATINGS) WITHOUT COVER TYPE

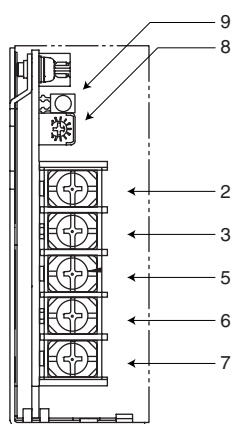


- 30W Model:
(B) and (C) installation directions can be applicable the (A) deratings.

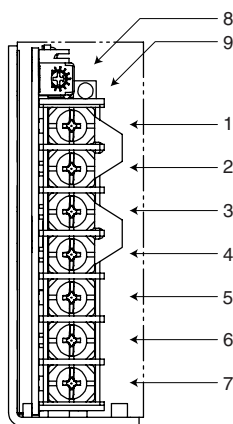
Characteristics, Functions, and Applications

TERMINAL DESIGNATIONS AND FUNCTIONS

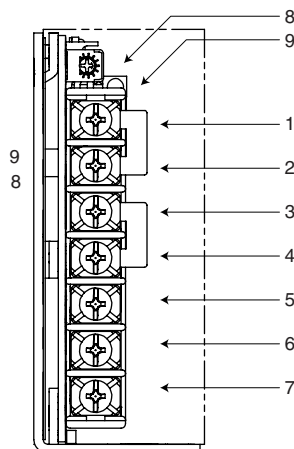
30W TYPE



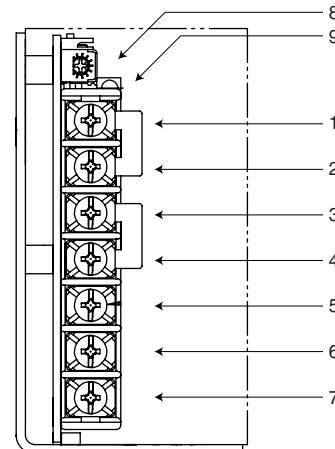
50W TYPE



100W TYPE

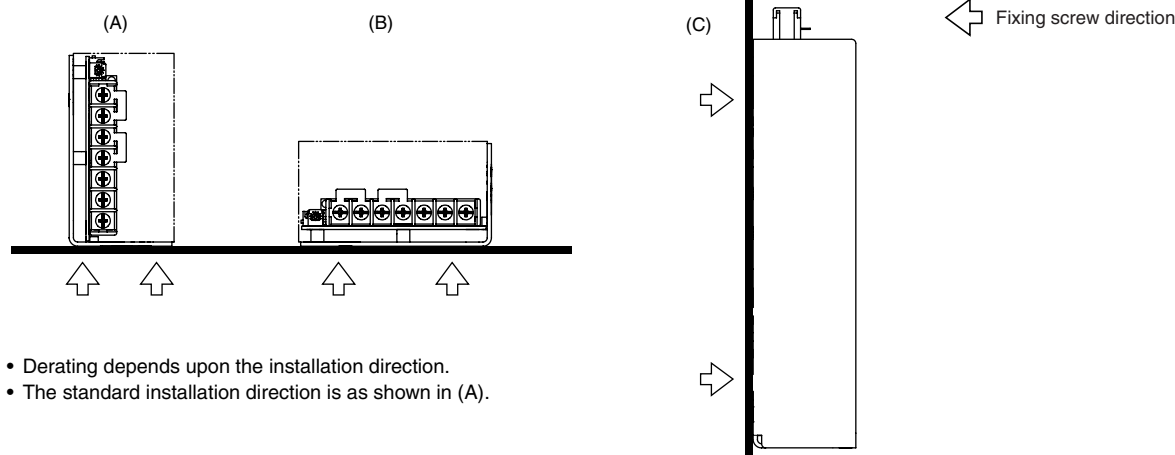


150W TYPE



Terminal No.	Designations and functions	
1	Remote sensing terminals(+S)	These terminals are used to compensate voltage loss from the output terminal to a load. They are shorted to the DC output(+) terminal with a metal bar.
2	DC output terminals(+)	Connect to load.
3	DC output terminals(-)	Connect to load.
4	Remote sensing terminals(-S)	These terminals are used to compensate voltage loss from the output terminal to a load. They are shorted to the DC output(-) terminal with a metal bar.
5	Frame ground terminal(G)	Connect to earth ground. This is connected to the case.
6	AC input terminals(L)	Connect to AC.100 to 120V or AC. 200 to 240V input line.
7	AC input terminals(N)	Connect to AC.100 to 120V or AC. 200 to 240V input line.
8	Output voltage adjustment trim(V.ADJ)	Adjusts output voltage.
9	Operation indicator LED(Green)	This Green LED becomes indicated when voltage is output.

INSTALLATIONS



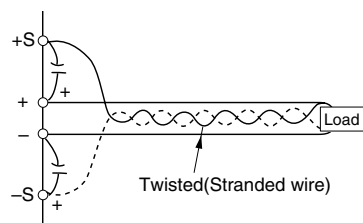
- Derating depends upon the installation direction.
- The standard installation direction is as shown in (A).

Characteristics, Functions, and Applications

REMOTE SENSING

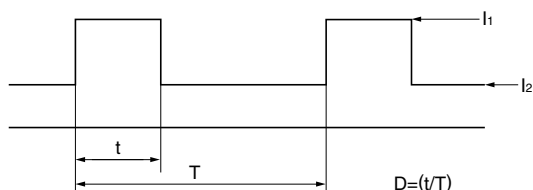
Remote Sensing compensates to provide stability at the load terminal when voltage drop in the line between the power supply and the load causes instability. Remote sensing is possible if the voltage drop per wire between the output and load terminals is 0.15V max. for 3.3V models, 0.25V max. for 5.0V models and 0.4V max. for 12 to 48V models.

In case of parasitic oscillation or overvoltage protection malfunction too easily, install an external electrolytic capacitor, rated 470μF min. between the +OUT, +S and -OUT, -S terminals in the diagram shown below.



PRECAUTIONS OF PEAK CURRENT SETTING CONDITIONS

24V models are capable supply the peak current. The values exceeding the continuous rated values, however, must fulfill the following conditions.



(1) Conditions of time

$$t \leq 10s$$

(2) Conditions of peak current

$$I_1 \leq \text{Peak current(A)}$$

(3) Conditions of effective current

$$\sqrt{DI_1^2 + (1-D)I_2^2} \leq \text{Rated current(A)}$$

(4) Conditions of effective power

$$P \leq \text{Maximum power(W)}$$

$$(\text{output RMS current} \times \text{output voltage})$$

INSULATION AND WITHSTAND VOLTAGE TESTS

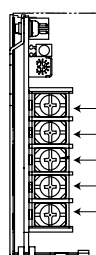
The insulation and withstand voltage tests may cause deterioration. Care must be taken for execution of the tests. The potential must be equal among input, output, and FG (frame ground) terminals. It is preferable to use testers which gently start up at the test-ON and automatically discharge charging energy at the test-OFF. Manual discharging after the tests should be through a resistor around 100kΩ to 1MΩ (Do not perform discharging at low impedance. It may cause deterioration.).

In any case, take full countermeasures for electric-shock prevention.

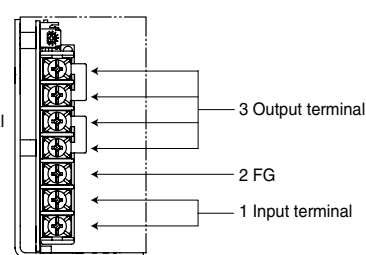
POWER SUPPLY TERMINAL CONNECTION AT INSULATION AND WITHSTAND VOLTAGE TESTS

Short output or input terminals.

RKW30W



RKW50W,100W,150W



CONNECTIONS BETWEEN TESTERS AND POWER SUPPLY AT INSULATION AND WITHSTAND VOLTAGE TESTS

For connections between the testers and the power supply body, couple the tester terminals at the corresponding locations listed below before executing the tests.

Test conditions	Withstand voltage tester		Insulation tester	
	+ terminal	-terminal	+ terminal	-terminal
Input-to-output withstand voltage	1	3	—	—
Input-to-FG withstand voltage	1	2	—	—
Output-to-FG withstand voltage	3	2	—	—
Input-to-FG insulation	—	—	1	2
Input-to-output insulation	—	—	1	3
Output-to-FG insulation	—	—	3	2

Characteristics, Functions, and Applications

OPTIONAL SPECIFICATIONS

To answer customer's various needs, the RKW series prepares the semi-standard power supply. Please order by adding the under-mentioned symbol to the product number's end of standard type.

PRODUCT IDENTIFICATIONS

RKW○○-○○○ □
(1) (2)

(1) Part No. of standard product

(2) Optional function's symbol

Symbol	Optional functions		
	With cover	Remote control	Damp proof treatment
C	✓		
A		✓	
B			✓
E	✓	✓	
G	✓		✓
J		✓	✓
N	✓	✓	✓

■ : Indicates the products upon receipt of order.

Example) RKW05-6R0G

Output voltage: 5V

Output current: 6A

Optional functions: With cover and damp proof treatment

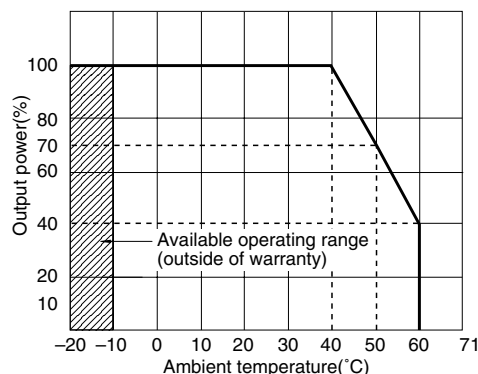
OPTIONAL FUNCTIONS

WITH COVER TYPE

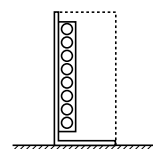
- Change temperature condition of input voltage and input frequency range.
Temperature range: -10 to $+60^{\circ}\text{C}$
- Change temperature condition of temperature effect.
Temperature range: -10 to $+60^{\circ}\text{C}$
- Change temperature condition of ripple and ripple noise.
Temperature range: 0 to $+60^{\circ}\text{C}$
- Change operating temperature range: -10 to $+60^{\circ}\text{C}$
- Change safety standards approved temperature: 40°C (except 150W type)
- Change temperature condition of electrolytic capacitor's life expectancy: 30°C
- Change weight
30W: 330g max.
50W: 470g max.
100W: 700g max.
150W: 770g max.

DERATINGS

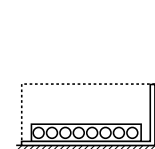
RKW30W(WITH COVER) TYPE



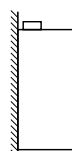
(A) Standard installation (B)



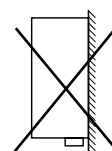
(E)



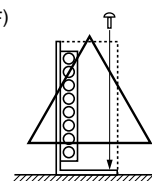
(C)



(D)



(F)



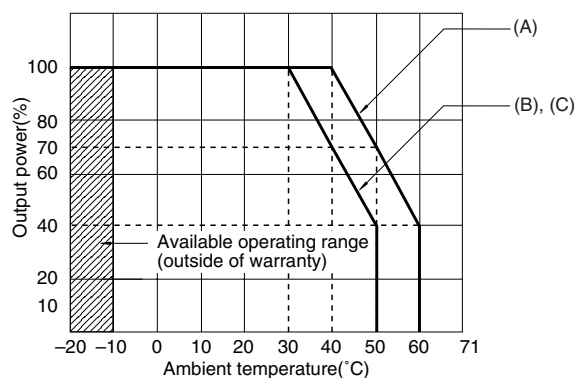
There are (B), (C), (D), (E), and (F) besides standard installation method (A) when the power supply is mounted on the device. Because heat shuts oneself up internally in the power supply, the installation of (D) and (E) cannot be used.

Please use the installation of (A), (B), (C), and (F) within the range of DERATING CURVE.

In generally, do not mount by top side screw only, as shown in (F). When mounting as shown in (F), vibration is 9.8m/s^2 and shock is 98m/s^2 mentioned in Clauses 5-3 and 5-4.

Characteristics, Functions, and Applications

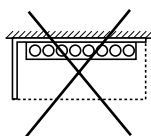
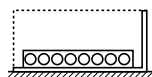
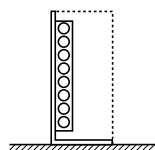
RKW50W, 100W, 150W(WITH COVER) TYPE



(A) Standard mounting

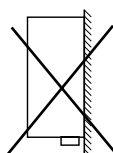
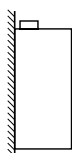
(B)

(E)



(C)

(D)



There are (B), (C), (D), and (E) besides standard installation method (A) when the power supply is mounted on the device. Because heat shuts oneself up internally in the power supply, the installation of (D) and (E) cannot be used.

Please use the installation of (A), (B), and (C) within the range of DERATING CURVE.

REMOTE CONTROL

Output voltage ON/OFF can be controlled from outside of power supply.

Between +RC and -RC terminals

SW ON(H-level): External voltage applied

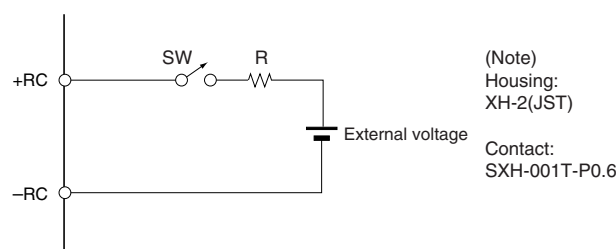
4.5 to 12.5V: Output voltage ON

12.5 to 24.5V: R1.5k Ω

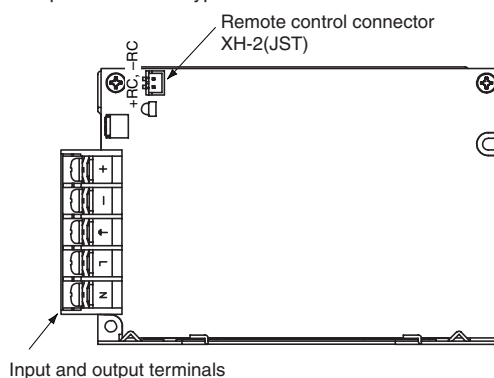
SW OFF (L-level): Shorted or between terminal voltage

0 to 0.8V: Output voltage OFF

$\pm$ RC terminals are isolated to AC input terminals and DC output terminals. Insulation resistance between $\pm$ RC terminals and output is the same insulation resistance between output and ground. Insulation resistance between $\pm$ RC terminals and AC input terminals is the same insulation resistance between output and ground.



Example: RKW30W Type



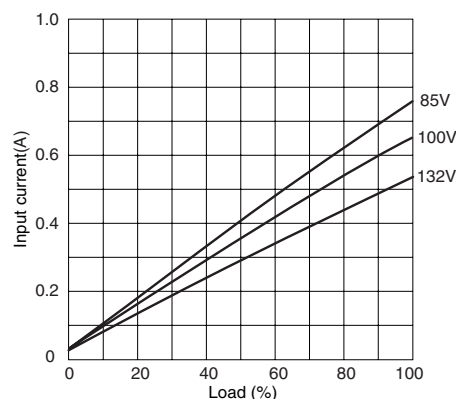
DAMP PROOF TREATMENT

The damp proof treatment is given.

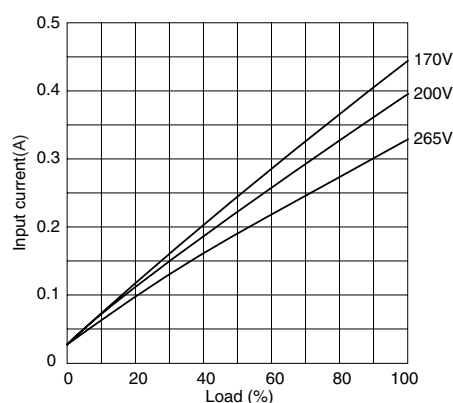
Characteristics, Functions, and Applications

RKW30W(Typical Characteristics RKW05-6R0)

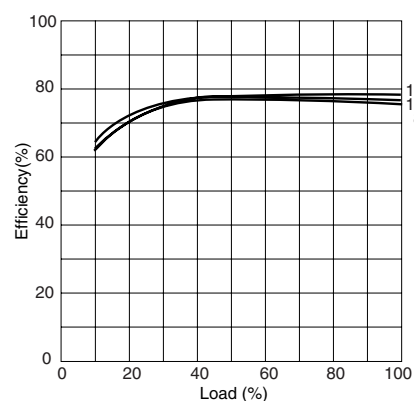
AC.100V TYPE: INPUT CURRENT



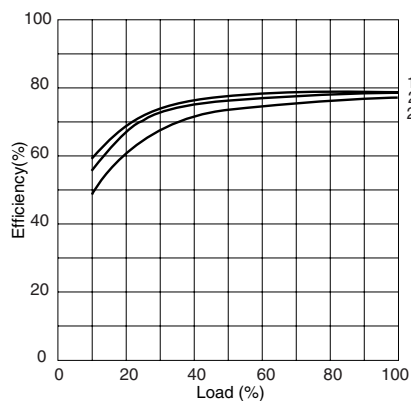
AC.200V TYPE: INPUT CURRENT



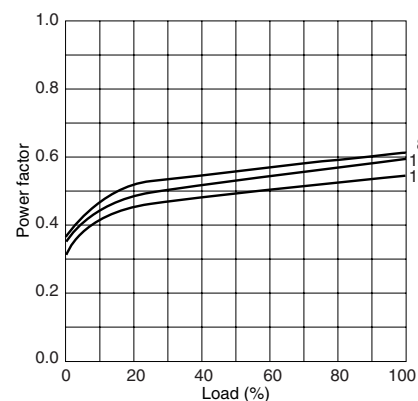
AC.100V TYPE: EFFICIENCY



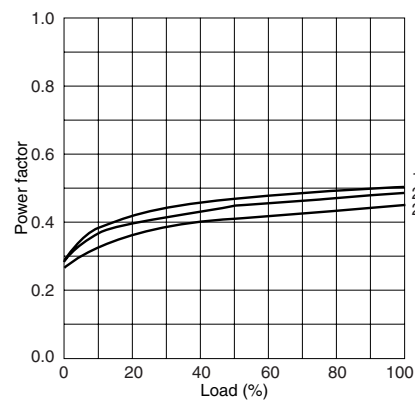
AC.200V TYPE: EFFICIENCY



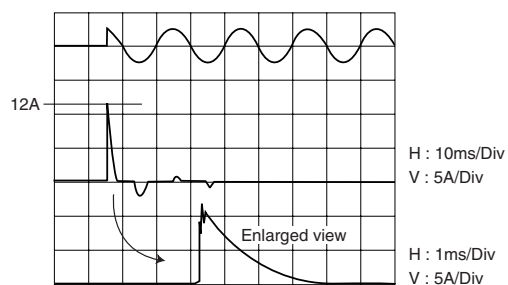
AC.100V TYPE: POWER FACTOR



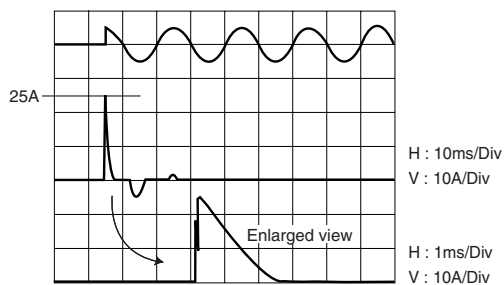
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



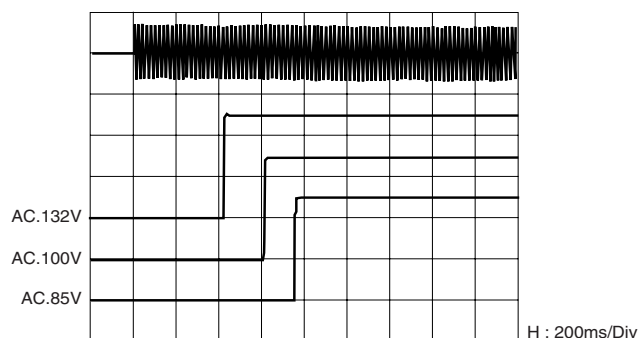
AC.200V TYPE: SURGE CURRENT



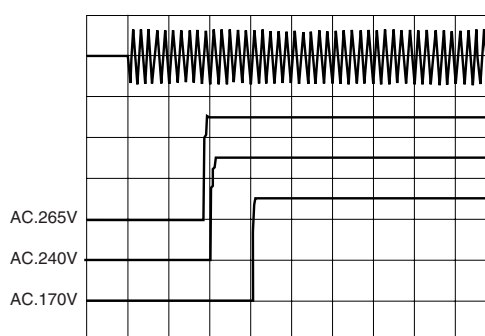
Characteristics, Functions, and Applications

RKW30W(Typical Characteristics RKW05-6R0)

