

# SRG Series

- Low profile :  $\phi 4 \times 7\text{mm}$  to  $\phi 18 \times 25\text{mm}$
- Endurance : 1,000 to 2,000 hours at 85°C
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

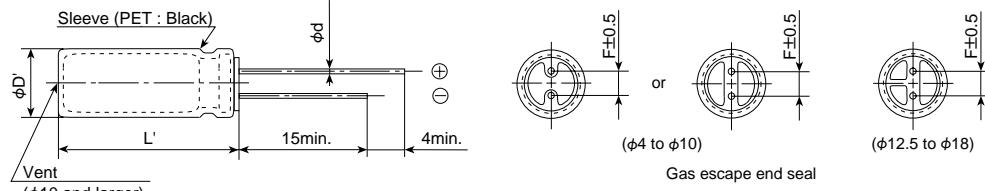


## ◆SPECIFICATIONS

Items	Characteristics																														
Category Temperature Range	-40 to +85°C																														
Rated Voltage Range	4 to 50V <sub>dc</sub>																														
Capacitance Tolerance	$\pm 20\%$ (M) (at 20°C, 120Hz)																														
Leakage Current	$I = 0.01CV$ or $3\mu\text{A}$ , whichever is greater. Where, I : Max. leakage current ( $\mu\text{A}$ ), C : Nominal capacitance ( $\mu\text{F}$ ), V : Rated voltage (V) (at 20°C after 2 minutes)																														
Dissipation Factor ( $\tan\delta$ )	<table border="1"> <tr> <td>Rated voltage (V<sub>dc</sub>)</td> <td>4V</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td><math>\tan\delta</math> (Max.)</td> <td>0.38</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table> When nominal capacitance exceeds 1,000 $\mu\text{F}$ , add 0.03 to the value above for each 1,000 $\mu\text{F}$ increase. (at 20°C, 120Hz)							Rated voltage (V <sub>dc</sub> )	4V	6.3V	10V	16V	25V	35V	50V	$\tan\delta$ (Max.)	0.38	0.28	0.24	0.20	0.16	0.14	0.12								
Rated voltage (V <sub>dc</sub> )	4V	6.3V	10V	16V	25V	35V	50V																								
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Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours (1,000 hours for $\phi 8$ and smaller) at 85°C. <table border="1"> <tr> <td>Capacitance change</td> <td><math>\leq \pm 20\%</math> of the initial value</td> </tr> <tr> <td>D.F. (<math>\tan\delta</math>)</td> <td><math>\leq 200\%</math> of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td><math>\leq</math> The initial specified value</td> </tr> </table>							Capacitance change	$\leq \pm 20\%$ of the initial value	D.F. ( $\tan\delta$ )	$\leq 200\%$ of the initial specified value	Leakage current	$\leq$ The initial specified value																		
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Leakage current	$\leq$ The initial specified value																														
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. <table border="1"> <tr> <td>Capacitance change</td> <td><math>\leq \pm 20\%</math> of the initial value</td> </tr> <tr> <td>D.F. (<math>\tan\delta</math>)</td> <td><math>\leq 200\%</math> of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td><math>\leq</math> The initial specified value</td> </tr> </table>							Capacitance change	$\leq \pm 20\%$ of the initial value	D.F. ( $\tan\delta$ )	$\leq 200\%$ of the initial specified value	Leakage current	$\leq$ The initial specified value																		
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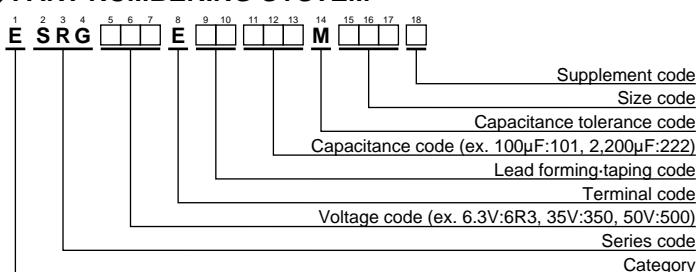
## ◆DIMENSIONS [mm]

### ●Terminal Code : E



$\phi D$	4	5	6.3	8	10 & 12.5	16 & 18
$\phi d$	0.45	0.45	0.45	0.45	—	—
$\geq 9L$	—	0.5	0.5	0.6	0.6	0.8
$F$	1.5	2.0	2.5	3.5	5.0	7.5
$\phi D'$	$\phi D+0.5\text{max.}$					
$L'$	$L+1.5\text{max.}$ ( $7L : L+1.0\text{max.}$ )					

