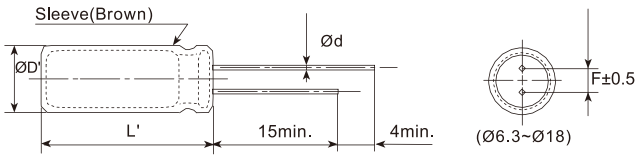
HS series

- High ripple current; For power supply applications
- Endurance: +105°C 3,000~5,000 hours
- **RoHS Compliant**

SPECIFICATIONS

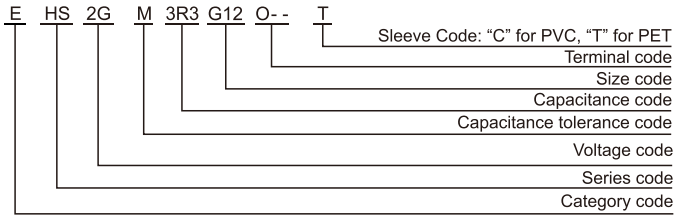
Items	Characteristics
Category Temperature Range	-40~+105°C(160~400Vdc) -25~+105°C(450Vdc)
Rated Voltage Range	160~450 Vdc
Capacitance Tolerance	±20%(M) (at 20°C,120Hz)
Leakage Current	After 1 minute / After 5 minutes CV 1000: I 0.1CV+40μA / I 0.03CV+15μA CV>1000: I 0.04CV+100μA / I 0.02CV+25μA Where,I:Max.leakage current (μA), C:Nominal capacitance (μF), V: Rated voltage (V) (at 20°C)
Dissipation Factor (tanδ)	Rated Voltage(Vdc): 160 200 250 350 400 450 tanδ (max.): 0.15 0.15 0.15 0.20 0.20 0.20 (at 20°C,120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated Voltage(Vdc): 160 200 250 350 400 450 Z(-25°C)/Z(+20°C): 3 3 3 6 6 6 (at 120Hz) Z(-40°C)/Z(+20°C): 8 8 8 10 10 -
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after DC voltage plus the rated ripple current is applied for a specified period of time at 105°C. Capacitance Change: ≤±20% of the initial value D.F. (tanδ): ≤200% of the initial specified value Leakage Current: ≤The initial specified value Case Dia.(mm): ØD 8 — Load life (hours): 3,000; ØD 10 — 5,000
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. Capacitance Change: ≤±20% of the initial value D.F. (tanδ): ≤200% of the initial specified value Leakage Current: ≤200% of the initial specified value

DIMENSIONS[mm]



ØD	6.3	8		10	12.5	16	18
Ød	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.5	3.5		5.0	5.0	7.5	7.5
ØD'	ØD+0.5max.						
L'	L+2max.						

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Freq.(Hz) / Cap.(μF)	120	1k	10k	100k
<100	1.0	1.75	2.25	2.50
100	1.0	1.67	2.05	2.25

The endurance of capacitors is shortened with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