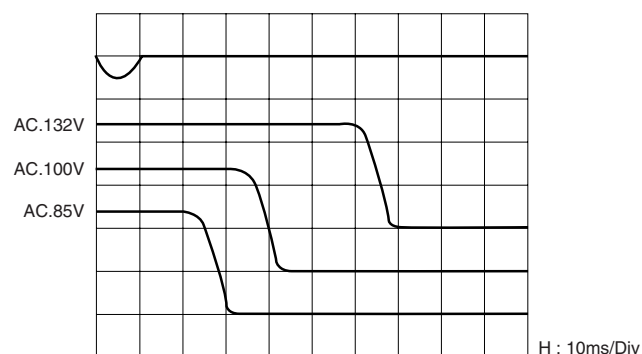
AC.100V TYPE: START UP CHARACTERISTICS



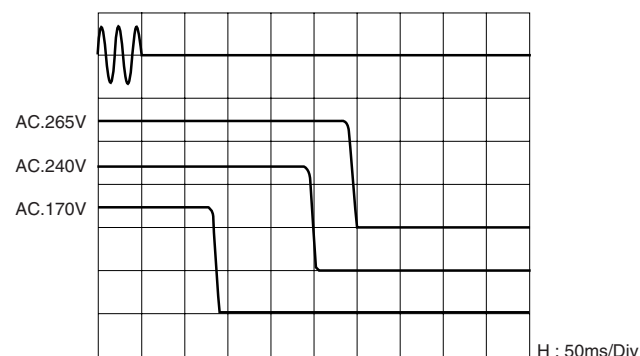
AC.200V TYPE: START UP CHARACTERISTICS



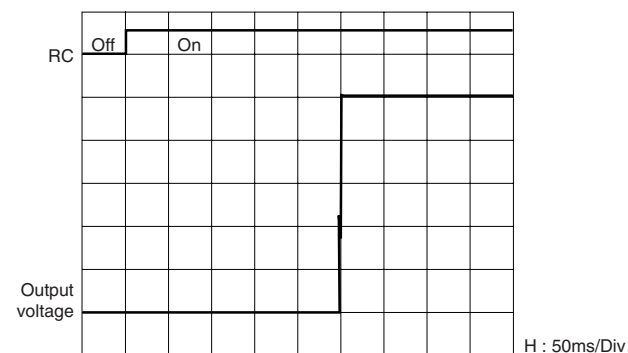
AC.100V TYPE: TURN-OFF CHARACTERISTICS



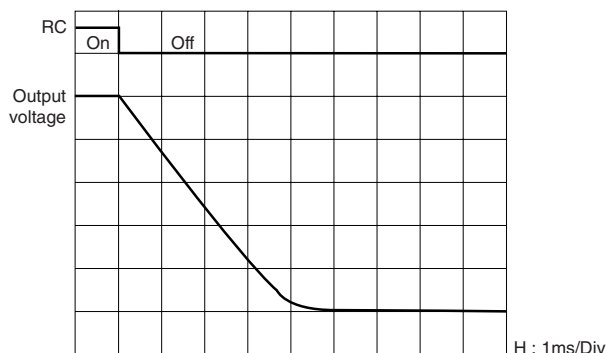
AC.200V TYPE: TURN-OFF CHARACTERISTICS



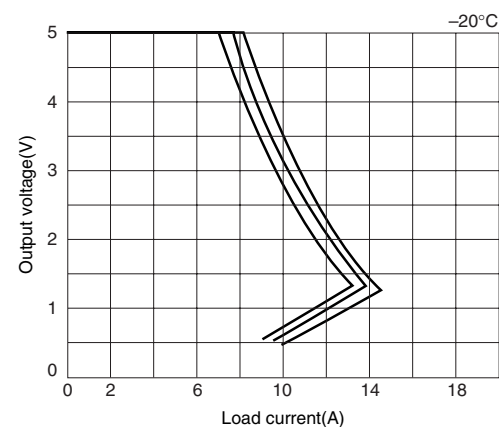
REMOTE CONTROL (ON)



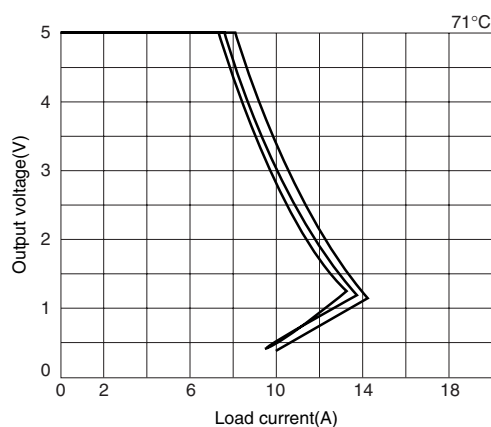
REMOTE CONTROL (OFF)



AC.100V/200V TYPE: OVERCURRENT CURVE



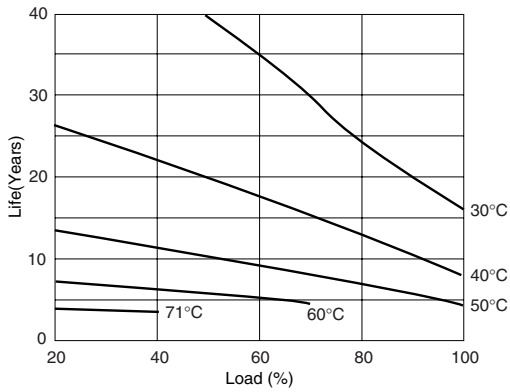
AC.100V/200V TYPE: OVERCURRENT CURVE



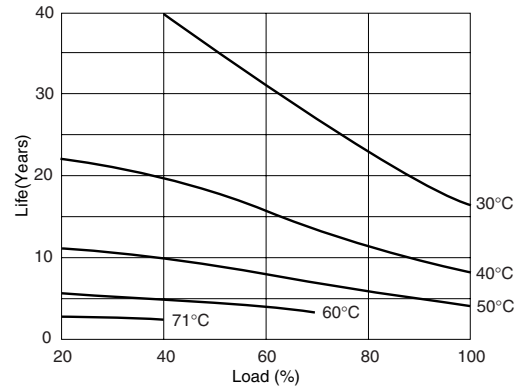
Characteristics, Functions, and Applications

RKW30W(Typical Characteristics RKW05-6R0)

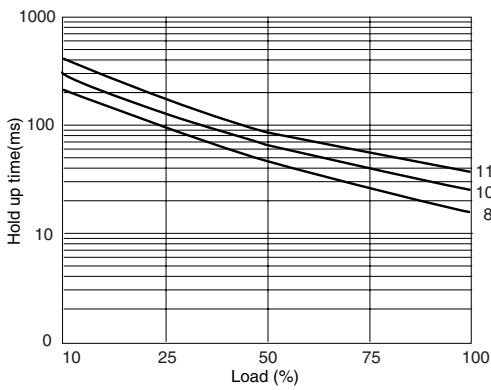
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



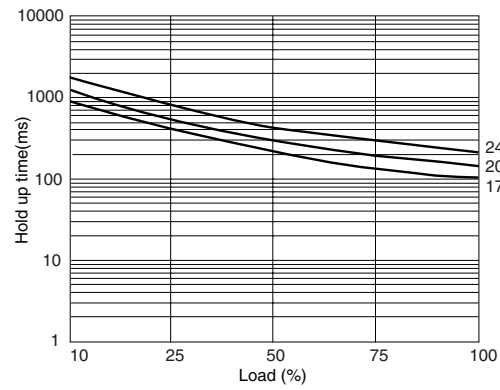
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



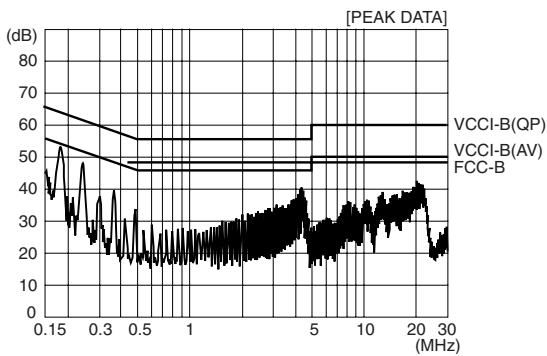
AC.100V TYPE: HOLD UP TIME



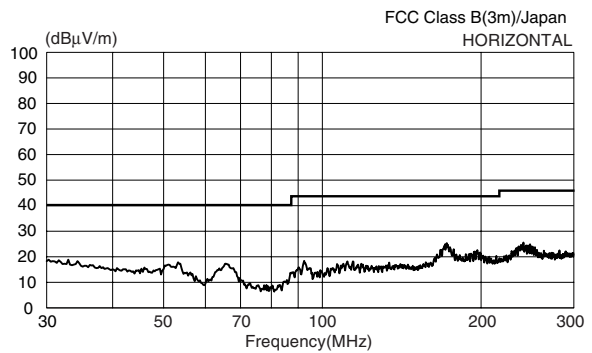
AC.200V TYPE: HOLD UP TIME



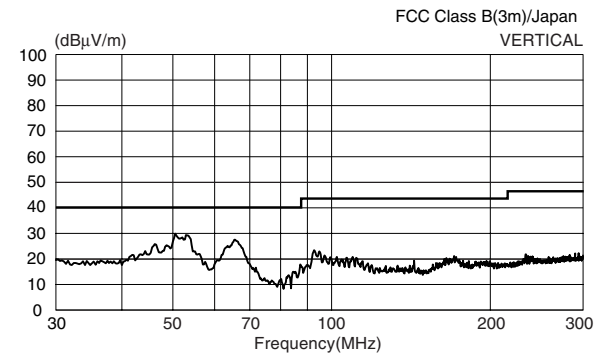
NOISE TERMINAL VOLTAGE



RADIATED NOISE



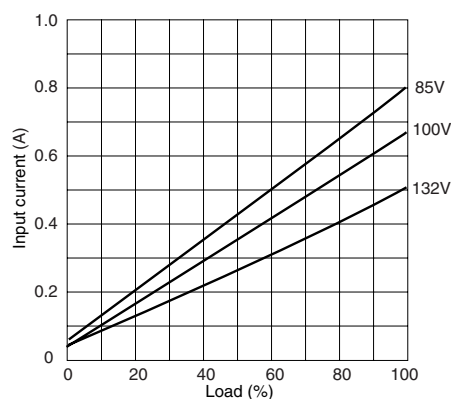
RADIATED NOISE



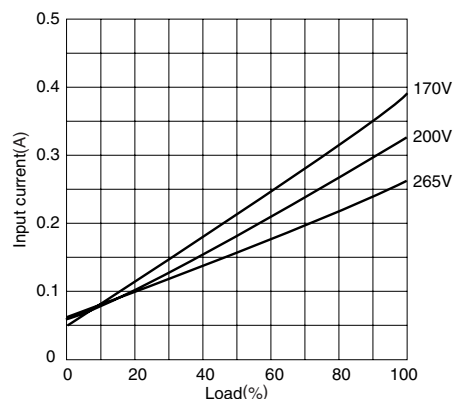
Characteristics, Functions, and Applications

RKW50W(Typical Characteristics RKW05-10R)

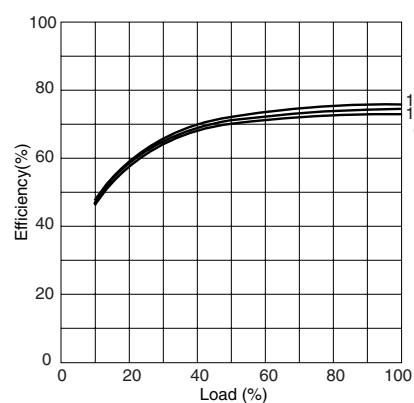
AC.100V TYPE: INPUT CURRENT



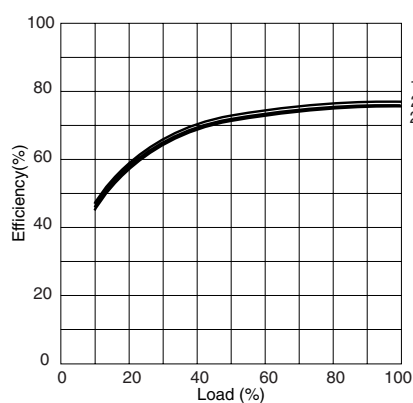
AC.200V TYPE: INPUT CURRENT



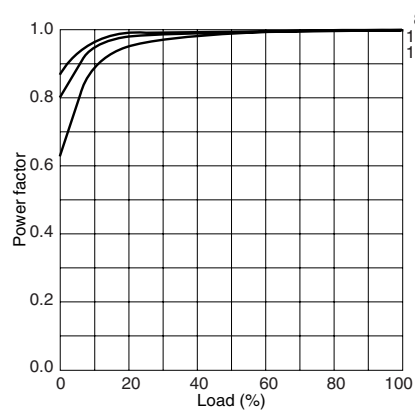
AC.100V TYPE: EFFICIENCY



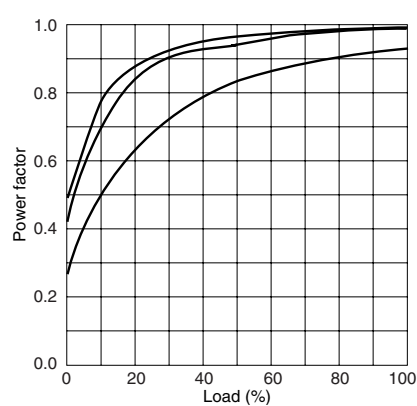
AC.200V TYPE: EFFICIENCY



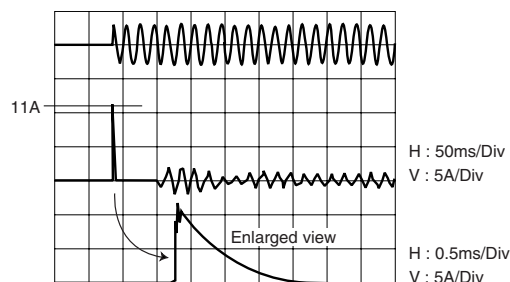
AC.100V TYPE: POWER FACTOR



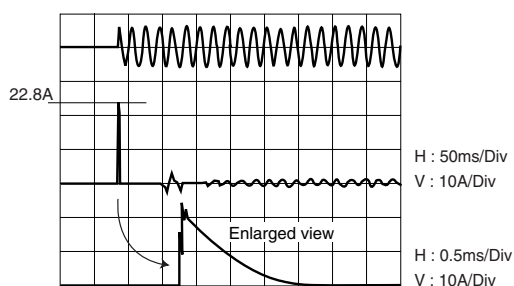
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



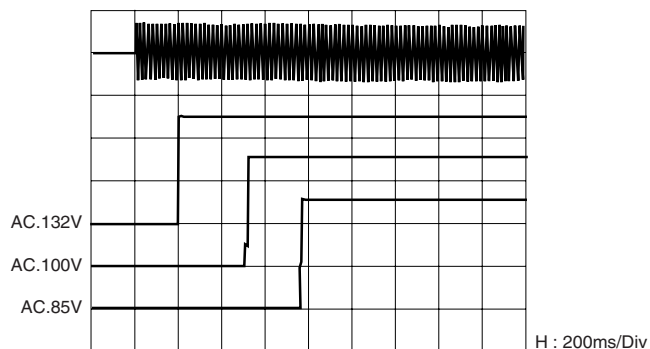
AC.200V TYPE: SURGE CURRENT



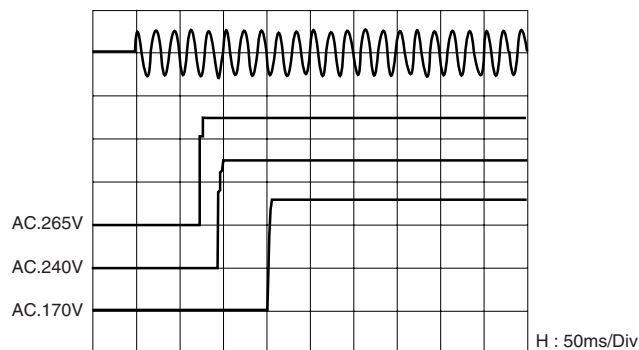
Characteristics, Functions, and Applications

RKW50W(Typical Characteristics RKW05-10R)

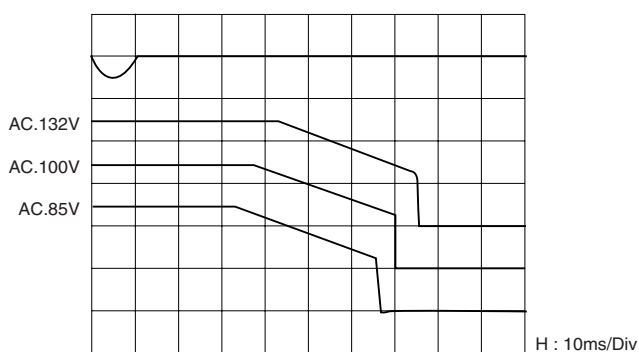
AC.100V TYPE: START UP CHARACTERISTICS



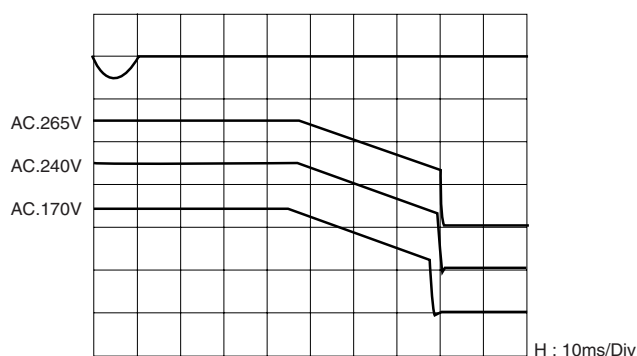
AC.200V TYPE: START UP CHARACTERISTICS



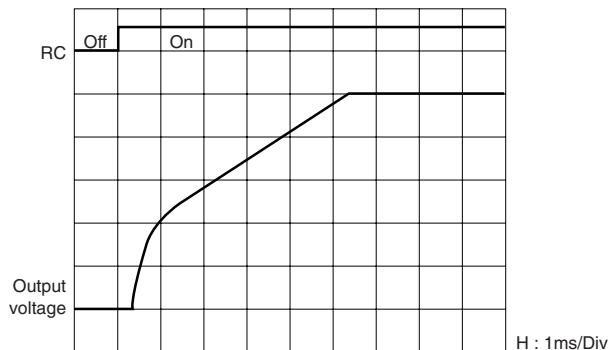
AC.100V TYPE: TURN-OFF CHARACTERISTICS



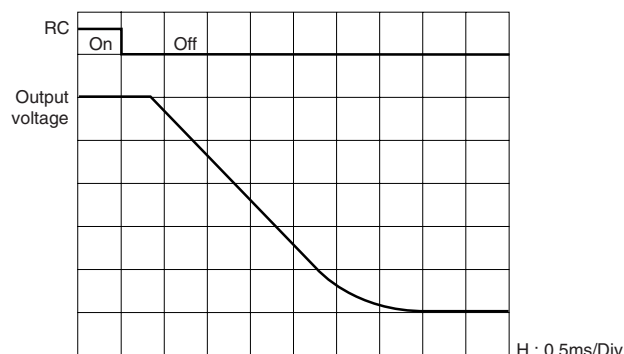
AC.200V TYPE: TURN-OFF CHARACTERISTICS



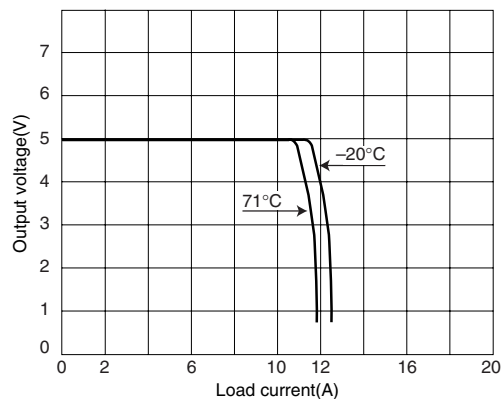
REMOTE CONTROL (ON)



REMOTE CONTROL (OFF)



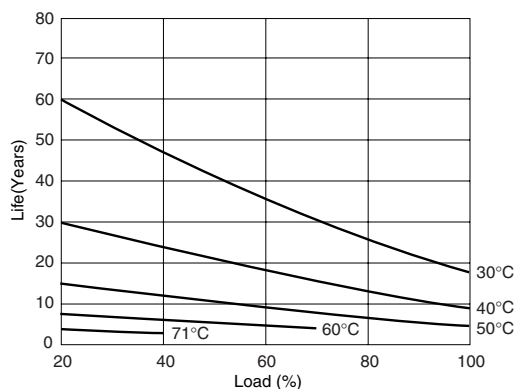
AC.100V/200V TYPE: OVERCURRENT CURVE



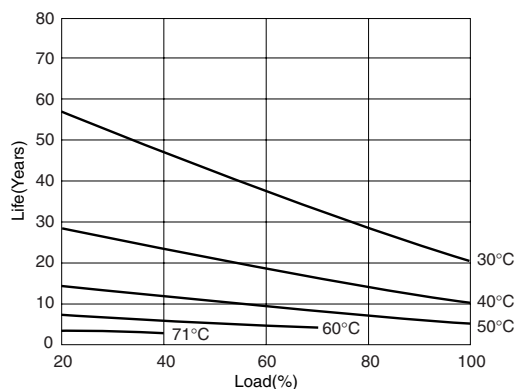
Characteristics, Functions, and Applications

RKW50W(Typical Characteristics RKW05-10R)

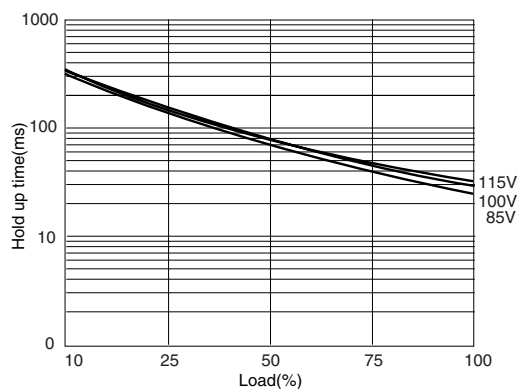
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



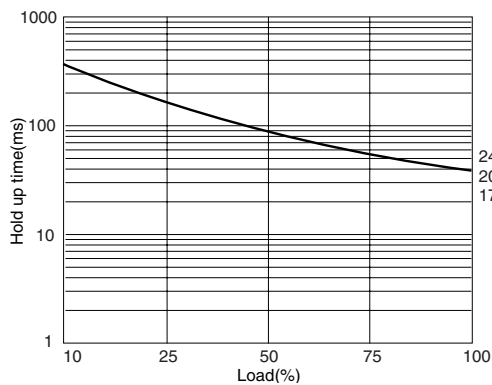
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



