

# E53 (AC) Series (AC Cylindrical Metallized Polypropylene Film Capacitors)

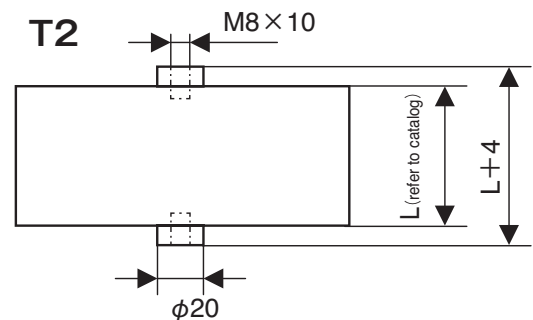
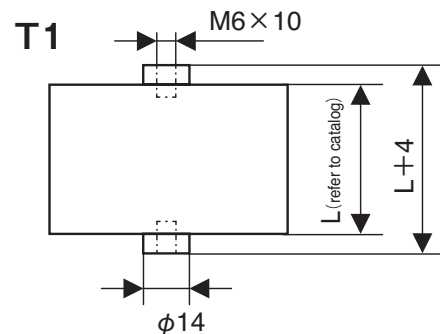
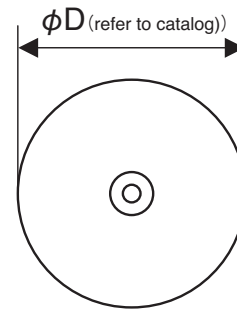
## Features

- High voltage range and ultra low inductance capacitors.
- Made in dry technology.
- For AC application.

## Specifications

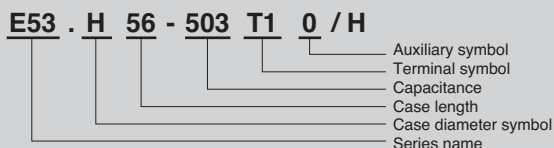
Item	Specification
Category temperature range	-25 ~ +70°C (+85°C / Includes self temperature rise)
Storage temperature	-40 ~ +85°C
Rated voltage (UN)	280 ~ 700Vac (700 ~ 1,700Vdc)
Terminal (torque)	M6 × 10 (4Nm) / M8 × 10 (7Nm)
Standards	Standards IEC 61071 : 2007
Dielectric	Polypropylene
Dielectric dissipation factor (tan δ <sub>0</sub> )	2 × 10 <sup>-4</sup>
Capacitance tolerance	±10% (optional ±5%)
Safety devices	-
Impregnant	Solid resin based on vegetable oil, Non PCB
Material of case	Plastic (UL94V-0)
Environmental regulations	Comply with RoHS

## Dimensions



Item	Specification	
Terminal code	T1 / T2	
Can material	Plastic (UL94V-0)	
Terminal	T1	Axial thread M6×10
		Torque : 4Nm
	T2	Axial thread M8×10
		Torque : 7Nm
Degree of protection	IP00	
Humidity class	G	