HS series

STANDARD RATINGS

WV (Vdc)	Cap (μF)	Size DxL(mm)	tanδ	Rated ripple current (mArms/105°C, 120Hz)	Part Number
160(2C)	1	6.3×12	0.15	21	EHS2CM010E12OT
	2.2	6.3×12	0.15	32	EHS2CM2R2E12OT
	3.3	6.3×12	0.15	40	EHS2CM3R3E12OT
	4.7	6.3×12	0.15	47	EHS2CM4R7E12OT
	6.8	8×12	0.15	62	EHS2CM6R8F12OT
	10	8×12	0.15	75	EHS2CM100F12OT
	15	10×16	0.15	115	EHS2CM150G16OT
	22	10×20	0.15	140	EHS2CM220G20OT
	33	10×20	0.15	175	EHS2CM330G20OT
	47	12.5×20	0.15	240	EHS2CM470W20OT
	68	12.5×25	0.15	370	EHS2CM680W25OT
	100	16×25	0.15	430	EHS2CM101L25OT
	150	16×25	0.15	500	EHS2CM151L25OT
	220	16×30	0.15	815	EHS2CM221L30OT
	270	18×30	0.15	880	EHS2CM271M30OT
	330	18×40	0.15	980	EHS2CM331M40OT
200(2D)	0.47	6.3×12	0.15	13	EHS2DMR47E12OT
	1	6.3×12	0.15	19	EHS2DM010E12OT
	2.2	6.3×12	0.15	32	EHS2DM2R2E12OT
	3.3	6.3×12	0.15	40	EHS2DM3R3E12OT
	4.7	8×12	0.15	47	EHS2DM4R7F12OT
	6.8	10×12	0.15	70	EHS2DM6R8G12OT
	10	10×12	0.15	80	EHS2DM100G12OT
	15	10×16	0.15	118	EHS2DM150G16OT
	22	10×20	0.15	140	EHS2DM220G20OT
	33	10×20	0.15	160	EHS2DM330G20OT
	47	12.5×20	0.15	250	EHS2DM470W20OT
	68	12.5×25	0.15	330	EHS2DM680W25OT
	100	16×25	0.15	440	EHS2DM101L25OT
	150	16×25	0.15	600	EHS2DM151L25OT
	220	18×30	0.15	680	EHS2DM221M30OT
	270	18×40	0.15	1040	EHS2DM271M40OT
250(2E)	0.47	6.3×12	0.15	13	EHS2EMR47E12OT
	1	6.3×12	0.15	19	EHS2EM010E12OT
	2.2	6.3×12	0.15	37	EHS2EM2R2E12OT
	3.3	8×12	0.15	50	EHS2EM3R3F12OT
	4.7	8×12	0.15	58	EHS2EM4R7F12OT
	6.8	10×12	0.15	72	EHS2EM6R8G12OT
	10	10×16	0.15	100	EHS2EM100G16OT
	15	10×16	0.15	120	EHS2EM150G16OT
	22	10×20	0.15	168	EHS2EM220G20OT
	33	12.5×20	0.15	210	EHS2EM330W20OT
	47	12.5×25	0.15	320	EHS2EM470W25OT
	68	16×25	0.15	410	EHS2EM680L25OT
	100	16×30	0.15	530	EHS2EM101L30OT
	150	18×25	0.15	550	EHS2EM151M25OT
	220	18×35	0.15	710	EHS2EM221M35OT

WV (Vdc)	Cap (μF)	Size DxL(mm)	tanδ	Rated ripple current (mArms/105°C, 120Hz)	Part Number
350(2V)	0.47	6.3×12	0.20	20	EHS2VMR47E12OT
	1	6.3×12	0.20	24	EHS2VM010E12OT
	2.2	8×12	0.20	40	EHS2VM2R2F12OT
	3.3	8×12	0.20	52	EHS2VM3R3F12OT
	4.7	10×12	0.20	65	EHS2VM4R7G12OT
	6.8	10×20	0.20	88	EHS2VM6R8G20OT
	10	10×20	0.20	105	EHS2VM100G20OT
	15	12.5×20	0.20	130	EHS2VM150W20OT
	22	12.5×20	0.20	182	EHS2VM220W20OT
	33	12.5×25	0.20	240	EHS2VM330W25OT
	47	16×25	0.20	305	EHS2VM470L25OT
	68	16×30	0.20	390	EHS2VM680L30OT
	100	18×30	0.20	480	EHS2VM101M30OT
400(2G)	1	8×12	0.20	25	EHS2GM010F12OT
	2.2	8×12	0.20	40	EHS2GM2R2F12OT
	3.3	10×12	0.20	55	EHS2GM3R3G12OT
	4.7	10×16	0.20	76	EHS2GM4R7G16OT
	6.8	10×20	0.20	80	EHS2GM6R8G20OT
	10	12.5×20	0.20	110	EHS2GM100W20OT
	15	12.5×20	0.20	135	EHS2GM150W20OT
	22	12.5×25	0.20	205	EHS2GM220W25OT
	33	16×20	0.20	255	EHS2GM330L20OT
	47	16×25	0.20	330	EHS2GM470L25OT
	68	16×35	0.20	400	EHS2GM680L35OT
	82	18×30	0.20	420	EHS2GM820M30OT
	100	18×35	0.20	495	EHS2GM101M35OT
	120	18×40	0.20	520	EHS2GM121M40OT
450(2W)	1	8×12	0.20	35	EHS2WM010F12OT
	2.2	10×12	0.20	40	EHS2WM2R2G12OT
	3.3	10×16	0.20	65	EHS2WM3R3G16OT
	4.7	10×16	0.20	85	EHS2WM4R7G16OT
	6.8	10×20	0.20	90	EHS2WM6R8G20OT
	10	12.5×20	0.20	140	EHS2WM100W20OT
	15	16×20	0.20	160	EHS2WM150L20OT
	22	16×25	0.20	200	EHS2WM220L25OT
	33	16×25	0.20	320	EHS2WM330L25OT
	47	18×25	0.20	350	EHS2WM470M25OT
	68	18×30	0.20	440	EHS2WM680M30OT
	82	18×35	0.20	500	EHS2WM820M35OT
	100	18×40	0.20	560	EHS2WM101M40OT