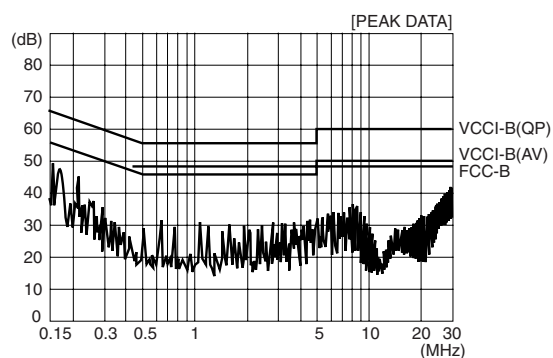
AC.100V TYPE: HOLD UP TIME



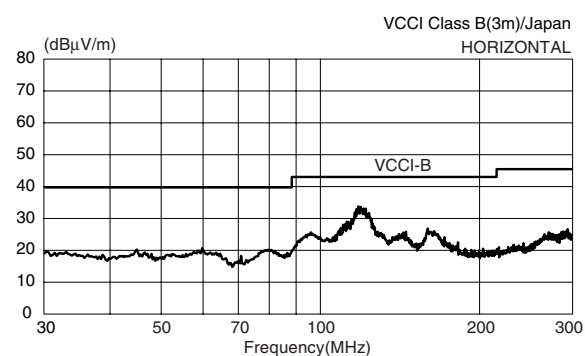
AC.200V TYPE: HOLD UP TIME



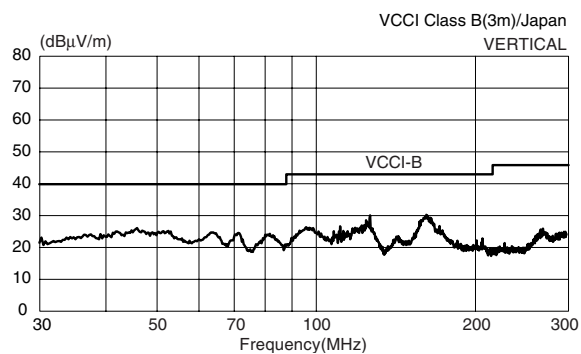
NOISE TERMINAL VOLTAGE



RADIATED NOISE



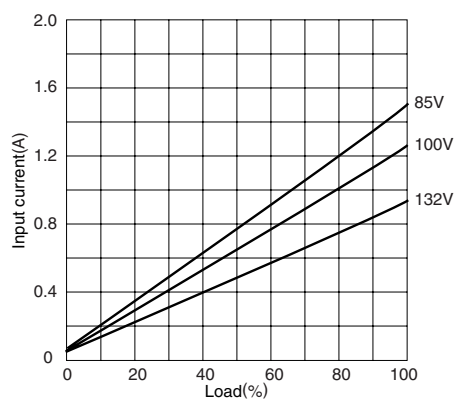
RADIATED NOISE



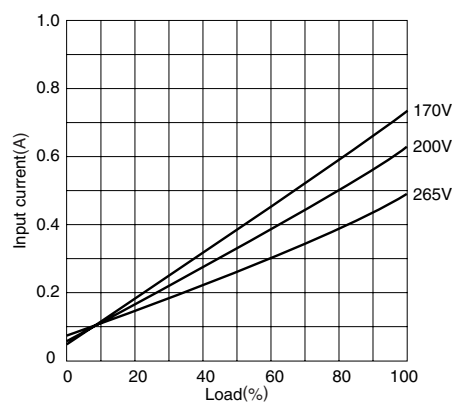
Characteristics, Functions, and Applications

RKW100W(Typical Characteristics RKW05-20R)

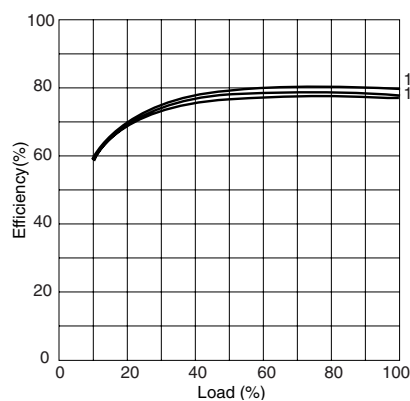
AC.100V TYPE: INPUT CURRENT



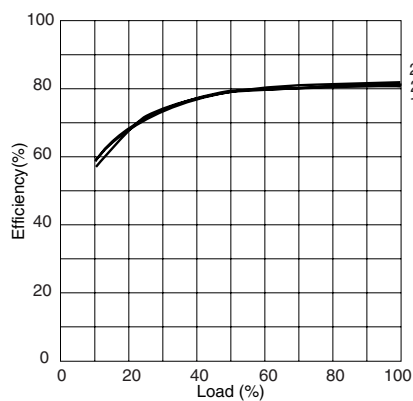
AC.200V TYPE: INPUT CURRENT



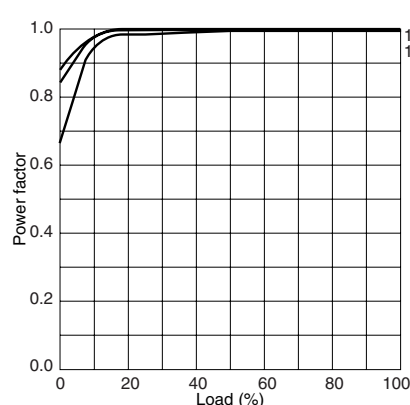
AC.100V TYPE: EFFICIENCY



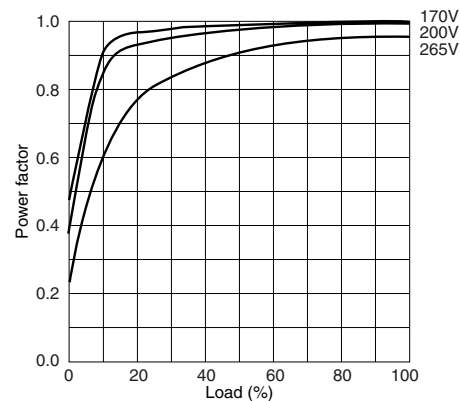
AC.200V TYPE: EFFICIENCY



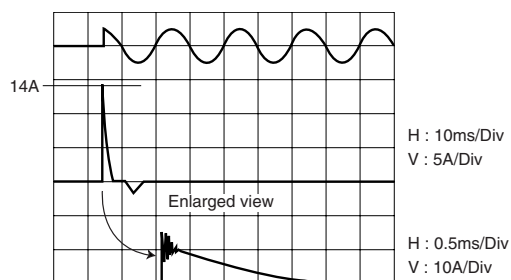
AC.100V TYPE: POWER FACTOR



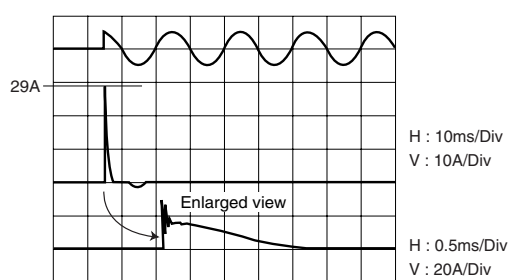
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



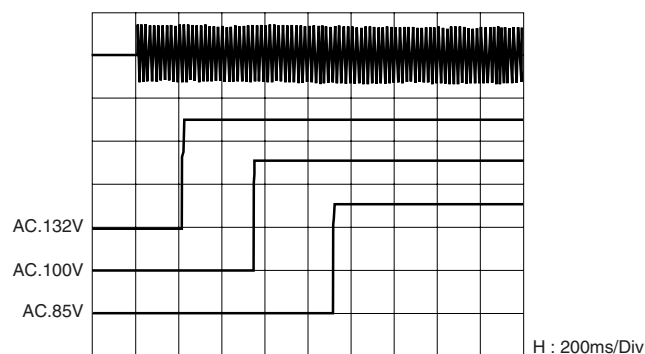
AC.200V TYPE: SURGE CURRENT



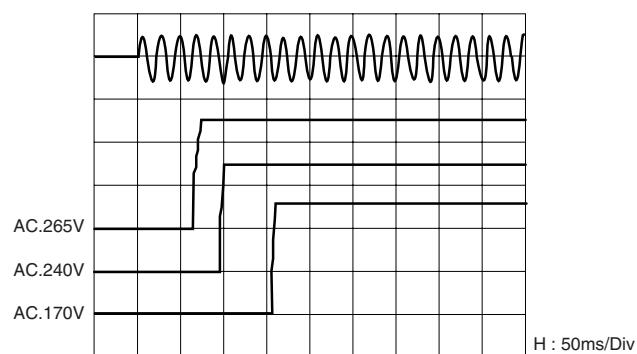
Characteristics, Functions, and Applications

RKW100W(Typical Characteristics RKW05-20R)

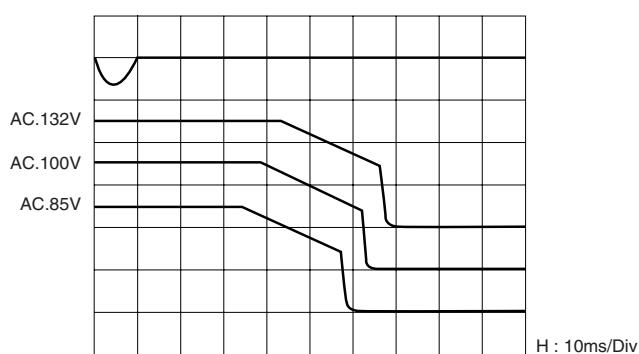
AC.100V TYPE: START UP CHARACTERISTICS



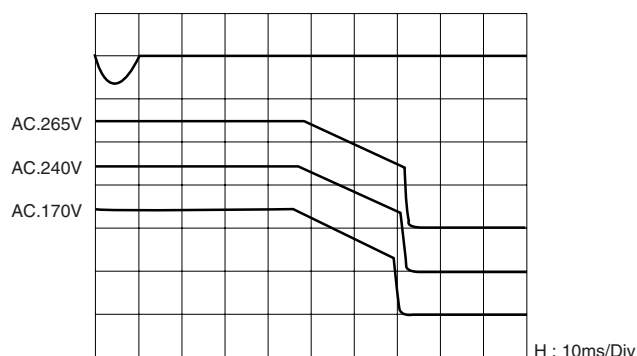
AC.200V TYPE: START UP CHARACTERISTICS



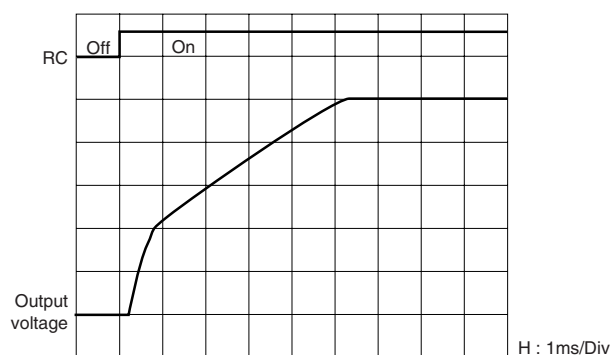
AC.100V TYPE: TURN-OFF CHARACTERISTICS



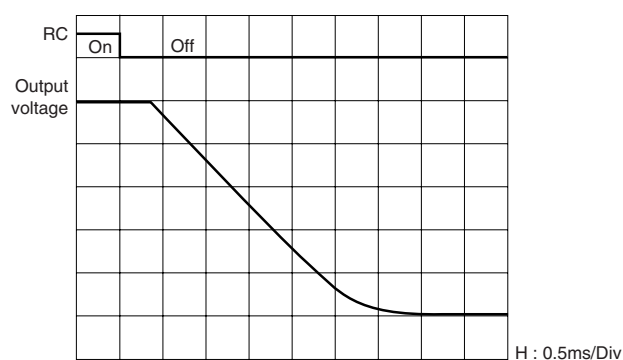
AC.200V TYPE: TURN-OFF CHARACTERISTICS



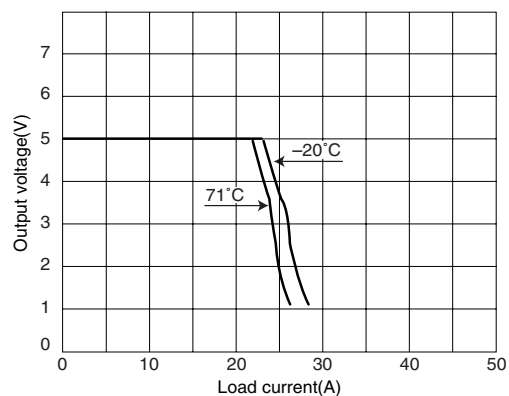
REMOTE CONTROL (ON)



REMOTE CONTROL (OFF)



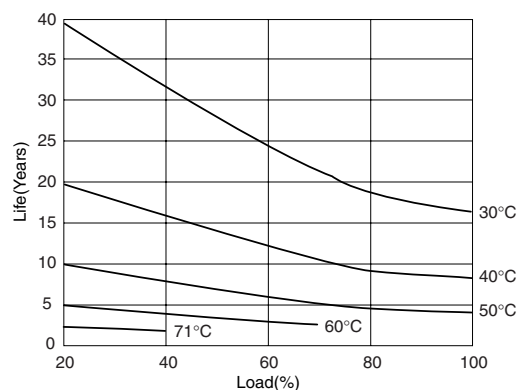
AC.100V/200V TYPE: OVERCURRENT CURVE



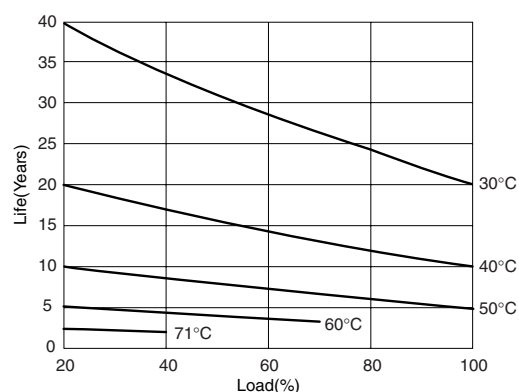
Characteristics, Functions, and Applications

RKW100W(Typical Characteristics RKW05-20R)

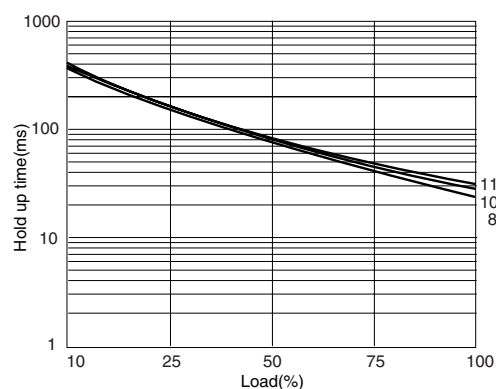
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



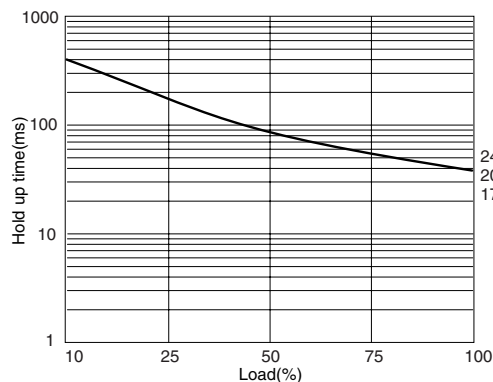
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



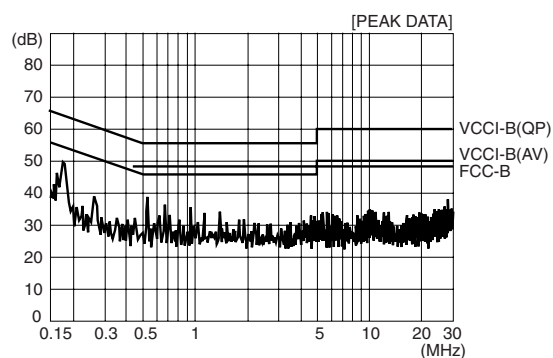
AC.100V TYPE: HOLD UP TIME



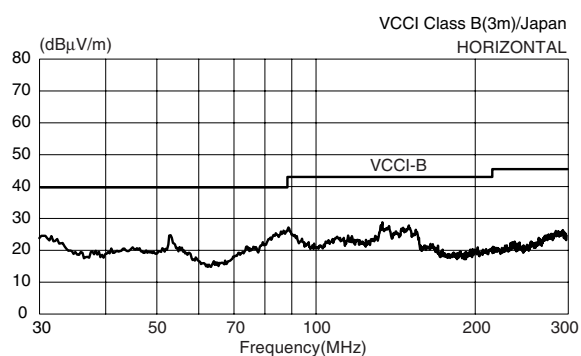
AC.200V TYPE: HOLD UP TIME



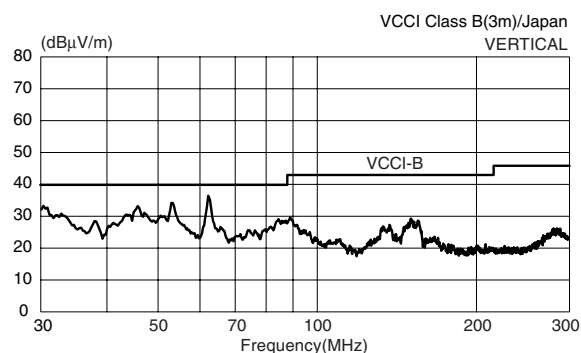
NOISE TERMINAL VOLTAGE



RADIATED NOISE



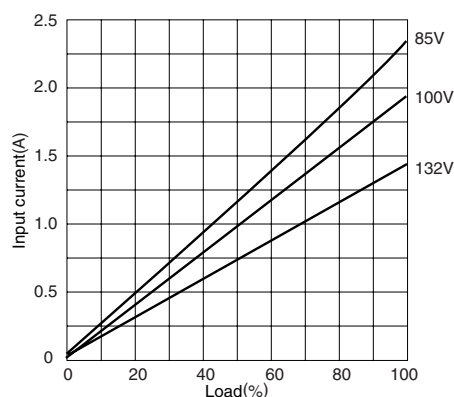
RADIATED NOISE



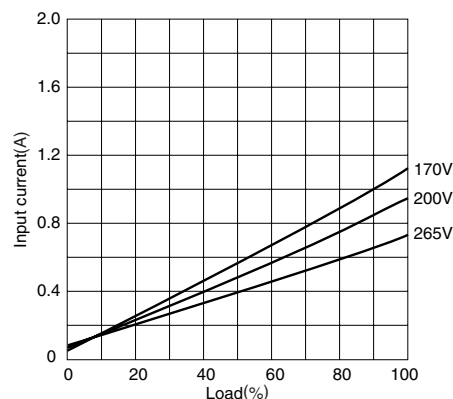
Characteristics, Functions, and Applications

RKW150W(Typical Characteristics RKW05-30R)

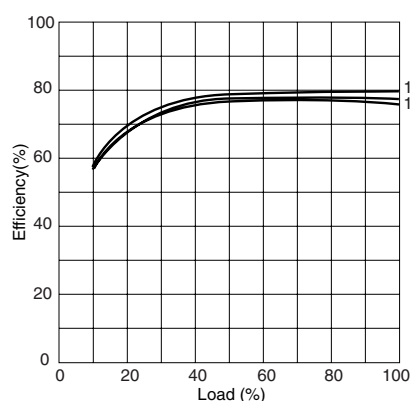
AC.100V TYPE: INPUT CURRENT



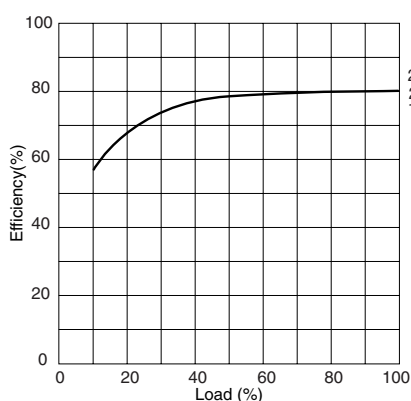
AC.200V TYPE: INPUT CURRENT



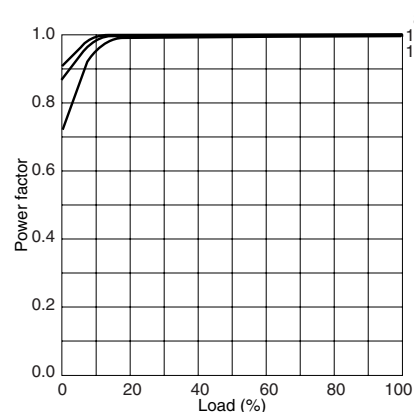
AC.100V TYPE: EFFICIENCY



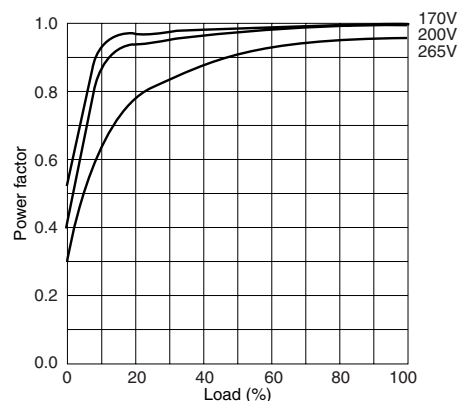
AC.200V TYPE: EFFICIENCY



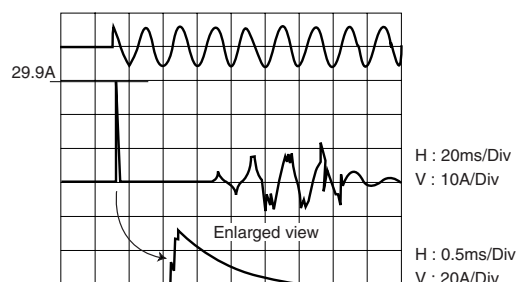
AC.100V TYPE: POWER FACTOR



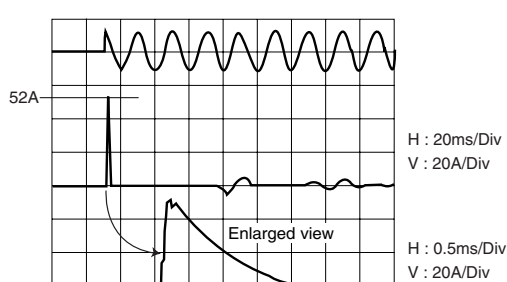
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



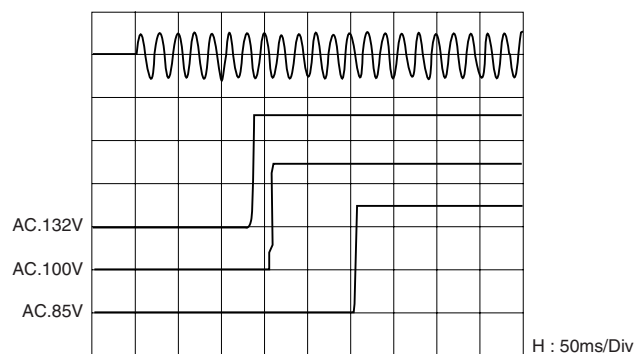
AC.200V TYPE: SURGE CURRENT



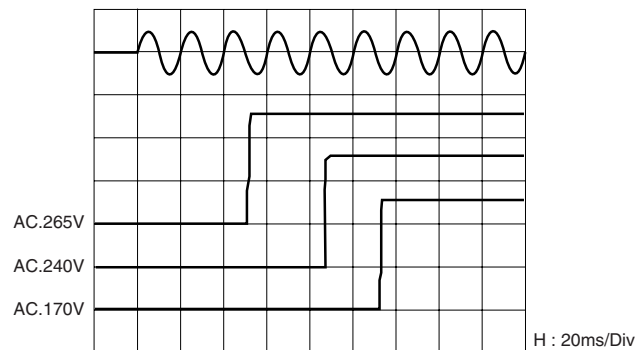
Characteristics, Functions, and Applications

RKW150W(Typical Characteristics RKW05-30R)