Numbering system: e.g. E53, 280VAC, 50 μF, φ55×56Lmm, T1terminal



# POWER ELECTRONICS USE PLASTIC FILM CAPACITORS

## Standard Value and Case Size

Rated Capacitance $C_N$ [ $\mu$ F]	Case size		Series resistance (reference) $R_S$ [m $\Omega$ ]	$R_{th}$ [K/W]	Max current $I_{max}$ [Arms]	Max peak current $\hat{i}$ [kA]	Max surge current $I_S$ [kA]	ESL [nH]	Terminal	Clearance in air $L$ [mm]	Creepage distance $K$ [mm]	Weight [kg]	MOQ [pcs]	Part number
	$\phi D$ [mm]	$L$ [mm]												
<b>Rated voltage <math>U_N</math> : 550Vdc / 280Vac <math>U_{rms}</math> : 200V<sub>rms</sub> <math>U_S</math> : 825V <math>U_{TT}</math> : 825Vdc</b>														
50	55	56	0.8	8.5	60	0.83	2.5	15	T1	97	97	0.18	825	E53.H56-503T10/H
100	75	56	0.4	6.3	80	1.7	5	15	T2	111	111	0.33	410	E53.M56-104T20/H
200	95	56	0.2	4.9	80	3.3	9.9	15	T2	131	131	0.52	210	E53.P56-204T20/H
270	115	56	0.15	4.1	100	3.3	10	15	T2	151	151	0.77	132	E53.R56-274T20/H
380	115	100	0.31	2.3	100	3	10	15	T2	195	195	1.37	78	E53.R10-384T20/H
<b>Rated voltage <math>U_N</math> : 700Vdc / 350Vac <math>U_{rms}</math> : 250V<sub>rms</sub> <math>U_S</math> : 1,050V <math>U_{TT}</math> : 1,050Vdc</b>														
33	55	56	0.95	8.5	55	0.68	2.1	15	T1	97	97	0.18	60	E53.H56-333T10/H
68	75	56	0.5	6.3	80	1.4	4.2	15	T2	111	111	0.33	360	E53.M56-683T20/H
120	95	56	0.3	4.9	80	2.5	7.4	15	T2	131	131	0.52	50	E53.P56-124T20/H
150	105	56	0.25	4.5	100	3.1	9.3	15	T2	141	141	0.64	160	E53.Q56-154T20/H
200	115	56	0.2	4.1	100	3.1	10	15	T2	151	151	0.77	132	E53.R56-204T20/H
310	115	100	0.3	2.3	100	3	10	15	T2	195	195	1.37	66	E53.R10-314T20/H
<b>Rated voltage <math>U_N</math> : 900Vdc / 350Vac <math>U_{rms}</math> : 250V<sub>rms</sub> <math>U_S</math> : 1,350V <math>U_{TT}</math> : 1,350Vdc</b>														
30	55	56	0.85	8.5	60	0.68	2.1	15	T1	97	97	0.18	780	E53.H56-303T10/H
60	75	56	0.5	6.3	80	1.4	4.1	15	T2	111	111	0.33	360	E53.M56-603T20/H
100	95	56	0.35	4.9	80	2.3	6.8	15	T2	131	131	0.52	210	E53.P56-104T20/H
120	105	56	0.2	4.5	100	2.8	9	15	T2	141	141	0.64	180	E53.Q56-124T20/H
140	115	56	0.2	4.1	100	3.1	10	15	T2	151	151	0.77	156	E53.R56-144T20/H
265	115	100	0.35	2.3	110	3	9	15	T2	195	195	1.37	54	E53.R10-274T20/H
<b>Rated voltage <math>U_N</math> : 1,100Vdc / 350Vac <math>U_{rms}</math> : 250V<sub>rms</sub> <math>U_S</math> : 1,650V <math>U_{TT}</math> : 1,650Vdc</b>														
12	55	56	1.7	8.5	40	0.4	1.2	15	T1	97	97	0.18	60	E53.H56-123T10/H
15	55	56	1.1	8.5	40	0.5	1.5	15	T1	97	97	0.18	60	E53.H56-153T10/H
25	75	56	0.71	6.3	70	0.83	2.5	15	T2	111	111	0.33	50	E53.M56-253T20/H
50	95	56	0.34	4.9	80	1.7	5	15	T2	131	131	0.52	50	E53.P56-503T20/H
60	105	56	0.35	4.5	100	2.0	6	15	T2	141	141	0.64	50	E53.Q56-603T20/H
80	115	56	0.21	4.1	100	3.0	10	15	T2	151	151	0.77	60	E53.R56-803T20/H
175	115	100	0.41	2.3	100	2.6	8	15	T2	195	195	1.37	72	E53.R10-184T20/H
<b>Rated voltage <math>U_N</math> : 1,400Vdc / 350Vac <math>U_{rms}</math> : 250V<sub>rms</sub> <math>U_S</math> : 2,100V <math>U_{TT}</math> : 2,100Vdc</b>														
8	55	56	2	8.5	38	0.33	1	15	T1	97	97	0.18	855	E53.H56-802T10/H
16	75	56	1	6.3	80	0.66	2	15	T2	111	111	0.33	430	E53.M56-163T20/H
