

HRK Radial Lead Type series

Large capacitance, High ripple current compared with HRC series
Load life of 4,000h at 125°C
Compliance with AEC-Q200



• Specifications

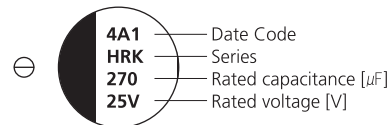
Items	Characteristics												
Category temperature range	-55 to +125°C												
Rated voltage range	25 to 80Vdc												
Capacitance range	22 to 680μF												
Capacitance tolerance	±20% [M] (at 20°C, 120Hz)												
Leakage current	I=0.01CV or 3μA whichever is greater (at 20°C, after 2 minutes)												
Tangent of loss angle(tanδ)	<table border="1"> <thead> <tr> <th>Rated voltage(V)</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> </tr> </thead> <tbody> <tr> <td>Tanδ</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table> <p style="text-align: right;">(at 20°C, 120Hz)</p>	Rated voltage(V)	25	35	50	63	80	Tanδ	0.14	0.12	0.10	0.08	0.08
Rated voltage(V)	25	35	50	63	80								
Tanδ	0.14	0.12	0.10	0.08	0.08								
ESR	Less than or equal to the value of Standard Ratings (at 20°C, 100kHz)												
Low temperature characteristics (Impedance ratio at 100kHz)	$Z(-25\text{ }^{\circ}\text{C}) / Z(+20\text{ }^{\circ}\text{C}) \leq 1.5$ $Z(-55\text{ }^{\circ}\text{C}) / Z(+20\text{ }^{\circ}\text{C}) \leq 2.0$												
Endurance	125°C, 4,000 hrs, apply the rated ripple current without exceeding the rated voltage												
	Capacitance change	Within±30% of the initial value											
	Tangent of loss angle (tanδ)	≤200% of the initial specified value											
	ESR(mΩ)	≤200% of the initial specified value											
	Leakage current	≤The initial specified value											
Shelf life	After storage for 1,000 hrs at 125°C with no voltage applied and then being stabilized at 20°C, capacitors shall meet the specified values for the endurance characteristics listed above.(with voltage treatment)												
	85°C, 85% RH, 2,000 hrs, rated voltage applied												
Damp Heat (Steady State)	Capacitance change	Within±30% of the initial value											
	Tangent of loss angle (tanδ)	≤200% of the initial specified value											
	ESR(mΩ)	≤200% of the initial specified value											
	Leakage current	≤The initial specified value											

• Part numbering system

Example: HRK series, 25V / 270μF

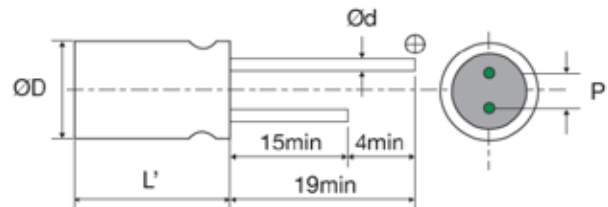
25	HRK	270	M	D	10
Voltage	Series	Capacitance	Tolerance	Diameter	Length

• Marking and Dimensions



• Frequency coefficient for ripple current

Frequency	120Hz	1kHz	10kHz	100kHz
Coefficient	0.15	0.40	0.75	1.00



Size	ØD±0.5	L	L'	P±0.5	Ød
8.0×9.5	8.0	9.5	L±1.0	3.5	0.60
10.0×10.5	10.0	10.5		5.0	0.60
10.0×11.5	10.0	11.5		5.0	0.60
10.0×16.0	10.0	16.0		5.0	0.60

• Standard Ratings

Rated Voltage [Vdc]	Rated Capacitance [μF]	Size ØD x L [mm]	ESR (20°C, 100kHz) [mΩ] [max.]	Rated Ripple Current (125°C, 100kHz) [mA rms]	Part Number
25	150	8.0 x 9.5	27	1600	25HRK150MD10
	220	8.0 x 9.5	27	1600	25HRK220MD10
	270	8.0 x 9.5	27	2000	25HRK270MD10
	330	8.0 x 9.5	27	2000	25HRK330MD10
	470	10.0 x 10.5	20	2800	25HRK470ME10
	560	10.0 x 10.5	20	2800	25HRK560ME10
	680	10.0 x 10.5	20	5700	25HRK680ME10
35	100	8.0 x 9.5	27	1600	35HRK100MD10
	150	8.0 x 9.5	27	1600	35HRK150MD10
	180	8.0 x 9.5	27	2000	35HRK180MD10
	220	8.0 x 9.5	27	2000	35HRK220MD10
	220	10.0 x 10.5	20	2000	35HRK220ME10
	270	10.0 x 10.5	20	2000	35HRK270ME10
	330	10.0 x 10.5	20	2800	35HRK330ME10
	390	10.0 x 10.5	20	2800	35HRK390ME10
	680	10.0 x 16.0	11	5200	35HRK680ME16
50	33	8.0 x 9.5	40	1100	50HRK33MD10
	47	8.0 x 9.5	40	1100	50HRK47MD10
	56	10.0 x 10.5	30	1400	50HRK56ME10
	68	10.0 x 10.5	30	1400	50HRK68ME10
	82	10.0 x 10.5	30	1400	50HRK82ME10
	150	10.0 x 11.5	19	3900	63HRK15z0ME11
	220	10.0 x 16.0	13	5100	63HRK220ME16
63	100	10.0 x 11.5	22	3700	63HRK100ME11
	150	10.0 x 16.0	15	4900	63HRK150ME16
	180	10.0 x 16.0	15	4900	63HRK180ME16
80	22	8.0 x 9.5	45	1050	80HRK22MD10
	33	10.0 x 10.5	36	1360	80HRK33ME10
	47	10.0 x 10.5	36	1360	80HRK47ME10
	68	10.0 x 11.5	32	3500	80HRK68ME11
	100	10.0 x 16.0	15	4400	80HRK100ME16