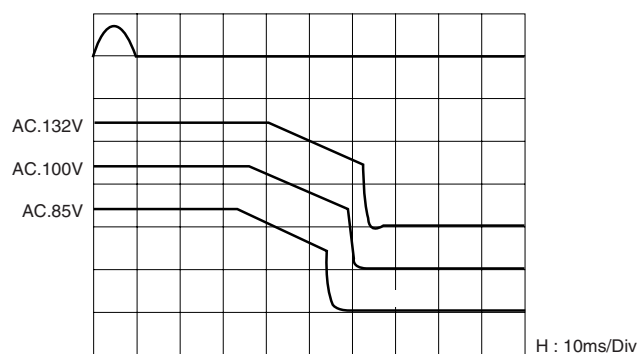
AC.100V TYPE: START UP CHARACTERISTICS



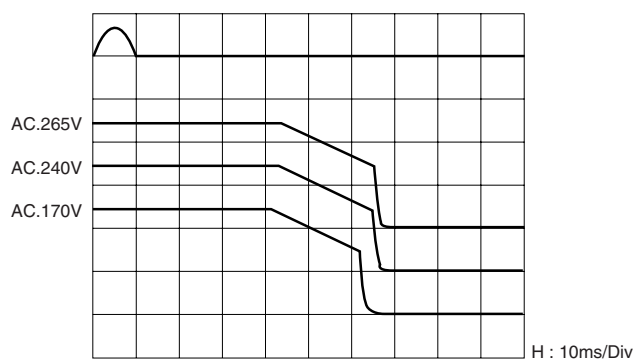
AC.200V TYPE: START UP CHARACTERISTICS



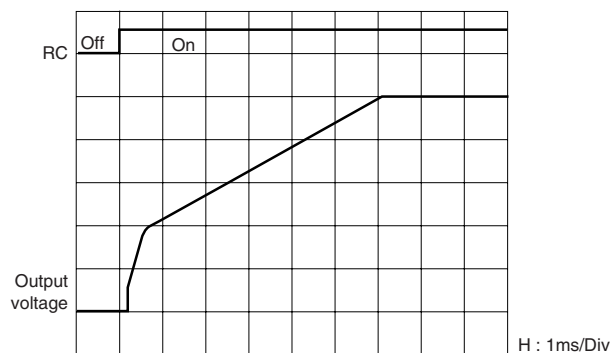
AC.100V TYPE: TURN-OFF CHARACTERISTICS



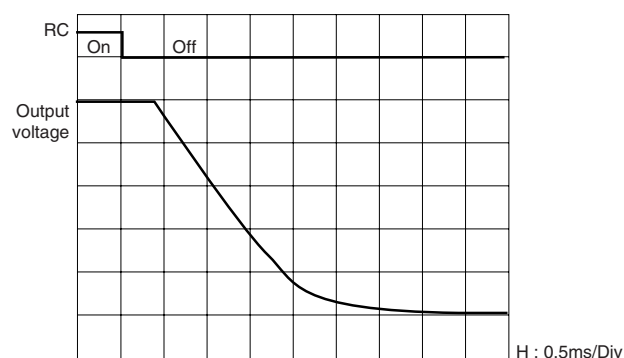
AC.200V TYPE: TURN-OFF CHARACTERISTICS



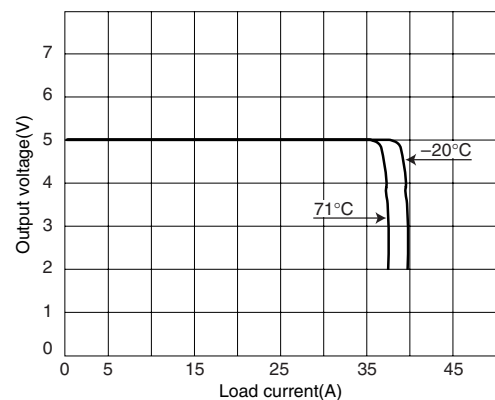
REMOTE CONTROL (ON)



REMOTE CONTROL (OFF)



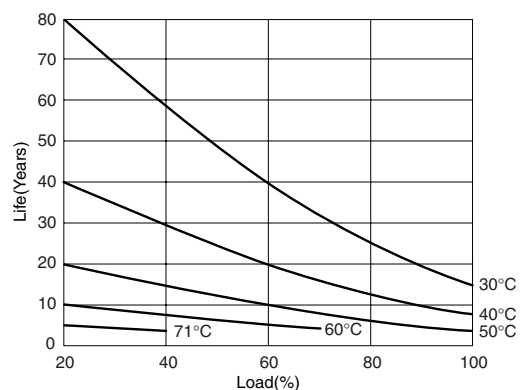
AC.100V/200V TYPE: OVERCURRENT CURVE



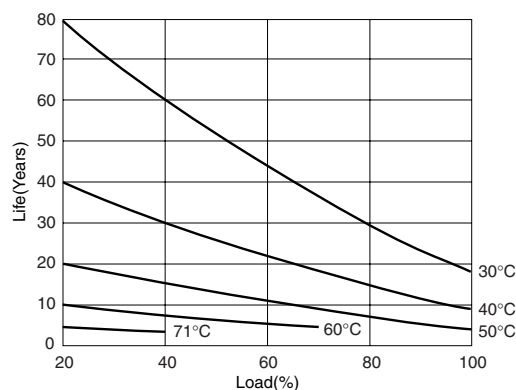
Characteristics, Functions, and Applications

RKW150W(Typical Characteristics RKW05-30R)

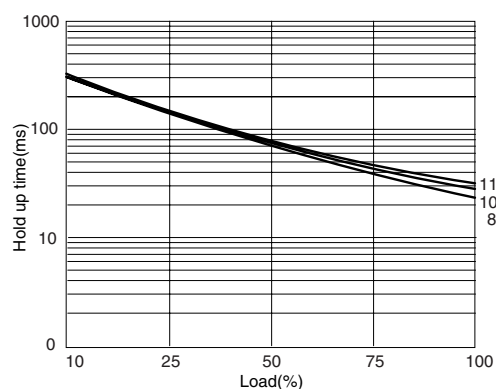
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



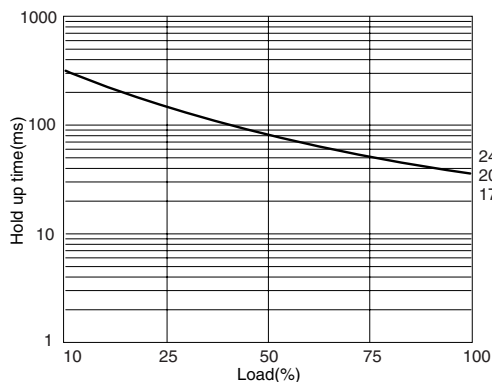
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



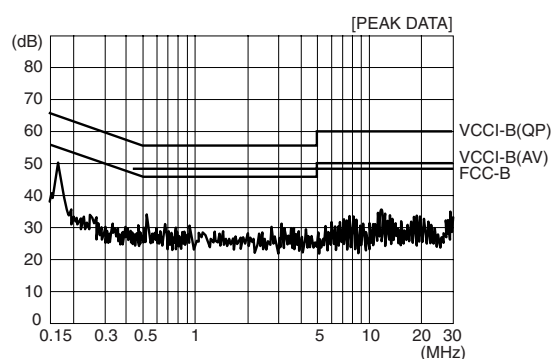
AC.100V TYPE: HOLD UP TIME



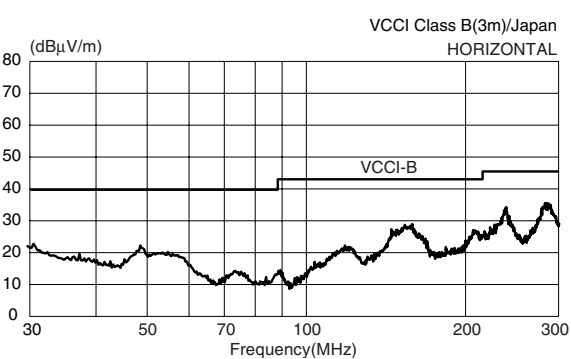
AC.200V TYPE: HOLD UP TIME



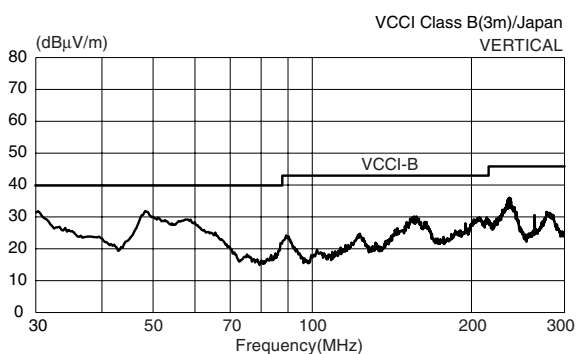
NOISE TERMINAL VOLTAGE



RADIATED NOISE



RADIATED NOISE



AC Input

Single Output, Long Life, UL/C-UL/TÜV Approved

Conformity to RoHS Directive

R Series RKW(300W to 1.5kW)

TDK answers a wide range of customers' needs with preparations of 42 models under 3 types of 300W, 600W and 1.5kW of the definitive compact power supplies which have achieved the most space-saving and lightweight designs in the industry by commanding the latest circuit and thermal analysis simulation technologies.



FEATURES

- Harmonics current requirement EN61000-3-2 meet.
- Universal input (AC 100 to 200V; Switching not required).
- Immunity EN50082-2, EN61000-4-2,3,4,5,6,8,11 meet.
- Radiated noise and conductive noise FCC-B and VCCI-B meet.
- Continuously variable within the range of 0V to 120% of the rated output voltage when using RV terminal.
- Lightweight design.
- Corresponds to products with CE marking.
- Long-life fan mounted F-type product available (RKW□□-○○○ F).
- Warranty period: 5 years (10 years for F-type product)
- Specific bromine inflammable materials (PBDPEs, PBBs) are not included in use.
- It is a product conforming to RoHS directive.

PART NUMBERS AND RATINGS

Output voltage(V)	300W		600W		1.5kW	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
3.3	70	RKW03-70R	150	RKW03-150	375	RKW03-375
5	60	RKW05-60R	120	RKW05-120	300	RKW05-300
12	27	RKW12-27R	53	RKW12-53R	125	RKW12-125
15	22	RKW15-22R	43	RKW15-43R	100	RKW15-100
24	14	RKW24-14R	27	RKW24-27R	65	RKW24-65R
28	12	RKW28-12R	23	RKW28-23R	55	RKW28-55R
48	7	RKW48-7R0	13	RKW48-13R	32	RKW48-32R

PART NUMBERS AND RATINGS(F TYPE)

Output voltage(V)	300W		600W		1.5kW	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
3.3	70	RKW03-70RF	150	RKW03-150F	375	RKW03-375F
5	60	RKW05-60RF	120	RKW05-120F	300	RKW05-300F
12	27	RKW12-27RF	53	RKW12-53RF	125	RKW12-125F
15	22	RKW15-22RF	43	RKW15-43RF	100	RKW15-100F
24	14	RKW24-14RF	27	RKW24-27RF	65	RKW24-65RF
28	12	RKW28-12RF	23	RKW28-23RF	55	RKW28-55RF
48	7	RKW48-7R0F	13	RKW48-13RF	32	RKW48-32RF

- Standard type and F type: Stock products.

OPTIONAL SPECIFICATION TYPE

To answer customer's various needs, the RKW series prepares the semi-standard power supply. Please order by adding the under-mentioned symbol to the product number's end of standard type.

Symbol	Optional functions		
	Long life span Fan	Overvoltage detection point fix	Fan alarm
F	✓		
A		✓	
B			✓
E	✓	✓	
G	✓		✓
J		✓	✓
N	✓	✓	✓

□ : Indicates the products upon receipt of order.

Example) RKW05-60RG

Output voltage: 5V

Output current: 60A

Optional functions: With long life span Fan and Fan alarm

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

RKW300W Type

SPECIFICATIONS AND STANDARDS

Part No.			RKW03-70R	RKW05-60R	RKW12-27R	RKW15-22R	RKW24-14R	RKW28-12R	RKW48-7R0
Rated output voltage and current*1			3.3V • 70A	5V • 60A	12V • 27A	15V • 22A	24V • 14A	28V • 12A	48V • 7A
Maximum output power		W	231	300	324	330	336	336	336
Input conditions									
Input voltage Eac		V	85 to 265[Rated: 100 to 240]						
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)						
Input current		A	4.4max./2.2max.[AC.100/240V](3.3V : 3.6max./1.8max.)						
Fuse rating		A	10[Built-in]						
Surge current		A	20max./40max.[AC.100/240V, 1st surge current, reset after 30s minimum.]						
Leakage current		mA	0.30max./0.38max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]						
Power factor			0.99typ.						
Efficiency	%	100V	68typ.	74typ.	76typ.	77typ.	80typ.	80typ.	81typ.
	%	200V	72typ.	78typ.	80typ.	81typ.	84typ.	84typ.	85typ.
Output characteristics									
Output voltage Edc		V	3.3	5	12	15	24	28	48
Voltage variable range Edc		V	1.8 to 3.6	3.5 to 6	7.2 to 14.4	10.5 to 18	16.8 to 28.8	19.6 to 23.6	33.6 to 52.8
Maximum output current		A	70	60	27	22	14	12	7
Minimum output current		A	0	0	0	0	0	0	0
Overvoltage threshold*2		V	Vo+0.66 to 1.32	Vo+1 to 2	Vo+2.4 to 4.8	Vo+3 to 6	Vo+4.8 to 9.6	Vo+5.6 to 10.4	Vo+2.5 to 12
Overcurrent threshold		A	73.5 to 91	63 to 78	28.4 to 35.1	23.1 to 28.6	14.7 to 18.2	12.6 to 15.6	7.4 to 9.1
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range)						
	Load effect	%	0.4max.(0.2typ.)(0 to 100% load)						
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +65°C)						
	Drift(Time effect)	%	0.5max.(0.2typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h)						
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs]						
Ripple Ep-p		mV	80max.	80max.	120max.	120max.	150max.	150max.	200max.
Ripple noise Ep-p		mV	120max.	120max.	150max.	150max.	200max.	200max.	300max.
Start up time		ms	350max.(280typ.)/210max.(150typ.)(AC.100/240V)						
Hold up time		ms	20min.(30typ.)/20min.(40typ.)(AC.100/240V)						
Maximum load capacitor		μF	10000						
Auxiliary functions									
Indicator display			LED(Green) indicates when voltage output is ON.						
Overvoltage protection*2*3*4			Voltage shut-down type						
Output low voltage detection			Yes (A power failure signal is outputted when an output voltage drops to 80% or lower of a set voltage.)						
Overcurrent protection*3*4			Rectangular type (Output voltage is shut down after an elapse of time of 30s or longer.)						
Fan alarm*3*4			Voltage shut-down type						
Overheat protection*3			Voltage shut-down type						
Remote ON-OFF			Yes(Floating)						
Remote sensing			Yes						
Current balance			Yes						
Output voltage external variable function			Yes						
Master slave operation			Yes						
Standards									
Safety standards			UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.						
Noise terminal voltage			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Immunity			EN50082-2, EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.						
Input harmonics current requirement			EN61000-3-2 meet.						
Radiation field intensity			FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Constructions									
External dimensions		mm	92×80×175[H×W×L]						
Weight		kg	1.8max.						
Mounting method			Can be attached to 3 sides						
Case material			Frame and cover: Iron, circuit board: CEM-3						

*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

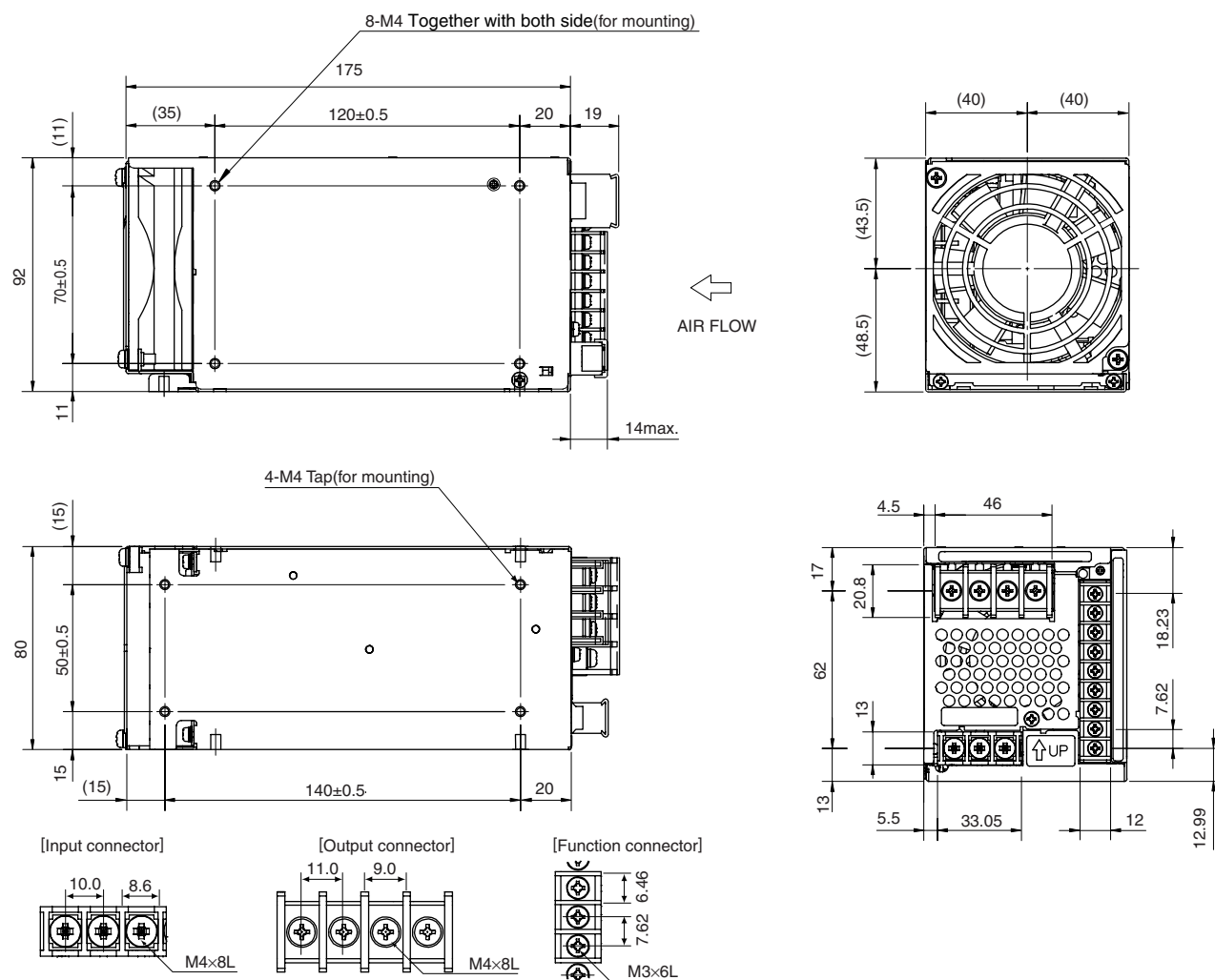
*2 Tracking type (Type in which a detected value is linked with an output voltage value). An overvoltage threshold is for an output set voltage (Vo).

*3 Recovers upon reset(interval approx. 40s).

*4 Remote control. It can be restarted by resetting.

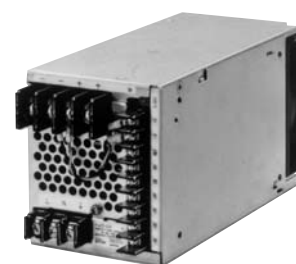
RKW300W Type

SHAPES AND DIMENSIONS



Dimensions in mm
±1mm : without specified dimensions

- Do not insert M4 tap installation screws more than 6mm into the power supply.