30	95	56	0.55	4.9	80	1.2	3.7	15	T2	131	131	0.52	220	E53.P56-303T20/H
40	105	56	0.4	4.5	100	1.7	5	15	T2	141	141	0.64	170	E53.Q56-403T20/H
50	115	56	0.3	4.1	100	2.2	10	15	T2	151	151	0.77	132	E53.R56-503T20/H
110	115	100	0.52	2.3	100	2	6	15	T2	195	195	1.37	66	E53.R10-114T20/H
<b>Rated voltage <math>U_N</math> : 1,700Vdc / 700Vac <math>U_{rms}</math> : 500V<sub>rms</sub> <math>U_S</math> : 2,550V <math>U_{TT}</math> : 2,550Vdc</b>														
4.7	55	56	1.3	8.5	45	0.5	1.6	15	T1	97	97	0.18	60	E53.H56-472T10/H
10	75	56	0.6	6.3	80	1.1	3.5	15	T2	111	111	0.33	50	E53.M56-103T20/H
16	95	56	0.37	4.9	80	1.8	5.5	15	T2	131	131	0.52	50	E53.P56-163T20/H
22	105	56	0.27	4.5	100	2.5	7.5	15	T2	141	141	0.64	50	E53.Q56-223T20/H
33	115	56	0.2	4.1	100	3.5	10	15	T2	151	151	0.77	60	E53.R56-333T20/H
68	115	100	0.35	2.3	100	3.1	9.3	15	T2	195	195	1.37	54	E53.R10-683T20/H
<b>Rated voltage <math>U_N</math> : 2,000Vdc / 700Vac <math>U_{rms}</math> : 500V<sub>rms</sub> <math>U_S</math> : 3,000V <math>U_{TT}</math> : 3,000Vdc</b>														
3.3	55	56	1.6	8.5	40	0.42	1.2	15	T1	97	97	0.18	990	E53.H56-332T10/H
8	75	56	0.65	6.3	80	1	3	15	T2	111	111	0.33	390	E53.M56-802T20/H
14	95	56	0.35	4.9	80	1.8	5.5	15	T2	131	131	0.52	230	E53.P56-143T20/H
18	105	56	0.3	4.5	100	2.3	7	15	T2	141	141	0.64	170	E53.Q56-183T20/H
24	115	56	0.2	4.1	100	3	10	15	T2	151	151	0.77	132	E53.R56-243T20/H
52.5	115	100	0.39	2.3	100	2.8	8	15	T2	195	195	1.37	66	E53.R10-533T20/H
<b>Rated voltage <math>U_N</math> : 2,250Vdc / 700Vac <math>U_{rms}</math> : 500V<sub>rms</sub> <math>U_S</math> : 3,375V <math>U_{TT}</math> : 3,375Vdc</b>														
2.5	55	56	1.8	8.5	40	0.37	1.1	15	T1	97	97	0.18	960	E53.H56-252T10/H
6	75	56	0.76	6.3	70	0.88	2.6	15	T1	111	111	0.33	400	E53.M56-602T20/H
10	95	56	0.46	4.9	80	1.5	4.5	15	T2	131	131	0.52	240	E53.P56-103T20/H
15	105	56	0.27	4.5	100	2.1	6.2	15	T2	141	141	0.64	160	E53.Q56-153T20/H
18	115	56	0.25	4.1	100	2.6	10	15	T2	151	151	0.77	132	E53.R56-183T20/H
40	115	100	0.45	2.3	100	2.4	7	15	T2	195	195	1.37	66	E53.R10-403T20/H
<b>Rated voltage <math>U_N</math> : 2,800Vdc / 700Vac <math>U_{rms}</math> : 500V<sub>rms</sub> <math>U_S</math> : 4,200V <math>U_{TT}</math> : 4,200Vdc</b>														
1.5	55	56	2.4	8.5	32	0.27	1.35	15	T1	97	97	0.18	1,020	E53.H56-152T10/H
3.3	75	56	1.1	6.3	60	0.6	3	15	T2	111	111	0.33	460	E53.M56-332T20/H
7.5	95	56	0.5	4.9	80	1.5	7.5	15	T2	131	131	0.52	210	E53.P56-752T20/H
10	105	56	0.4	4.5	100	1.8	9	15	T2	141	141	0.64	160	E53.Q56-103T20/H
12	115	56	0.3	4.1	100	2.2	12	15	T2	151	151	0.77	132	E53.R56-123T20/H
25	115	100	0.57	2.3	100	1.9	6	15	T2	195	195	1.37	66	E53.R10-253T20/H
<b>Rated voltage <math>U_N</math> : 3,200Vdc / 1,050Vac <math>U_{rms}</math> : 750V<sub>rms</sub> <math>U_S</math> : 4,800V <math>U_{TT}</math> : 4,800Vdc</b>														
1	55	56	1.6	8.5	40	0.35	1.75	15	T1	97	97	0.18	975	E53.H56-102T10/H
2.5	75	56	0.65	6.3	75	0.9	4.5	15	T2	111	111	0.33	420	E53.M56-252T20/H
4	95	56	0.4	4.9	80	1.5	7.5	15	T2	131	131	0.52	240	E53.P56-402T20/H
6	105	56	0.28	4.5	100	2.2	11	15	T2	141	141	0.64	160	E53.Q56-602T20/H
7	115	56	0.25	4.1	100	3	12	15	T2	151	151	0.77	132	E53.R56-702T20/H

