



• Specifications

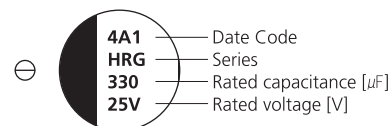
Items	Characteristics				
Category temperature range	-55 to +145°C				
Rated voltage range	25 to 63Vdc				
Capacitance range	33 to 330μF				
Capacitance tolerance	±20% [M] (at 20°C, 120Hz)				
Leakage current	I=0.01CV or 3μA whichever is greater (at 20°C, after 2 minutes)				
Tangent of loss angle(tanδ)	Rated voltage(V)	25	35	50	63
	Tanδ	0.14	0.12	0.10	0.08
(at 20°C, 120Hz)					
ESR	Less than or equal to the value of Standard Ratings (at 20°C, 100kHz)				
Low temperature characteristics (Impedance ratio at 100kHz)	Z (-25 °C) / Z (+20 °C) ≤ 1.5 Z (-55 °C) / Z (+20 °C) ≤ 2.0				
Endurance	145°C, 2,000 hrs(6.3Ø : 2,000 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 145°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)				
Damp Heat (Steady State)	85°C, 85% RH, 2,000 hrs, rated voltage applied				
	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: HRG series, 25V / 330μF

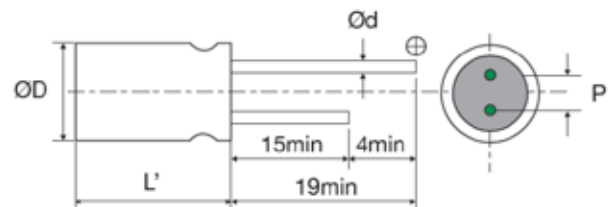
25	HRG	330	M	E	11
Voltage	Series	Capacitance	Tolerance	Diameter	Length

• Marking and Dimensions



• Frequency coefficient for ripple current

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



(unit: mm)

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

● Standard Ratings

Rated Voltage [Vdc]	Rated Capacitance [μF]	Size ØD x L [mm]	ESR (20°C, 100kHz) [mΩ] [max.]	Rated Ripple Current (100kHz) [mA rms]		Part Number
				135°C	145°C	
25	220	8.0 x 9.5	27	1600	700	25HRG220MD10
	330	10.0 x 10.5	20	2000	900	25HRG330ME10
35	150	8.0 x 9.5	27	1600	700	35HRG150MD10
	270	10.0 x 10.5	20	2000	900	35HRG270ME10
50	68	8.0 x 9.5	30	1250	600	50HRG68MD10
	100	10.0 x 10.5	28	1600	800	50HRG100ME10
63	33	8.0 x 9.5	40	1100	600	63HRG33MD10
	56	10.0 x 10.5	30	1400	800	63HRG56ME10
	82	10.0 x 10.5	30	1400	800	63HRG82ME10