RKW600W Type

SPECIFICATIONS AND STANDARDS

Part No.		RKW03-150	RKW05-120	RKW12-53R	RKW15-43R	RKW24-27R	RKW28-23R	RKW48-13R
Rated output voltage and current*1		3.3V • 150A	5V • 120A	12V • 53A	15V • 43A	24V • 27A	28V • 23A	48V • 13A
Maximum output power		W	495	600	636	645	648	644
Input conditions								
Input voltage Eac		V	85 to 265[Rated: 100 to 240]					
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)					
Input current		A	8.4max./4.2max.[AC.100/240V](3.3V : 7.2max./3.6max.)					
Fuse rating		A	15[Built-in]					
Surge current		A	30max./60max.[AC.100/240V, 1st surge current, reset after 30s minimum.]					
Leakage current		mA	0.75max./0.75max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]					
Power factor			0.99typ.					
Efficiency	%	100V	74typ.	76typ.	80typ.	81typ.	82typ.	82typ.
	%	200V	78typ.	81typ.	84typ.	85typ.	86typ.	86typ.
Output characteristics								
Output voltage Edc		V	3.3	5	12	15	24	28
Voltage variable range Edc		V	1.8 to 3.6	3.5 to 6	7.2 to 14.4	10.5 to 18	16.8 to 28.8	19.6 to 33.6
Maximum output current		A	150	120	53	43	27	23
Minimum output current		A	0	0	0	0	0	0
Overvoltage threshold*2		V	Vo+0.66 to 1.32	Vo+1 to 2	Vo+2.4 to 4.8	Vo+3 to 6	Vo+4.8 to 9.6	Vo+5.6 to 10.4
Overcurrent threshold		A	156 to 186	126 to 156	55.6 to 68.9	45.1 to 55.9	28.3 to 35.1	24.1 to 29.8
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range)					
	Load effect	%	0.6max.(0.3typ.)(0 to 100% load)					
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +65°C)					
	Drift(Time effect)	%	0.5max.(0.2typ.)(25°C, input and output ratings, after input voltage ON for 30min to 8h)					
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs]					
Ripple Ep-p		mV	80max.	80max.	150max.	150max.	200max.	200max.
Ripple noise Ep-p		mV	120max.	120max.	200max.	200max.	300max.	300max.
Start up time		ms	350max.(280typ.)/150max.(100typ.)(AC.100/240V)					
Hold up time		ms	20min.(30typ.)/20min.(40typ.)(AC.100/240V)					
Maximum load capacitor		μF	10000					
Auxiliary functions								
Indicator display		LED(Green) indicates when voltage output is ON.						
Overvoltage protection*2*3*4		Voltage shut-down type						
Output low voltage detection		Yes (A power failure signal is outputted when an output voltage drops to 80% or lower of a set voltage.)						
Overcurrent protection*3*4		Rectangular type (Output voltage is shut down after an elapse of time of 30s or longer.)						
Fan alarm*3*4		Voltage shut-down type						
Overheat protection*3		Voltage shut-down type						
Remote ON-OFF		Yes(Floating)						
Remote sensing		Yes						
Current balance		Yes						
Output voltage external variable function		Yes						
Master slave operation		Yes						
Standards								
Safety standards		UL60950-1, CSA C22.2 No.60950-1(C-UL), EN60950-1(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.						
Noise terminal voltage		FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Immunity		EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.						
Input harmonics current requirement		EN61000-3-2 meet.						
Radiation field intensity		FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.						
Constructions								
External dimensions		mm	92×120×200[H×W×L]					
Weight		kg	3max.					
Mounting method		Can be attached to 3 sides						
Case material		Frame and cover: Iron, circuit board: CEM-3						

*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

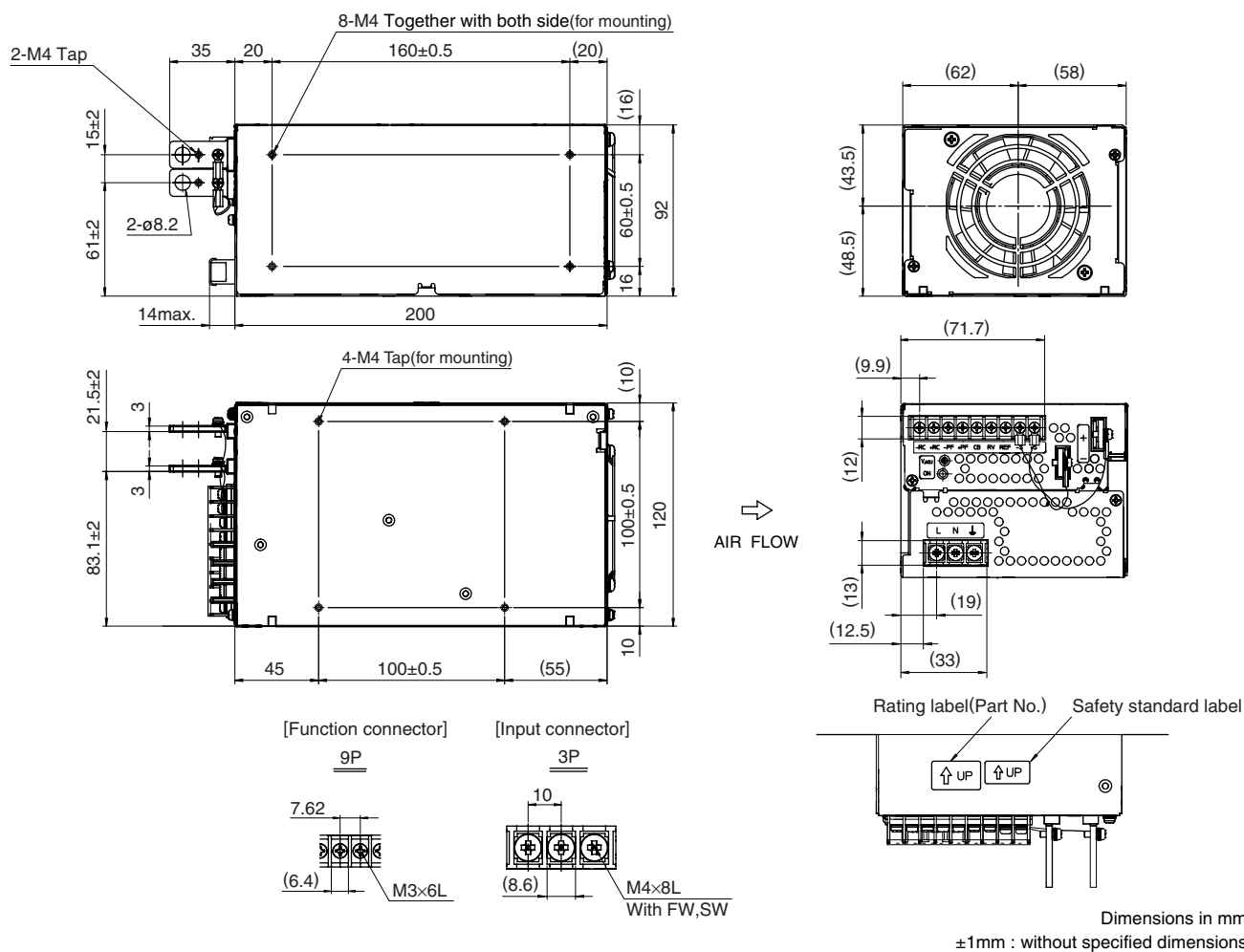
*2 Tracking type (Type in which a detected value is linked with an output voltage value). An overvoltage threshold is for an output set voltage (Vo).

*3 Recovers upon reset(interval approx. 40s).

*4 Remote control. It can be restarted by resetting.

RKW600W Type

SHAPES AND DIMENSIONS



- Do not insert M4 tap installation screws more than 6mm into the power supply.



RKW1.5kW Type

SPECIFICATIONS AND STANDARDS

Part No.		RKW03-375	RKW05-300	RKW12-125	RKW15-100	RKW24-65R	RKW28-55R	RKW48-32R	
Rated output voltage and current*1		3.3V • 375A	5V • 300A	12V • 125A	15V • 100A	24V • 65A	28V • 55A	48V • 32A	
Maximum output power		W	1237.5	1500	1500	1500	1560	1540	1536
Input conditions									
Input voltage Eac		V	85 to 265[Rated: 100 to 240]						
Input frequency		Hz	47 to 66[Rated: 50 to 60](Single phase)						
Input current		A	22max./11max.[AC.100/240V](3.3V : 18max./9max.)						
Fuse rating		A	30[Built-in]						
Surge current		A	20max./40max.[AC.100/240V, 1st surge current, reset after 30s minimum.]						
Leakage current		mA	1.2max./1.6max.[AC.100(Electrical Appliance And Material Safety Law)/240V(UL, IEC)]						
Power factor			0.99typ.						
Efficiency	%	100V	73typ.	77typ.	80typ.	82typ.	82typ.	82typ.	84typ.
	%	200V	77typ.	82typ.	84typ.	86typ.	86typ.	86typ.	88typ.
Output characteristics									
Output voltage Edc		V	3.3	5	12	15	24	28	48
Voltage variable range Edc		V	1.8 to 3.6	3.5 to 6	7.2 to 14.4	10.5 to 18	16.8 to 28.8	19.6 to 33.6	33.6 to 52.8
Maximum output current		A	375	300	125	100	65	55	32
Minimum output current		A	0	0	0	0	0	0	0
Overvoltage threshold*2		V	Vo+0.66 to 1.32	Vo+1 to 2	Vo+2.4 to 4.8	Vo+3 to 6	Vo+4.8 to 9.6	Vo+5.6 to 10.4	Vo+4.8 to 12
Overcurrent threshold		A	390 to 430	315 to 350	130 to 140	105 to 115	68 to 72	57.7 to 63.2	33.6 to 36.8
Voltage stability	Source effect	%	0.2max.(0.1typ.)(Within the input voltage range]						
	Load effect	%	0.6max.(0.3typ.)(0 to 100% load]						
	Temperature effect	%	1max.(0.5typ.)(Ambient temperature: -10 to +65°C]						
	Drift(Time effect)	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]						
	Recovery	%	±4max.[50 to 100% sudden load change, tr, tf ≥ 50μs]						
Ripple Ep-p		mV	100max.	100max.	150max.	150max.	200max.	200max.	300max.
Ripple noise Ep-p		mV	200max.	200max.	200max.	200max.	300max.	300max.	400max.
Start up time		ms	500max.(280typ.)/400max.(180typ.)(AC.100/240V]						
Hold up time		ms	20min.(35typ.)/20min.(40typ.)(AC.100/240V]						
Maximum load capacitor		μF	10000						
Auxiliary functions									
Indicator display		LED(Green) indicates when voltage output is ON.							
Overvoltage protection*2*3*4		Voltage shut-down type							
Output low voltage detection		Yes (A power failure signal is outputted when an output voltage drops to 80% or lower of a set voltage.)							
Overcurrent protection*3*4		Rectangular type (Output voltage is shut down after an elapse of time of 30s or longer.)							
Fan alarm*3*4		Voltage shut-down type							
Overheat protection*3		Voltage shut-down type							
Remote ON-OFF		Yes(Floating)							
Remote sensing		Yes							
Current balance		Yes							
Output voltage external variable function		Yes							
Master slave operation		Yes							
Standards									
Safety standards		UL1950, CSA C22.2 No.950-95(C-UL), EN60950-1(TÜV) approved, Electrical Appliance and Material Safety Law ("DENAN") (Compliant with creepage surface and air clearance in Attachment 8) meet.							
Noise terminal voltage		FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet (only if an input filter is mounted).							
Immunity		EN50082-2, EN61000-4-2, 3, 4, 5, 6, 8, 11 meet.							
Input harmonics current requirement		EN61000-3-2 meet.							
Radiation field intensity		FCC-Class B, VCCI-Class B, EN55011-B, EN55022-B meet.							
Constructions									
External dimensions		mm	92×190×300[H×W×L]						
Weight		kg	6max.						
Mounting method		Can be attached to 3 sides							
Case material		Frame and cover: Iron, circuit board: FR-4							

*1 Current rating(maximum output current) is determined for -10 to +50°C. Derating is required when used outside this temperature range.

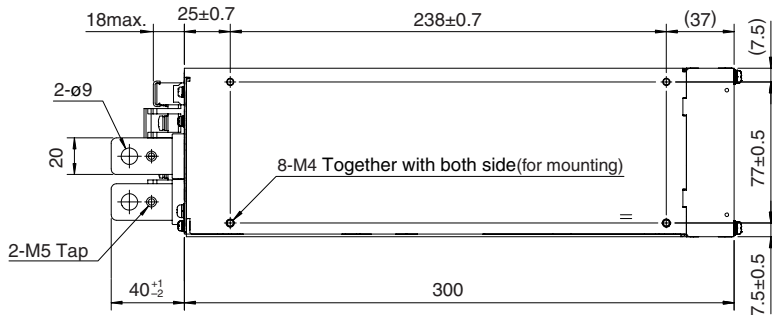
*2 Tracking type (Type in which a detected value is linked with an output voltage value). An overvoltage threshold is for an output set voltage (Vo).

*3 Recovers upon reset(interval approx. 40s).

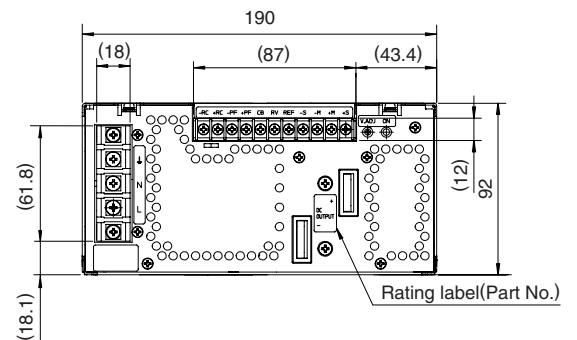
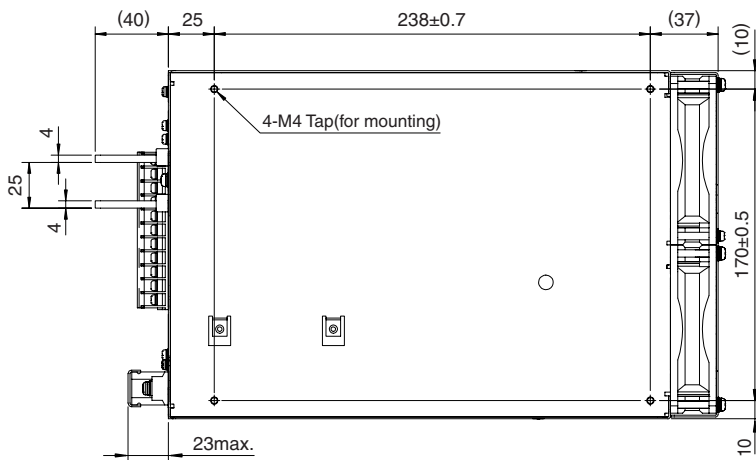
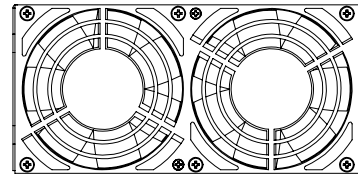
*4 Remote control. It can be restarted by resetting.

RKW1.5kW Type

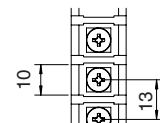
SHAPES AND DIMENSIONS



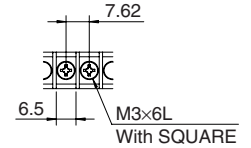
AIR FLOW



[Input connector]



[Function connector]



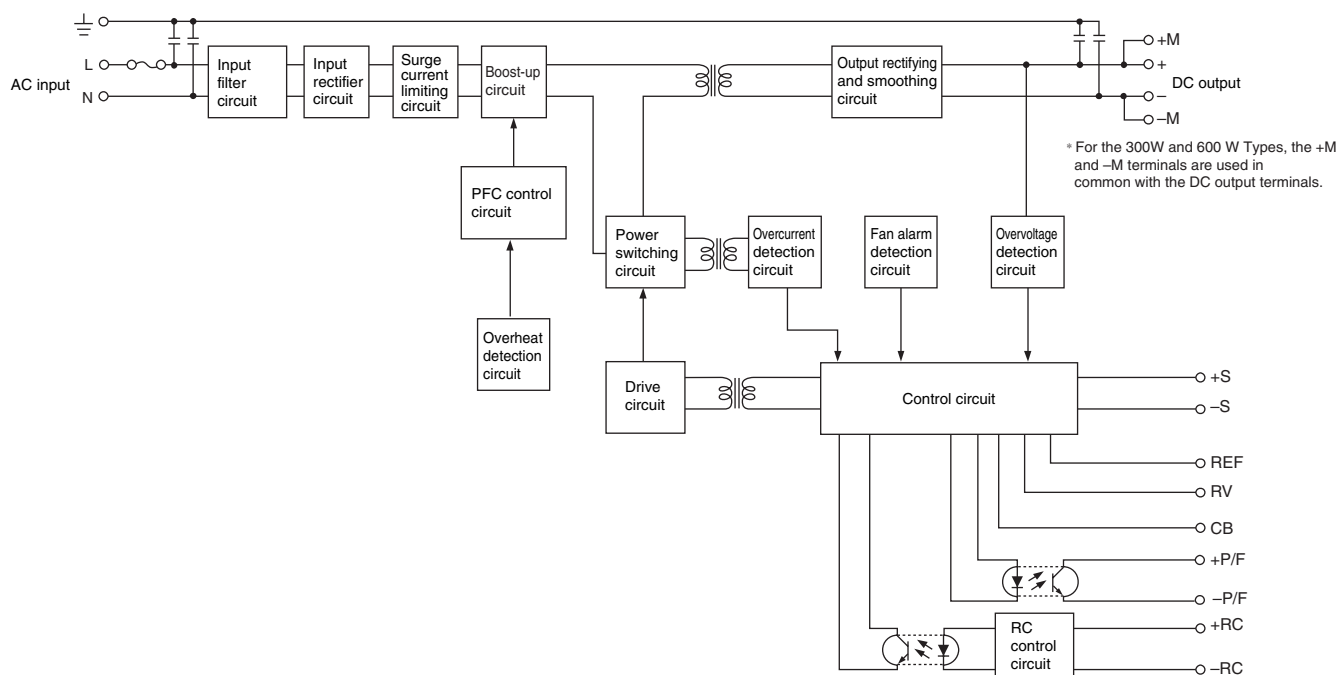
Dimensions in mm
±1mm : without specified dimensions

- Do not insert M4 tap installation screws more than 6mm into the power supply.



Characteristics, Functions, and Applications

BLOCK DIAGRAM

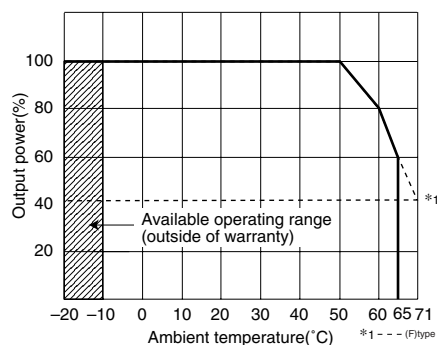


COMMON SPECIFICATIONS

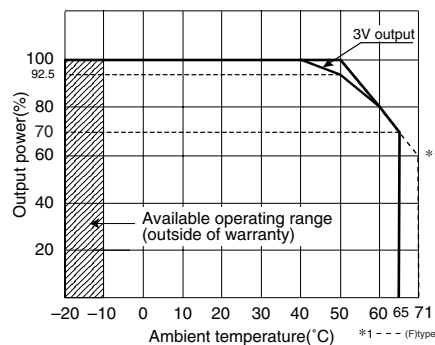
Temperature and humidity		
Temperature range	Operating(°C)	−10 to +65(71) ():F type[please refer to Derating curve.]
	Operating available(°C)	−20 to −10
	Storage(°C)	−30 to +75
Humidity range	Operating(%)RH Storage(%)RH	10 to 95[Maximum wet-bulb temperature: 35°C, without dewing]
Vibration and shock		
Vibration	5 to 10Hz	All amplitude 10mm[3 directions, each 1h]
	10 to 200Hz	Acceleration 19.6m/s²(2G)[3 directions, each 1h]
Shock	Acceleration	294m/s²(30G)[3 directions, each 3 times]
	Pulse duration	11±5ms
Withstand voltage and insulation resistance		
Withstand voltage	Input terminal to case(G)	Eac: 2.0kV, 1min[Normal temperature, normal humidity, cutout current 20mA]
	Input terminal to output terminal	Eac: 3.0kV, 1min[Normal temperature, normal humidity, cutout current 300 and 600W: 20mA/1.5kW: 25mA]
	Output terminal to case(G)	Eac: 500V, 1min[Normal temperature, normal humidity, cutout current 100mA]
Insulation resistance	Input terminal to case(G)	Edc: 500V, 100MΩ min. [Normal temperature, normal humidity]
	Input terminal to output terminal	
	Output terminal to case(G)	

OUTPUT POWER-AMBIENT TEMPERATURE(DERATINGS)

RKW300W, 600W



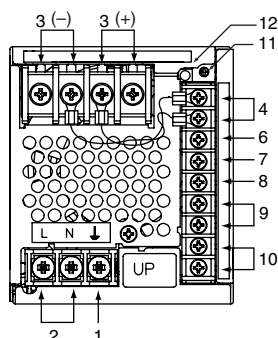
RKW1.5kW



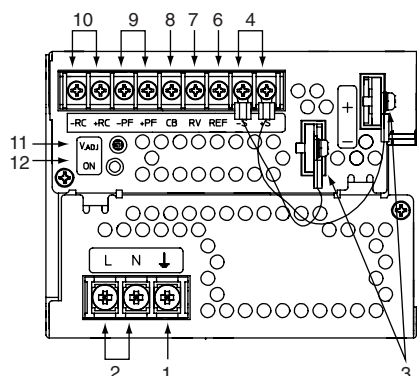
Characteristics, Functions, and Applications

TERMINAL DESIGNATIONS AND FUNCTIONS

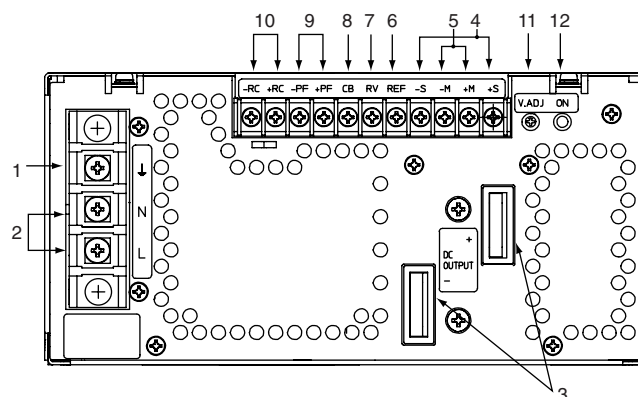
300W TYPE



600W TYPE



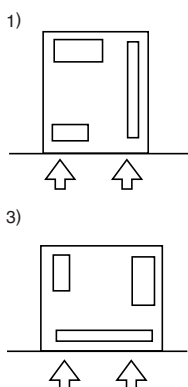
1.5kW TYPE



Terminal No.	Designations and functions	
1	Frame ground terminal(G)	Connect to earth ground. This is connected to the case.
2	AC input terminals(L, N)	Connect to AC.100 to 120V or AC. 200 to 240V input line.
3	DC output terminals(+, -)	Connect to load.
4	Remote sensing terminals(+S, -S)	These terminals are used to compensate voltage loss from the output terminal to a load. For the 1.5kW Type, they are shorted with a metal bar. For the 600W Type, they are coupled to DC output terminals.
5	DC output monitor terminals(+M, -M)	This terminal is used to monitor DC output voltage. Load lines should not be connected to these monitor terminals. These monitor terminals should be jumpered when the remote monitoring feature is not in use.
6	Output voltage reference terminal (REF)	This terminal is for a reference voltage for controlling an output voltage and used for a master-slave operation or when using an output voltage adjustment function. Normally it is shorted with a metal bar to an RV terminal.
7	Output voltage adjustment terminal(RV)	This terminal is used for controlling output voltage from outside.
8	Current balance terminal(CB)	This terminal is used when several power supplies are connected in parallel to connect the respective CB and -S terminals in parallel.
9	Power failure terminal (PF)	These terminals output an open mode signal if an output voltage drops to 80 % or lower of a set voltage. They also output the signal if an output voltage is shut down due to an operation of an error detecting circuit for over output voltage protection, fan alarm overheat protection, or overcurrent protection.
10	Remote ON-OFF terminals(+RC, -RC)	Output is turned ON-OFF by disconnecting-connecting the RC terminals (output ON when open). RC terminals are floating. Normally, $\pm$ RC terminals are shorted with a metal bar.
11	Output voltage adjustment trim(V _{ADJ})	Adjusts output voltage.
12	Operation indicator LED(Green)	This Green LED becomes indicated when voltage is output.

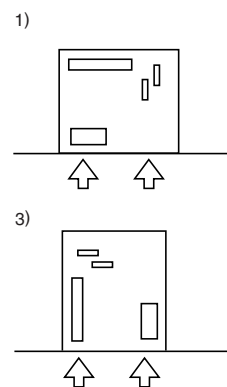
INSTALLATIONS

RKW300W

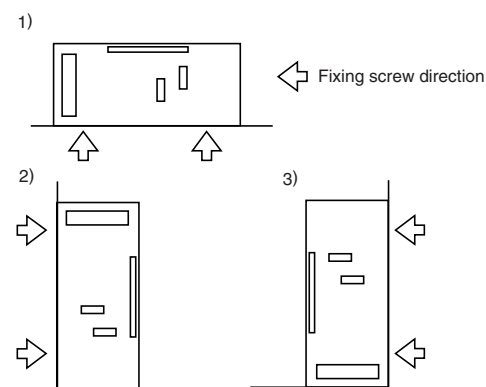


- Maintain a 50mm min. distance between the fan, front panel and surrounding equipment, etc. and install so as to provide heat-outside air exchange.