## ◆PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

# SRG Series

## ◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case code φDXL(mm)	tan $\delta$	Rated ripple current (mA rms/ 85°C, 120Hz)	Part No.
<b>4</b>	470	8×7	0.38	154	ESRG4R0E□□471MH07D
<b>6.3</b>	47	4×7	0.28	50	ESRG6R3E□□470MD07D
	100	5×7	0.28	87	ESRG6R3E□□101ME07D
	220	6.3×7	0.28	133	ESRG6R3E□□221MF07D
	330	6.3×9	0.28	247	ESRG6R3E□□331MF09D
	330	8×7	0.28	191	ESRG6R3E□□331MH07D
	1,000	10×9	0.28	505	ESRG6R3E□□102MJ09S
	4,700	16×15	0.37	1,410	ESRG6R3E□□472ML15S
	6,800	18×15	0.43	1,660	ESRG6R3E□□682MM15S
<b>10</b>	10,000	18×20	0.55	2,020	ESRG6R3E□□103MM20S
	33	4×7	0.24	46	ESRG100E□□330MD07D
	100	5×9	0.24	132	ESRG100E□□101ME09D
	220	6.3×9	0.24	218	ESRG100E□□221MF09D
	220	8×7	0.24	171	ESRG100E□□221MH07D
	470	8×9	0.24	385	ESRG100E□□471MH09D
	1,000	10×12.5	0.24	625	ESRG100E□□102MJC5S
	2,200	12.5×15	0.27	970	ESRG100E□□222MK15S
	3,300	16×15	0.30	1,310	ESRG100E□□332ML15S
	4,700	18×15	0.33	1,560	ESRG100E□□472MM15S
	6,800	18×20	0.39	1,870	ESRG100E□□682MM20S
<b>16</b>	10,000	18×25	0.51	2,370	ESRG100E□□103MM25S
	22	4×7	0.20	42	ESRG160E□□220MD07D
	47	5×7	0.20	73	ESRG160E□□470ME07D
	100	6.3×7	0.20	110	ESRG160E□□101MF07D
	220	8×9	0.20	290	ESRG160E□□221MH09D
	330	8×9	0.20	355	ESRG160E□□331MH09D
	470	10×9	0.20	410	ESRG160E□□471MJ09S
	1,000	12.5×13	0.20	715	ESRG160E□□102MK13S
	2,200	16×15	0.23	1,160	ESRG160E□□222ML15S
	3,300	18×15	0.26	1,460	ESRG160E□□332MM15S
	4,700	18×20	0.29	1,770	ESRG160E□□472MM20S
	6,800	18×25	0.35	2,170	ESRG160E□□682MM25S
<b>25</b>	33	5×7	0.16	66	ESRG250E□□330ME07D
	47	5×9	0.16	105	ESRG250E□□470ME09D
	47	6.3×7	0.16	80	ESRG250E□□470MF07D
	100	6.3×9	0.16	172	ESRG250E□□101MF09D
	330	10×9	0.16	380	ESRG250E□□331MJ09S

□□ : Enter the appropriate lead forming or taping code.

## ◆RATED RIPPLE CURRENT MULTIPLIERS

### ●Frequency Multipliers

Capacitance (μF)	50	120	300	1k	10k	100k
<b>to 4.7</b>	0.65	1.00	1.35	1.75	2.30	2.50
<b>10 to 47</b>	0.75	1.00	1.25	1.50	1.75	1.80
<b>100 to 1,000</b>	0.80	1.00	1.15	1.30	1.40	1.50
<b>2,200 to</b>	0.85	1.00	1.03	1.05	1.08	1.08

WV (Vdc)	Cap (μF)	Case code φDXL(mm)	tan $\delta$	Rated ripple current (mA rms/ 85°C, 120Hz)	Part No.
<b>25</b>	470	10×12.5	0.16	525	ESRG250E□□471MJC5S
	1,000	12.5×15	0.16	830	ESRG250E□□102MK15S
	2,200	18×15	0.19	1,360	ESRG250E□□222MM15S
	3,300	18×20	0.22	1,720	ESRG250E□□332MM20S
	4,700	18×25	0.25	2,070	ESRG250E□□472MM25S
	10	4×7	0.14	32	ESRG350E□□100MD07D
	22	5×7	0.14	57	ESRG350E□□220ME07D
	33	5×9	0.14	94	ESRG350E□□330ME09D
<b>35</b>	33	6.3×7	0.14	73	ESRG350E□□330MF07D
	47	8×7	0.14	101	ESRG350E□□470MH07D
	100	8×9	0.14	220	ESRG350E□□101MH09D
	220	10×9	0.14	335	ESRG350E□□221MJ09S
	330	10×12.5	0.14	475	ESRG350E□□331MJC5S
	470	12.5×13	0.14	585	ESRG350E□□471MK13S
	1,000	16×15	0.14	1,010	ESRG350E□□102ML15S
	2,200	18×20	0.17	1,560	ESRG350E□□222MM20S
<b>50</b>	1.0	4×7	0.12	10	ESRG500E□□1R0MD07D
	1.0	5×9	0.12	13	ESRG500E□□1R0ME09D
	2.2	4×7	0.12	15	ESRG500E□□2R2MD07D
	2.2	5×9	0.12	26	ESRG500E□□2R2ME09D
	3.3	4×7	0.12	19	ESRG500E□□3R3MD07D
	3.3	5×9	0.12	32	ESRG500E□□3R3ME09D
	4.7	4×7	0.12	24	ESRG500E□□4R7MD07D
	4.7	5×9	0.12	38	ESRG500E□□4R7ME09D
	10	5×7	0.12	42	ESRG500E□□100ME07D
	10	5×9	0.12	64	ESRG500E□□100ME09D
	22	5×9	0.12	86	ESRG500E□□220ME09D
	22	6.3×7	0.12	64	ESRG500E□□220MF07D
	33	6.3×9	0.12	113	ESRG500E□□330MF09D
	33	8×7	0.12	93	ESRG500E□□330MH07D
	47	6.3×9	0.12	135	ESRG500E□□470MF09D
	100	10×9	0.12	240	ESRG500E□□101MJ09S
	220	10×12.5	0.12	415	ESRG500E□□221MJC5S
	330	12.5×13	0.12	525	ESRG500E□□331MK13S
	470	16×15	0.12	745	ESRG500E□□471ML15S
	1,000	18×20	0.12	1,160	ESRG500E□□102MM20S

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