RKW600W



RKW1.5kW



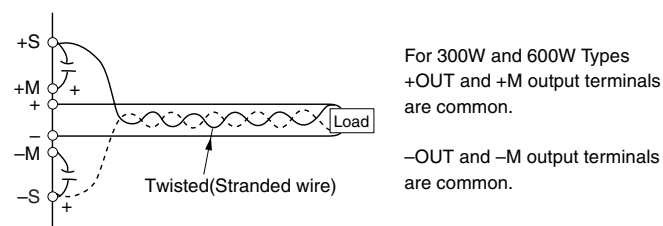
- Maintain a 30mm min. distance between the ventilation holes, fan surface and surrounding equipment, etc. and install so as to provide heat-outside air exchange.

Characteristics, Functions, and Applications

REMOTE SENSING

Remote Sensing compensates to provide stability at the load terminal when voltage drop in the line between the power supply and the load causes instability. Remote sensing is possible if the voltage drop per wire between the output and load terminals is 0.15V max. for 3.3V models, 0.25V max. for 5.0V models and 0.4V max. for 12 to 48V models.

In case of parasitic oscillation or overvoltage protection malfunction too easily, install an external electrolytic capacitor, rated 470μF min. between the +M, +S and -M, -S terminals in the diagram shown below.



OUTPUT VOLTAGE EXTERNAL VARIABLE FUNCTION (RV)

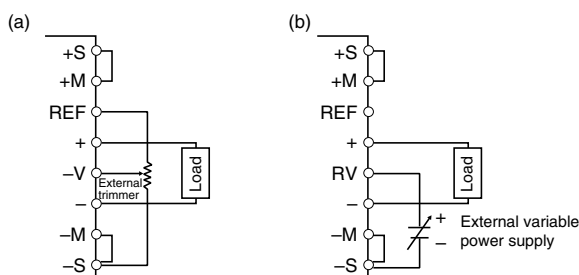
The output voltage setting can be adjusted by attaching an external trimmer or an external voltage to the RV terminal.

When using this function, use a twisted wire or a shielded wire (shielded wire for -S) for the wiring from the REF, RV, and -S terminals (A recommended length is 2m max.). Care must be taken to make sure that the wires are not disconnected or miswired.

Voltage model (V)	RV voltage (V)	Output voltage variable range (%)
3.3	0 to 6.0	0 to 110 (3.6V max.)
5 to 24	0 to 6.0	0 to 120
48	0 to 5.5	0 to 110

HOW TO USE THE FUNCTION

- Remove a short plate between the REF and RV terminals.
- For adjusting output voltage with external trimmer
Rotate V.ADJ full clockwise and connect the external trimmer (5kΩ) to the REF, RV, and -S terminals as shown in the diagram (a) below.
The output voltage cannot be adjusted to 0V due to a residual resistance of the trimmer in some cases.
- For adjusting output voltage with external voltage
As shown in the diagram (b) in the right side, connect the external variable power supply at the + end to the RV terminal and at - end to the -S terminal.
- For low load
If an output voltage is rapidly dropped, the overvoltage protection function may operate.



CURRENT BALANCE (CB TERMINAL)

This terminal has a monitoring function to control and equalize the output current of power supplies connected in parallel by mutually connecting the respective CB terminals and the -S terminals of each power supply. Voltage almost proportional to the output current can be obtained between the CB and -S terminals.

(1) Conditions for current balance

The variation in output voltage between the respective power supplies cannot exceed 2%

$(\text{Highest voltage} - \text{lowest voltage}) \div \text{rated voltage} = 2\% \text{ max.}$

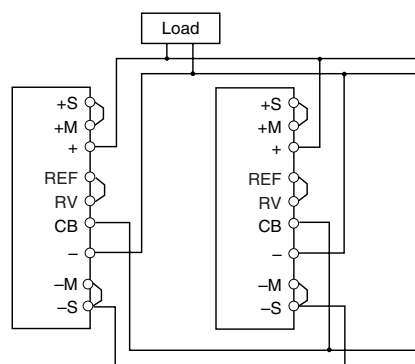
The output current is 20 to 90% of the total output rated current.

(2) Uniform performance (for two power supplies)

The variation in output current between the respective power supplies does not exceed 10%

$(\text{Highest current} - \text{lowest current}) \div (\text{rated voltage} \times \text{the number of power supplies in parallel}) = 10\% \text{ max.}$

(3) CB terminal connection diagram



Equalize the impedance of the load wires coming from each power supply. Use a twisted wire or a shielded wire for the wiring from CB and -S (shielded wire for -S). The maximum four power supplies are connected in parallel.

Characteristics, Functions, and Applications

REMOTE ON-OFF

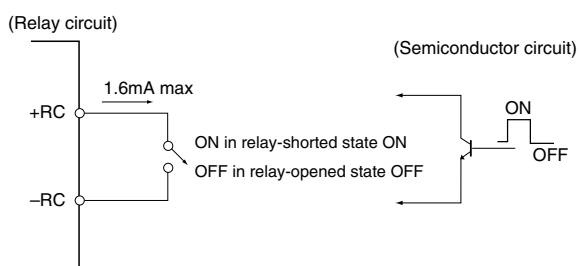
Power supply output voltage can be turned on/off externally at the Remote On-Off terminals (+RC, -RC) by activating one of the following signals:

Output voltage is turned off when the level is high between the +RC and -RC terminals (open or external voltage application of 2.4 to 24V: incoming current 1.0mA max.).

Output voltage is turned on when the level is low between the +RC and -RC terminals (short or terminal voltage of 0 to 0.4V: outgoing current 1.6mA max.).

±RC terminals are insulated from AC input terminals and the DC output terminals.

Insulation between the ±RC terminals and the output conforms to the common specifications (Output to case). Withstand voltage between AC input terminals and ±RC terminals conforms to the common specifications (Input to case).



POWER FAILURE SIGNAL

This function delivers a signal when an output voltage drops to 80% or lower of a set voltage.

If the power supply protection function operates, however, an output is shut down and a power failure signal is delivered.

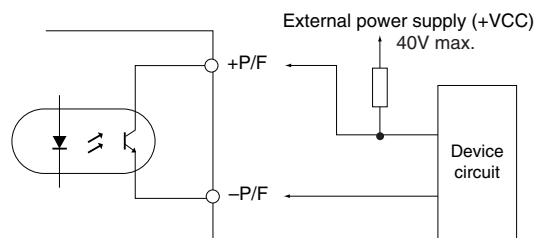
OUTPUT FORMAT

Sink current: 50mA max.

Collector emitter voltage: 40V max.

±P/F terminals are insulated from AC input terminals and the DC output terminals.

Insulation between the ±P/F terminals and the output conforms to an insulation resistance for an output to the ground of the common specifications. Insulation between AC input terminals and ±P/F terminals conforms to an insulation resistance for an input terminal to an output terminal of the common specifications.



P/F signal

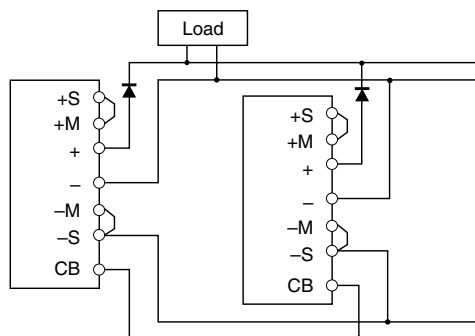
- High-impedance at error detection
- Maximum collector current: 50mA
(Collector emitter saturation voltage: 0.4V max.)
- Maximum collector emitter voltage: 40V

POWER SUPPLY PROTECTION

Protective function	Operation
OV Output overvoltage protection	Output is shut down and the fan stops upon detection of an abnormal output voltage rise. The output recovers after removing the cause upon setting the remote ON-OFF terminal to a high level and then to a low level or upon an input shutdown and a reset after 40s interval.
OC Output overcurrent protection	Output is shut down and the fan stops upon detection of an overcurrent state continued for 30s or longer. For an overcurrent within 30s, the output automatically recovers. The output recovers in the same manner as for the OV in the above.
FAN Fan alarm	Output is shut down when the fan rotation stops. The output recovers in the same manner as for the OV in the above. In case of an abnormal fan rotation, the output cannot recover.
TH Overheat protection	Output is shut down and the fan stops when the internal temperature of the power supply rises abnormally. The output recovers upon an input shutdown and a reset after 40s interval. Unless the internal temperature drops, the output cannot recover.

REDUNDANT (N+1) OPERATION

Connect diodes to output terminals of the power supplies before their redundant operation. Equalize the impedance of the load wires coming from each power supply. Use a twisted wire or a shielded wire for the wiring from CB and -S (shielded wire for -S). The maximum four power supplies are connected in parallel.



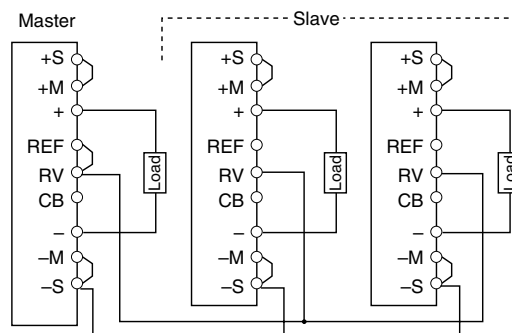
Characteristics, Functions, and Applications

MASTER SLAVE FUNCTION

A use of the REF terminal and RV terminal enables the master slave operation. Connect the REF terminal of a power supply selected as a master, the RV terminals of slave power supplies, and respective –S terminals as shown in the diagram below. Then, output voltages of all the power supplies can be simultaneously adjusted with following V.ADJ of the master power supply. The maximum four power supplies are connected in parallel.

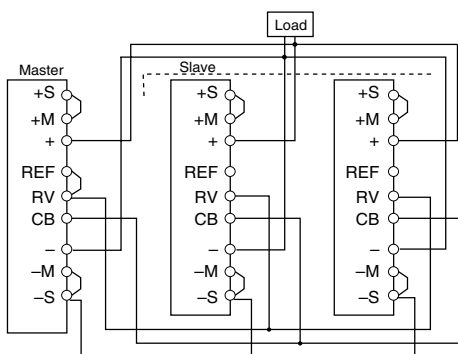
- For two or more output loads

Use a twisted wire or a shielded wire for the wiring from RV and –S (shielded wire for –S).



- For a single output load

Equalize the impedance of the load wires coming from each power supply. Use a twisted wire or a shielded wire for the wiring from RV and –S (shielded wire for –S).



- For 300W and 600W Types, the +M and –M terminals are used in common with the DC output terminals.

INSULATION AND WITHSTAND VOLTAGE TESTS

The insulation and withstand voltage tests may cause deterioration. Care must be taken for execution of the tests. The potential must be equal among input, output, and FG (frame ground) terminals.

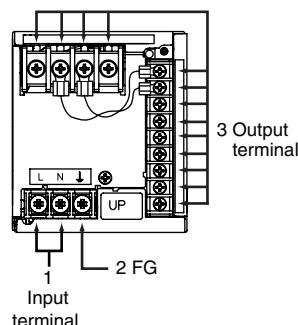
It is preferable to use testers which gently start up at the test-ON and automatically discharge charging energy at the test-OFF. Manual discharging after the tests should be through a resistor around 100kΩ to 1MΩ (Do not perform discharging at low impedance. It may cause deterioration.)

In any case, take full countermeasures for electric-shock prevention.

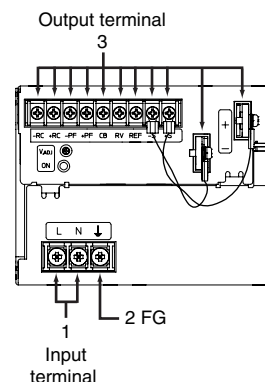
POWER SUPPLY TERMINAL CONNECTION AT INSULATION AND WITHSTAND VOLTAGE TESTS

Short output or input terminals.

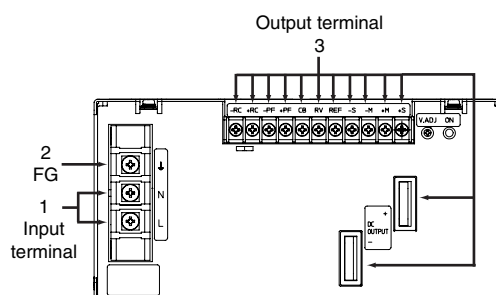
RKW300W



RKW600W



RKW1.5kW



CONNECTIONS BETWEEN TESTERS AND POWER SUPPLY AT INSULATION AND WITHSTAND VOLTAGE TESTS

For connections between the testers and the power supply body, couple the tester terminals at the corresponding locations listed below before executing the tests.

Test conditions	Withstand voltage tester		Insulation tester	
	+ terminal	–terminal	+ terminal	–terminal
Input-to-output withstand voltage	1	3	—	—
Input-to-FG withstand voltage	1	2	—	—
Output-to-FG withstand voltage	3	2	—	—
Input-to-FG insulation	—	—	1	2
Input-to-output insulation	—	—	1	3
Output-to-FG insulation	—	—	3	2

Characteristics, Functions, and Applications

OPTIONAL SPECIFICATIONS

To answer customer's various needs, the RKW series prepares the semi-standard power supply. Please order by adding the under-mentioned symbol to the product number's end of standard type.

PRODUCT IDENTIFICATIONS

RKW○○-○○○ □
(1) (2)

(1) Part No. of standard product

(2) Optional function's symbol

Symbol	Optional functions		
	Long life span Fan	Overvoltage detection point fix	Fan alarm
F	✓		
A		✓	
B			✓
E	✓	✓	
G	✓		✓
J		✓	✓
N	✓	✓	✓

■ : Indicates the products upon receipt of order.

Example) RKW05-60RG

Output voltage: 5V

Output current: 60A

Optional functions: With long life span Fan and Fan alarm

- The power supply part number when the safety standard is applied must use the standard power supply type name.

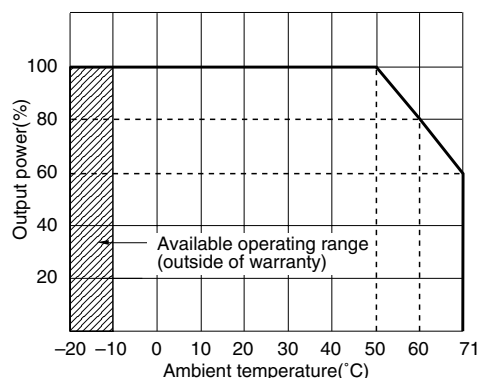
OPTIONAL FUNCTIONS

LONG LIFE SPAN FAN TYPE

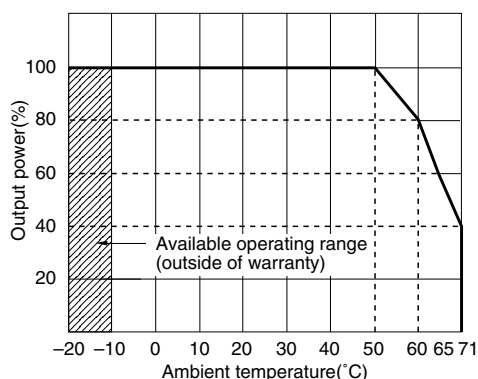
- Change temperature condition of input voltage and input frequency range.
Temperature range: -10 to +71°C
- Change temperature condition of temperature effect.
Temperature range: -10 to +71°C
- Change temperature condition of ripple and ripple noise.
Temperature range: 0 to +71°C
- Change operating temperature range: -10 to +71°C
- Warranty period: 10 years
- Power Fail signal
Sink current: 20mA max.(except 300W type)
- The damp proof treatment is given.

DERATINGS

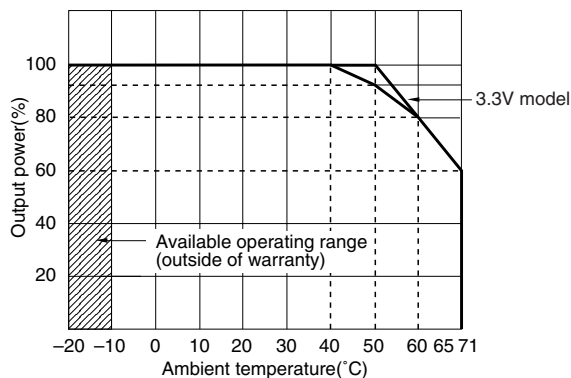
RKW300W



RKW600W



RKW1.5kW



Characteristics, Functions, and Applications

OVER VOLTAGE POINT FIX TYPE

Over voltage setting is fixed(Over voltage setting is not tracking by REF voltage).

300W Type	Over voltage setting(V)	600W Type	Over voltage setting(V)	1.5kW Type	Over voltage setting(V)
RKW03-70R□*	4.0 to 4.6	RKW03-150□*	4.0 to 4.6	RKW03-375□*	4.0 to 4.6
RKW05-60R□	6.2 to 7.0	RKW05-120□	6.2 to 7.0	RKW05-300□	6.2 to 7.0
RKW12-27R□	14.8 to 16.8	RKW12-53R□	14.8 to 16.8	RKW12-125□	14.8 to 16.8
RKW15-22R□	18.6 to 21.0	RKW15-43R□	18.6 to 21.0	RKW15-100□	18.6 to 21.0
RKW24-14R□	29.8 to 33.6	RKW24-27R□	29.8 to 33.6	RKW24-65R□	29.8 to 33.6
RKW28-12R□	34.7 to 39.2	RKW28-23R□	34.7 to 39.2	RKW28-55R□	34.7 to 39.2
RKW48-7R0□	55.5 to 59.9	RKW48-13R□	55.5 to 59.9	RKW48-32R□	55.5 to 59.9

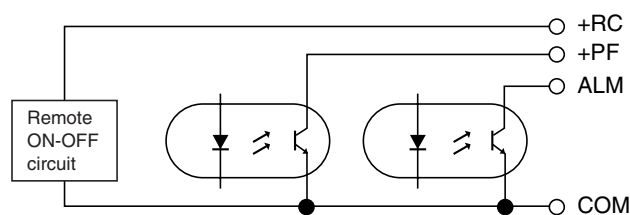
* Please refer "Product Identifications" section about the part number.

FAN ALARM TYPE

When the rotation of the fan decreases, the FAN alarm signal is sent . The output of the power supply does not stop. Please use a remote ON-OFF function or intercept the input, and stop the power supply promptly, and then confirm whether to find abnormality in FAN part.

- Power fail signal
When the output voltage is less than 80% selected voltage, output signal is open state.
- FAN alarm signal
When the FAN slow down, output signal is open state.
- Sink current: 50mA max.
- Collector to emitter voltage: 40V max.
Insulation resistance between AC input terminal and +PF terminal, +RC terminal, ALM terminal and COM terminal are same as the insulation resistance between input and output.
Insulation resistance between +PF terminal, +RC terminal, ALM terminal, COM terminal and output are same the insulation resistance between output and ground.

OUTPUT CIRCUIT

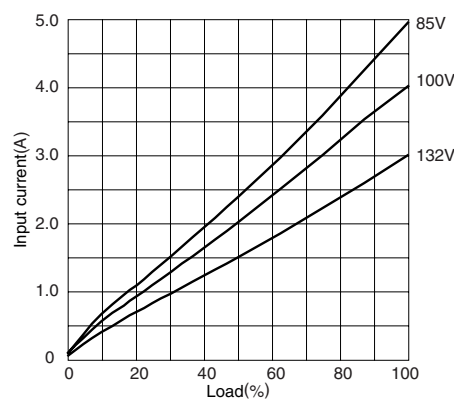


Remote ON-OFF(input): between +RC and COM
Power fail signal(output): between +PF and COM
FAN alarm(output): between ALM and COM
(COM is common return terminal)

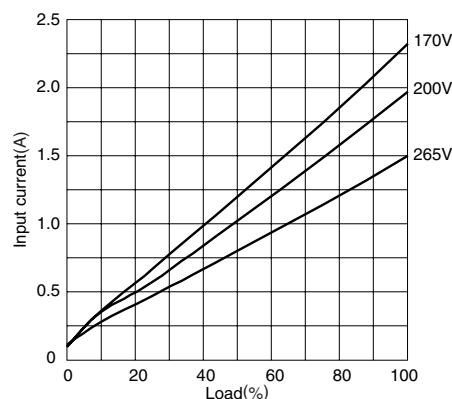
Characteristics, Functions, and Applications

RKW300W(Typical Characteristics RKW05-60R)

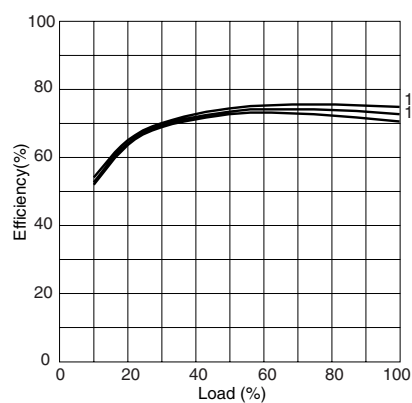
AC.100V TYPE: INPUT CURRENT



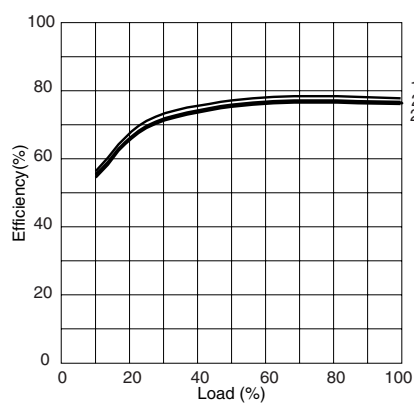
AC.200V TYPE: INPUT CURRENT



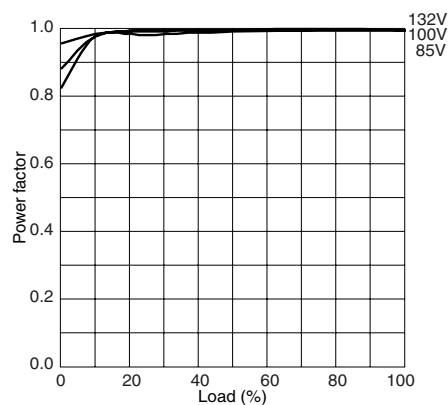
AC.100V TYPE: EFFICIENCY



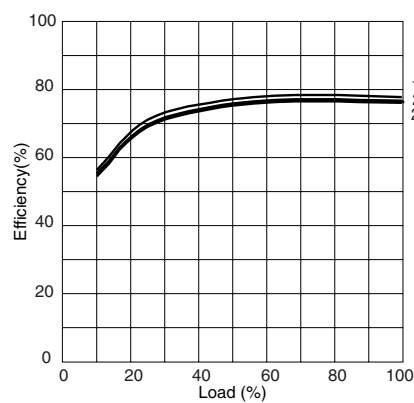
AC.200V TYPE: EFFICIENCY



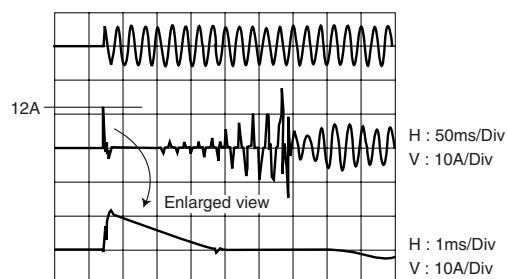
AC.100V TYPE: POWER FACTOR



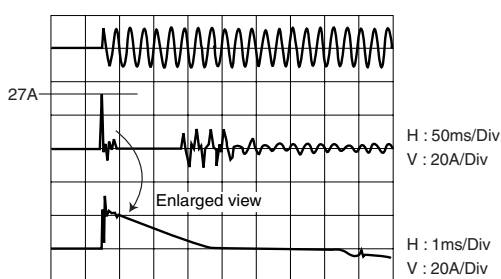
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



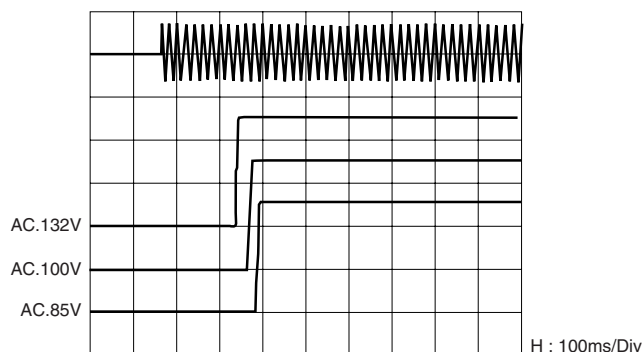
AC.200V TYPE: SURGE CURRENT



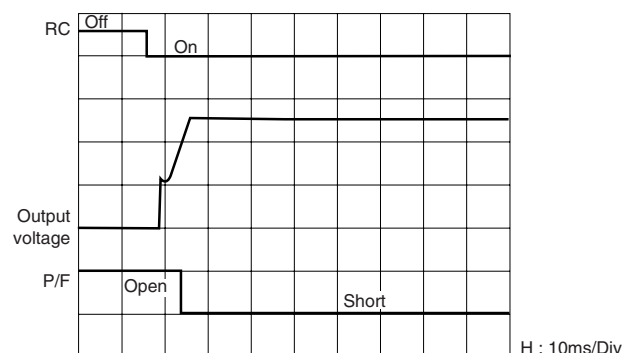
Characteristics, Functions, and Applications

RKW300W(Typical Characteristics RKW05-60R)

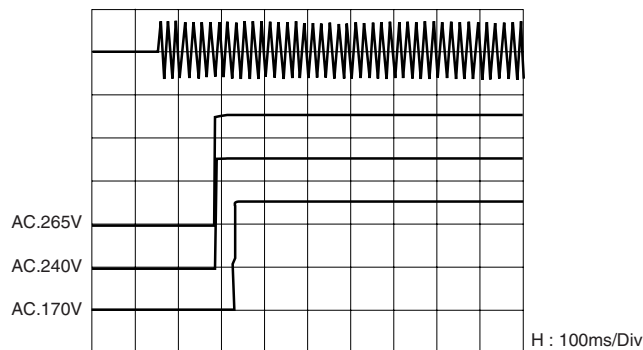
AC.100V TYPE: START UP CHARACTERISTICS



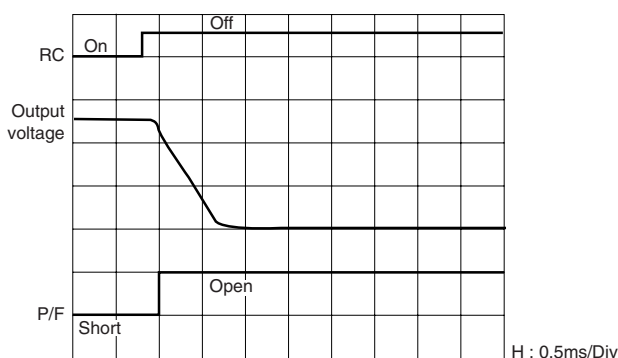
REMOTE CONTROL (ON)



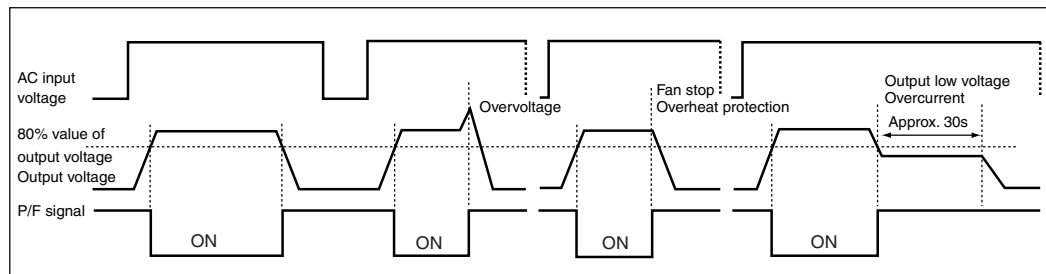
AC.200V TYPE: START UP CHARACTERISTICS



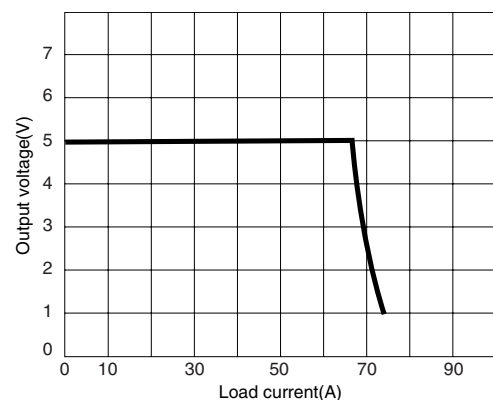
REMOTE CONTROL (OFF)



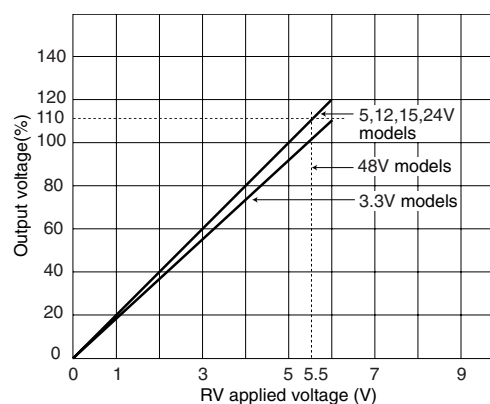
POWER FAILURE SIGNAL SEQUENCE



AC.100V/200V TYPE: OVERCURRENT CURVE



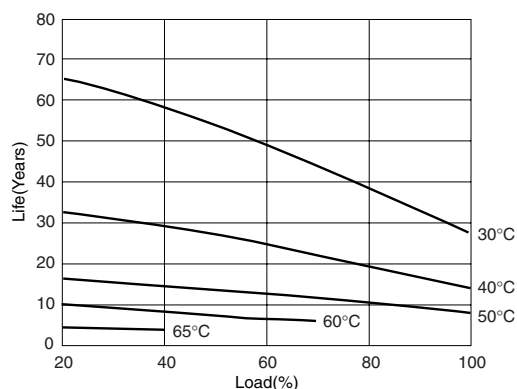
RV TERMINAL VOLTAGE VARIABLE RANGE



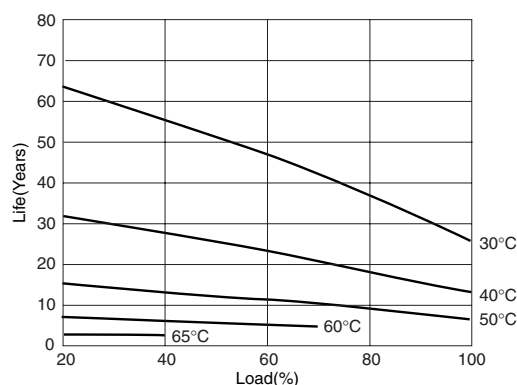
Characteristics, Functions, and Applications

RKW300W(Typical Characteristics RKW05-60R)

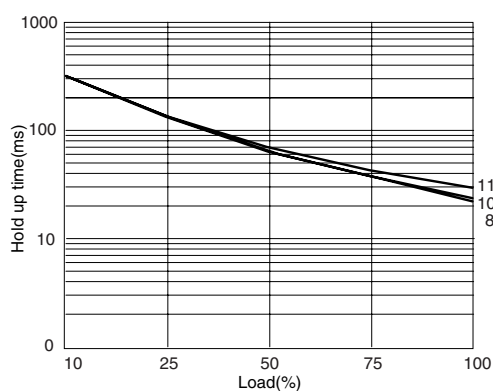
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



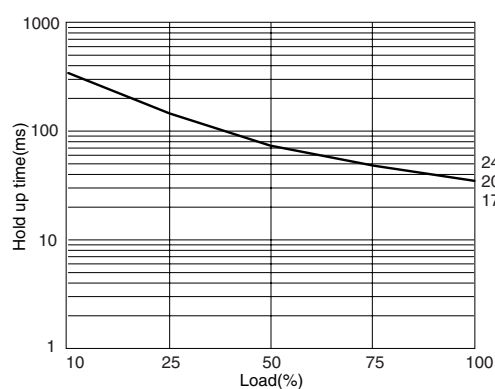
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



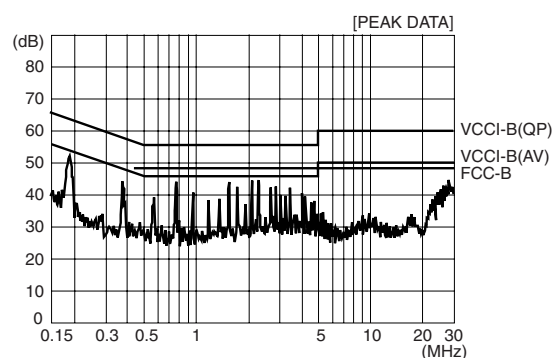
AC.100V TYPE: HOLD UP TIME



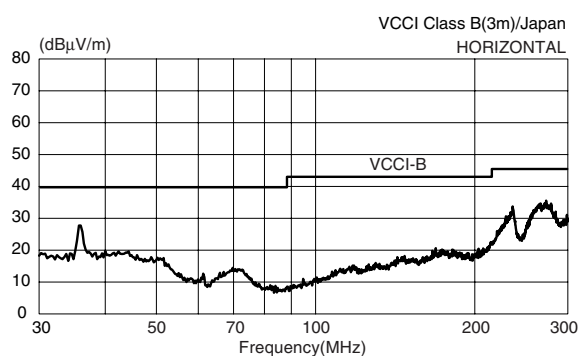
AC.200V TYPE: HOLD UP TIME



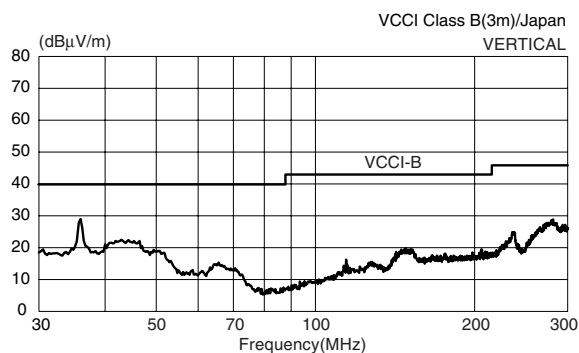
NOISE TERMINAL VOLTAGE



RADIATED NOISE



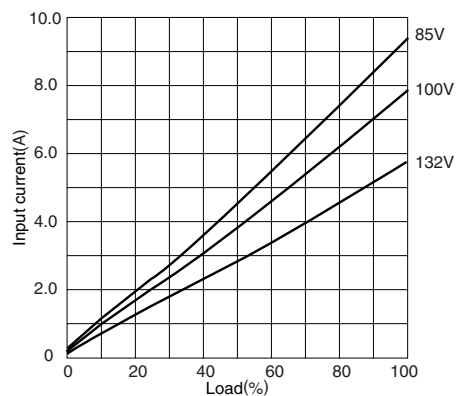
RADIATED NOISE



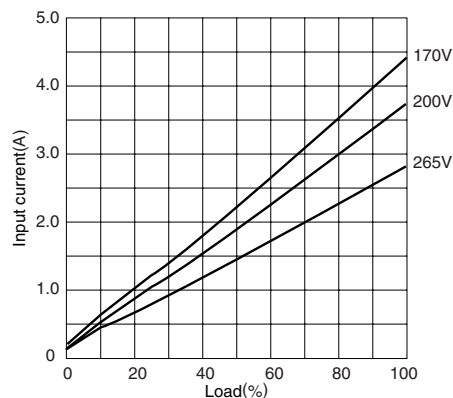
Characteristics, Functions, and Applications

RKW600W(Typical Characteristics RKW05-120)

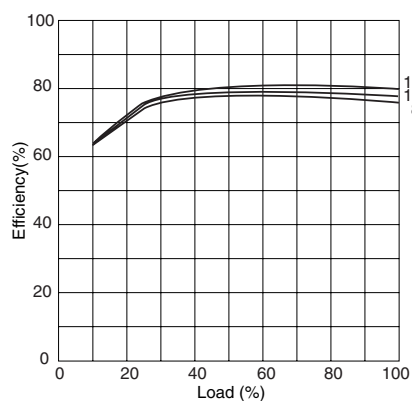
AC.100V TYPE: INPUT CURRENT



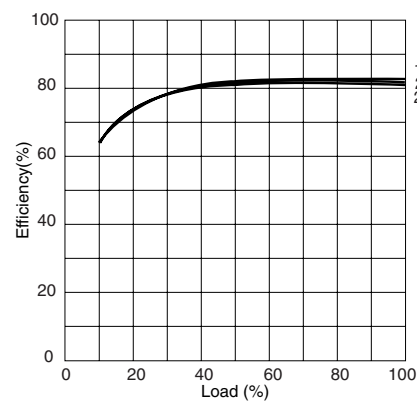
AC.200V TYPE: INPUT CURRENT



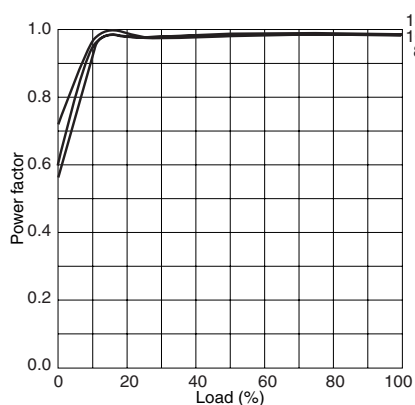
AC.100V TYPE: EFFICIENCY



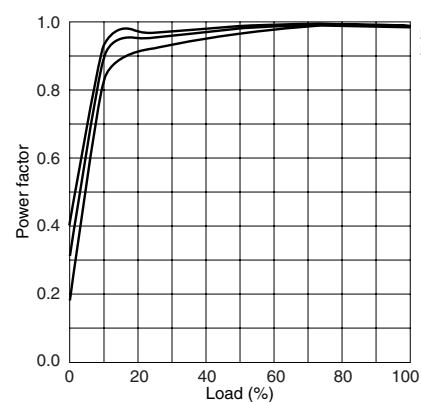
AC.200V TYPE: EFFICIENCY



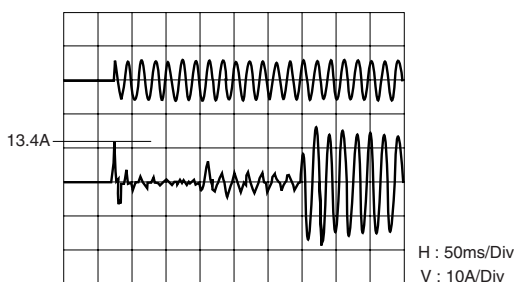
AC.100V TYPE: POWER FACTOR



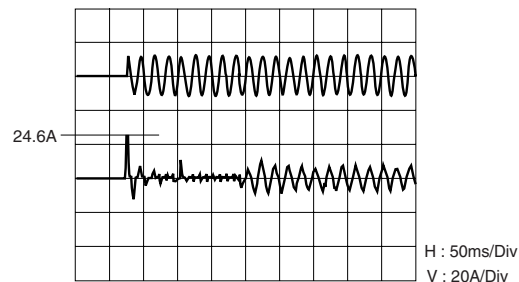
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



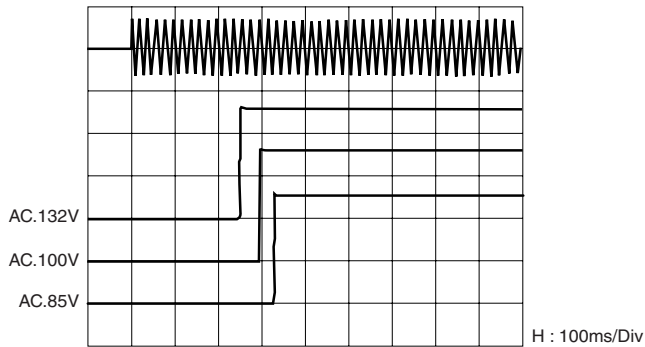
AC.200V TYPE: SURGE CURRENT



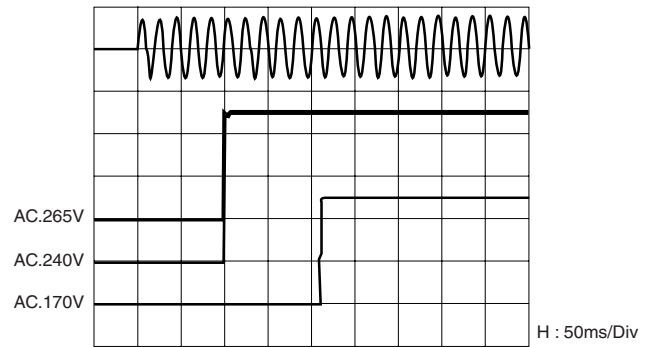
Characteristics, Functions, and Applications

RKW600W(Typical Characteristics RkW05-120)

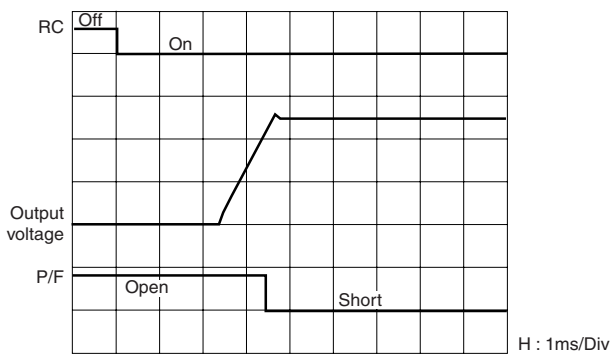
AC.100V TYPE: START UP CHARACTERISTICS



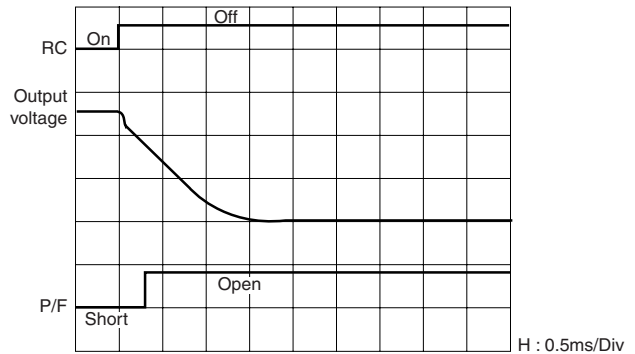
AC.200V TYPE: START UP CHARACTERISTICS



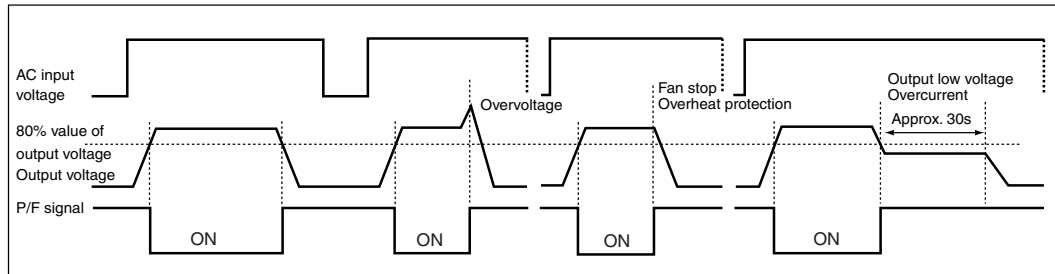
REMOTE CONTROL (ON)



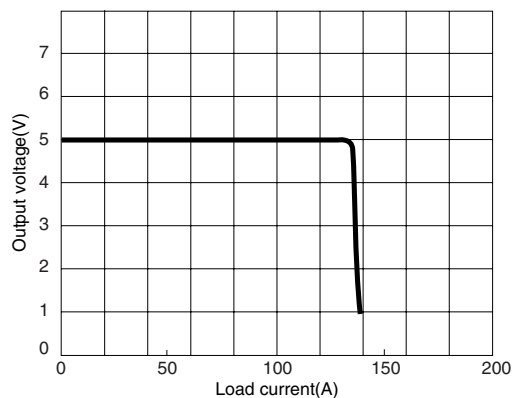
REMOTE CONTROL (OFF)



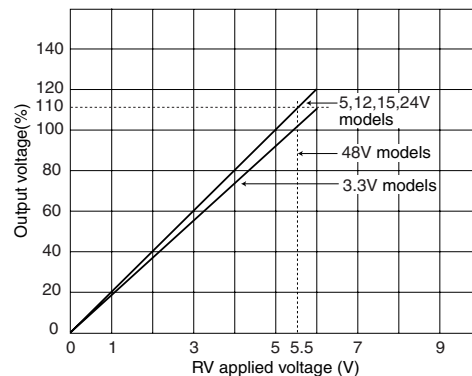
POWER FAILURE SIGNAL SEQUENCE



AC.100V/200V TYPE: OVERCURRENT CURVE



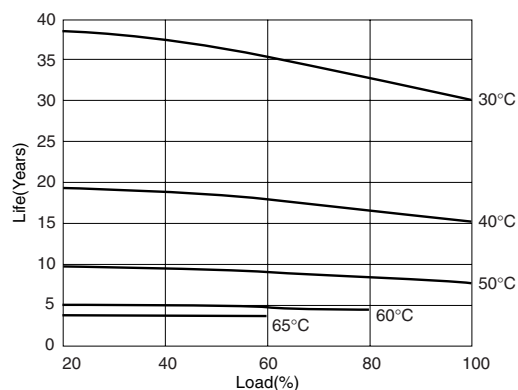
RV TERMINAL VOLTAGE VARIABLE RANGE



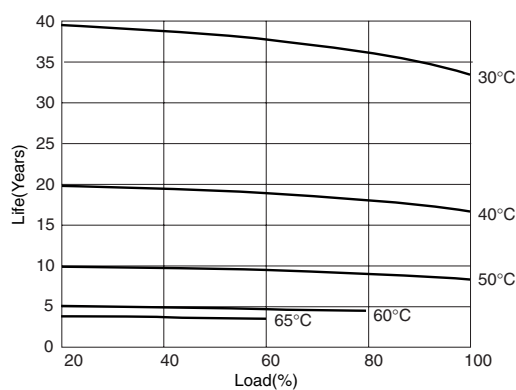
Characteristics, Functions, and Applications

RKW600W(Typical Characteristics RKW05-120)

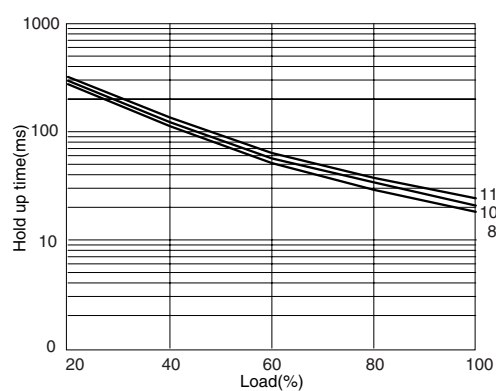
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



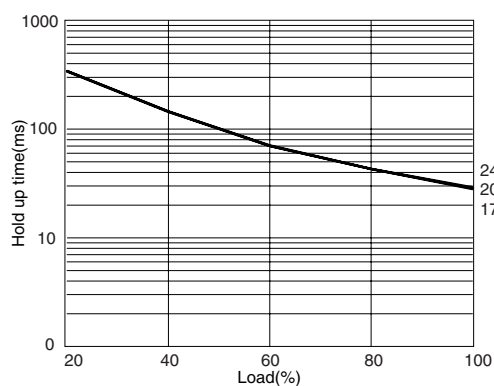
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



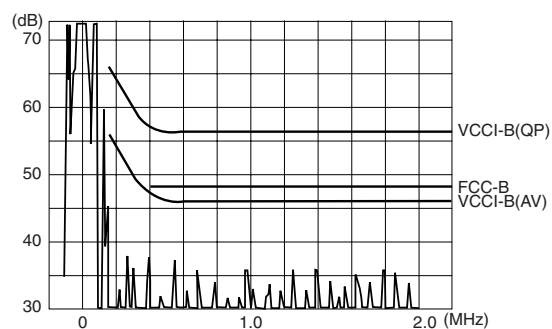
AC.100V TYPE: HOLD UP TIME



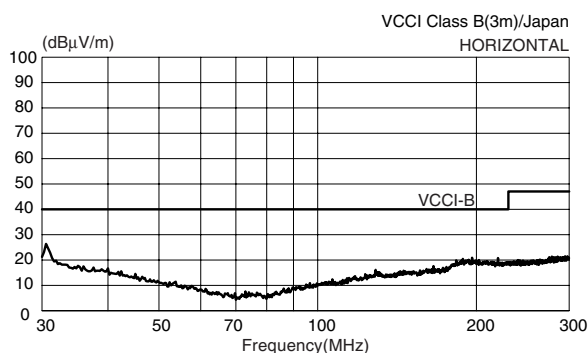
AC.200V TYPE: HOLD UP TIME



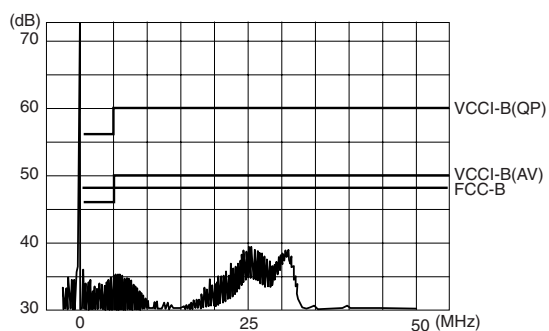
NOISE TERMINAL VOLTAGE



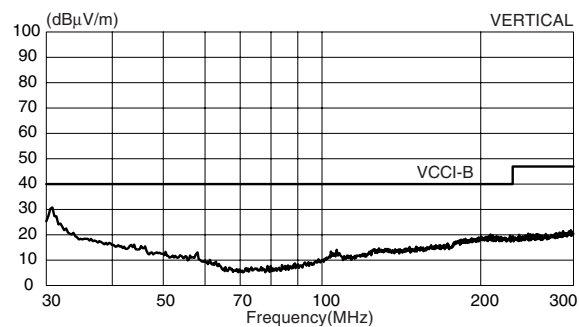
RADIATED NOISE



NOISE TERMINAL VOLTAGE



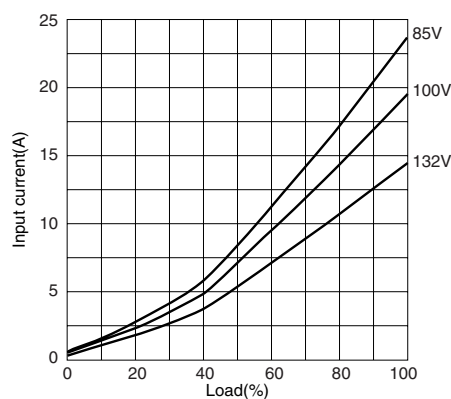
RADIATED NOISE



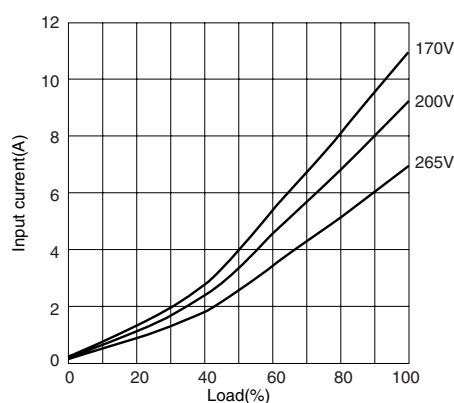
Characteristics, Functions, and Applications

RKW1.5kW(Typical Characteristics RKW05-300)

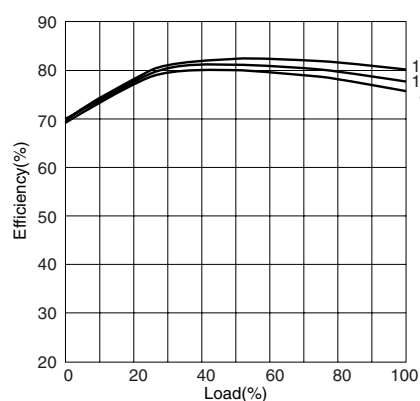
AC.100V TYPE: INPUT CURRENT



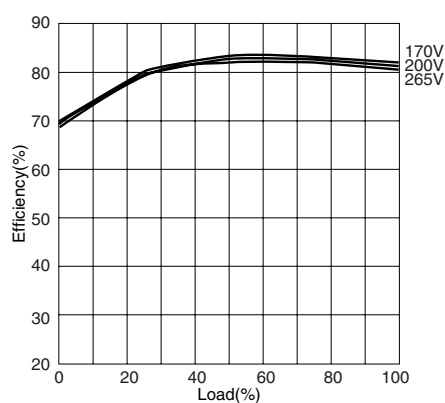
AC.200V TYPE: INPUT CURRENT



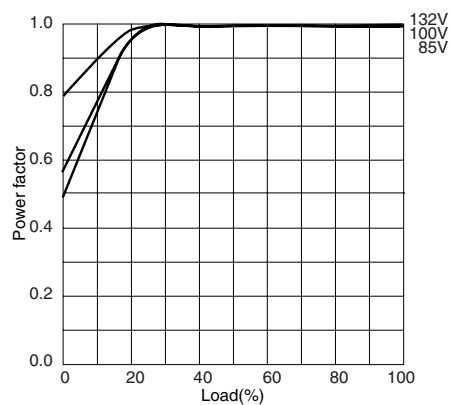
AC.100V TYPE: EFFICIENCY



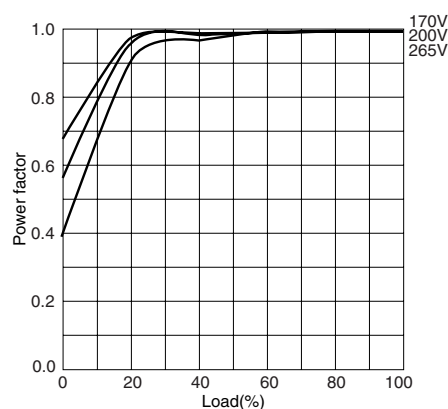
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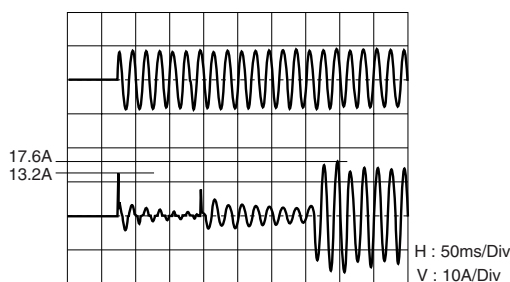
AC.100V TYPE: POWER FACTOR



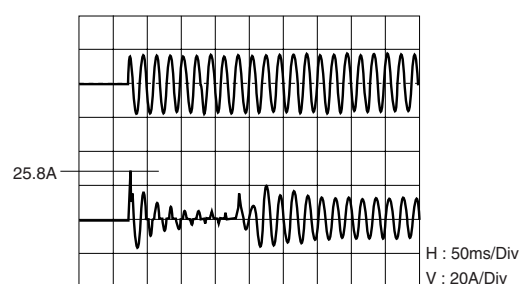
AC.200V TYPE: POWER FACTOR



AC.100V TYPE: SURGE CURRENT



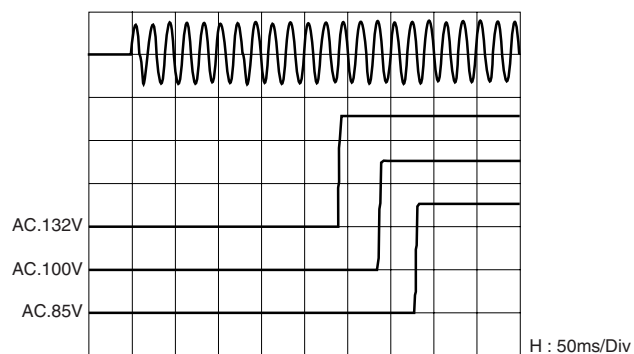
AC.200V TYPE: SURGE CURRENT



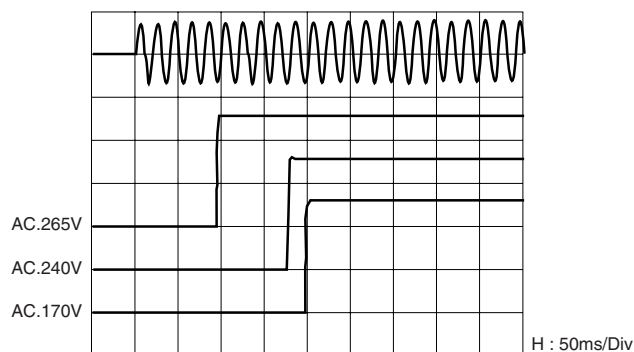
Characteristics, Functions, and Applications

RKW1.5kW(Typical Characteristics RkW05-300)

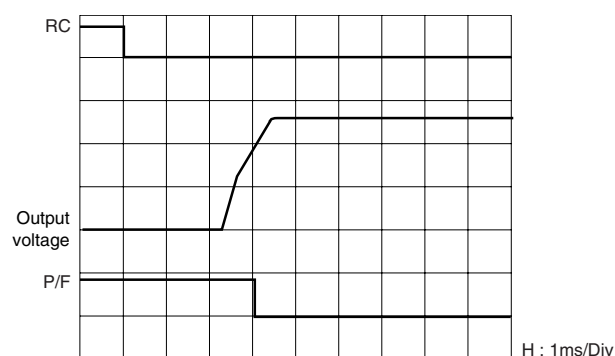
AC.100V TYPE: START UP CHARACTERISTICS



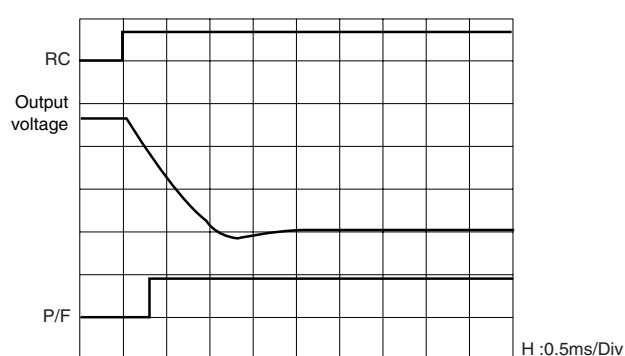
AC.200V TYPE: START UP CHARACTERISTICS



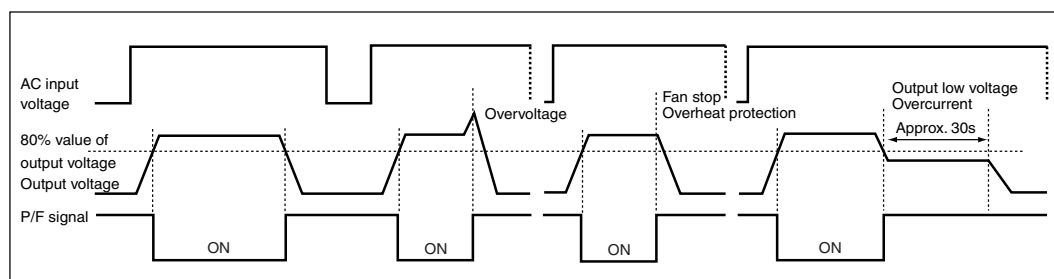
REMOTE CONTROL (ON)



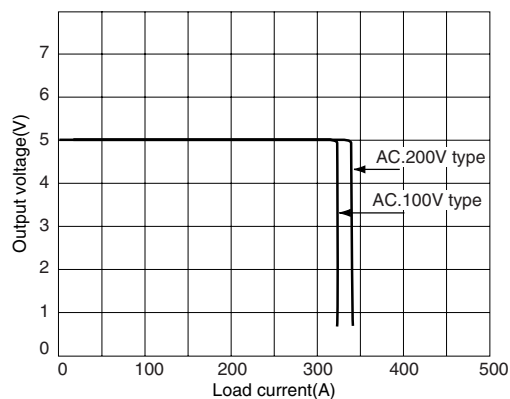
REMOTE CONTROL (OFF)



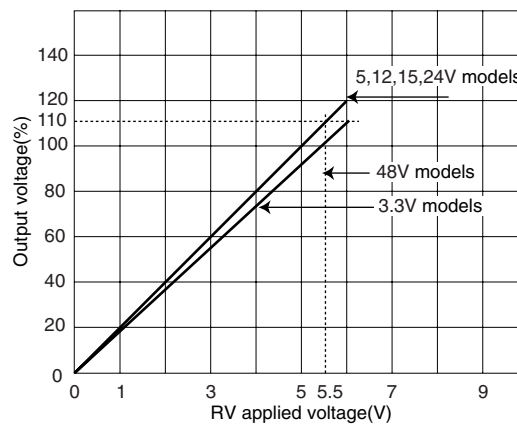
POWER FAILURE SIGNAL SEQUENCE



AC.100V/200V TYPE: OVERCURRENT CURVE



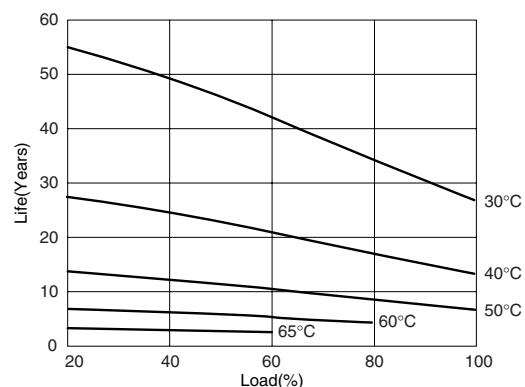
RV TERMINAL VOLTAGE VARIABLE RANGE



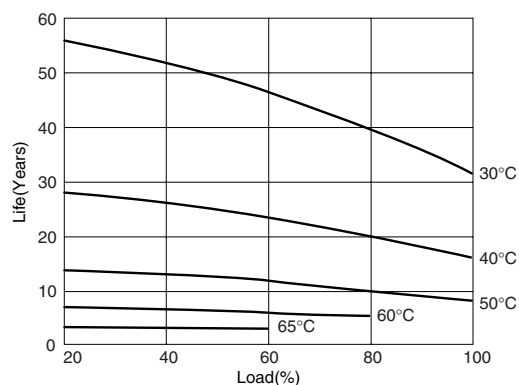
Characteristics, Functions, and Applications

RKW1.5kW(Typical Characteristics RKW05-300, RKW12-125)

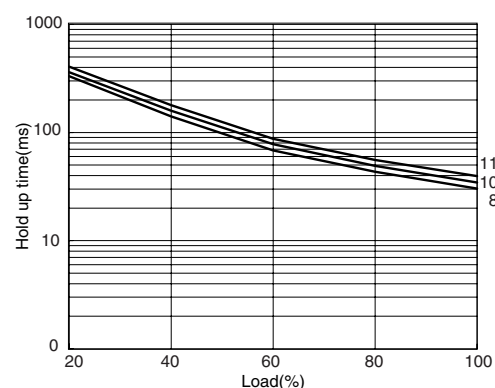
AC.100V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



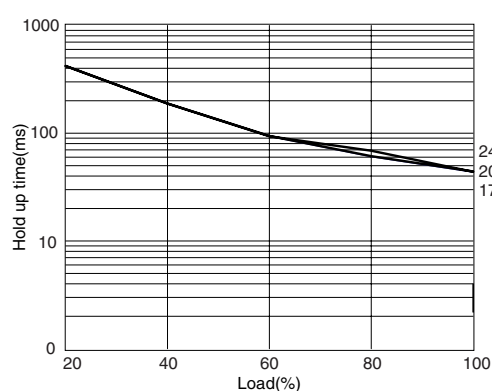
AC.200V TYPE: LIFE OF ELECTROLYTIC CAPACITOR



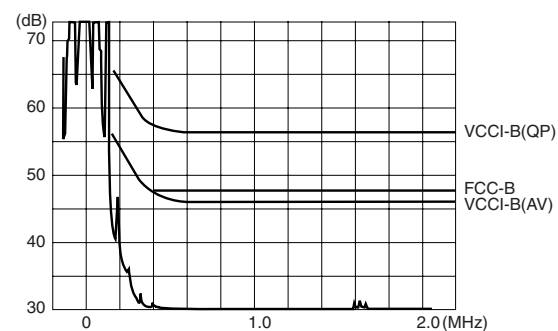
AC.100V TYPE: HOLD UP TIME



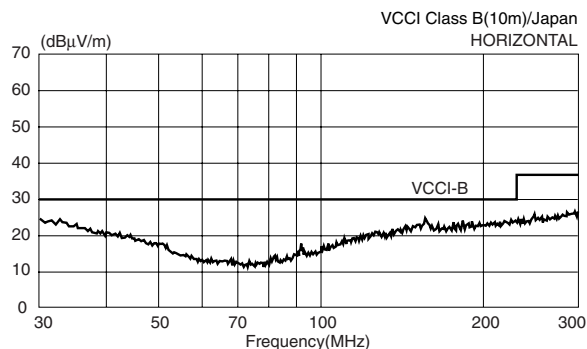
AC.200V TYPE: HOLD UP TIME



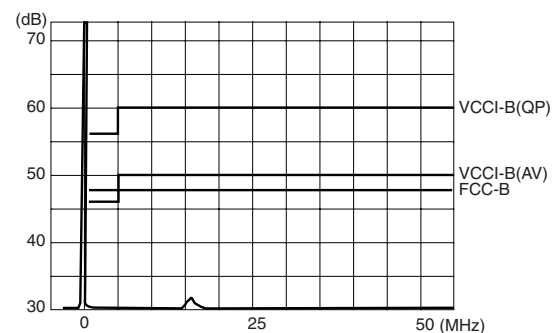
NOISE TERMINAL VOLTAGE



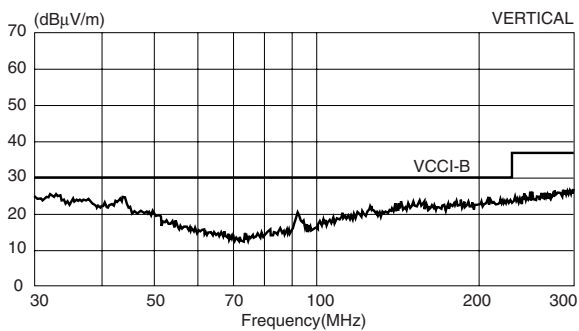
RADIATED NOISE



NOISE TERMINAL VOLTAGE



RADIATED NOISE



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[RKW05-30R](#) [RKW12-125R](#) [RKW12-13R](#) [RKW15-10R](#) [RKW15-2R0](#) [RKW15-3R5](#) [RKW24-27R](#) [RKW24-27RF](#)
[RKW24-2R2](#) [RKW24-65R](#) [RKW24-6R5](#) [RKW28-3R8](#) [RKW28-55R](#) [RKW28-5R5](#) [RKW48-13R](#) [RKW48-1R1](#)
[RKW48-2R1](#) [RKW48-32R](#) [RKW48-3R3](#) [RKW48-7R0](#) [RKW48-7R0F](#) [RKW48-R65](#) [RKW15-100R](#) [RKW24-1R3](#)
[RKW15-43R](#)