PLASTIC FILM CAPACITORS

## Standard Value and Case Size

Rated Capacitance $C_N$ [ $\mu$ F]	Case size		Series resistance (reference) $R_s$ [m $\Omega$ ]	$R_{th}$ [K/W]	Max current $I_{max}$ [Arms]	Max peak current $\hat{i}$ [kA]	Max surge current $I_s$ [kA]	$ESL$ [nH]	Terminal	Clearance in air $L$ [mm]	Creepage distance $K$ [mm]	Weight [kg]	MOQ [pcs]	Part number
	$\phi D$ [mm]	$L$ [mm]												
<b>Rated voltage <math>U_N</math> : 2,450Vdc / 1,400Vac <math>U_{rms}</math> : 1,000V<sub>rms</sub> <math>U_s</math> : 3,675V <math>U_{TT}</math> : 3,675Vdc</b>														
1.16	55	56	1.2	8.5	20	0.7	2.2	15	T1	97	97	0.18	840	E53.H56-122T10/H
2.4	75	56	0.56	6.3	60	1.5	5	15	T2	111	111	0.33	400	E53.M56-242T20/H
4.2	95	56	0.32	4.9	80	2.6	8	15	T2	131	131	0.52	230	E53.P56-422T20/H
5.2	105	56	0.26	4.5	100	3	10	15	T2	141	141	0.64	160	E53.Q56-522T20/H
6.4	115	56	0.21	4.1	100	4	12	15	T2	151	151	0.77	132	E53.R56-642T20/H
<b>Rated voltage <math>U_N</math> : 3,600Vdc / 1,400Vac <math>U_{rms}</math> : 1,000V<sub>rms</sub> <math>U_s</math> : 5,400V <math>U_{TT}</math> : 5,400Vdc</b>														
8	115	100	0.52	2.3	100	2.3	6.9	15	T2	195	195	1.37	72	E53.R10-802T20/H
10	115	100	0.94	2.3	100	2.5	7.5	15	T2	195	195	1.37	78	E53.R10-103T20/H
<b>Rated voltage <math>U_N</math> : 3,750Vdc / 2,100Vac <math>U_{rms}</math> : 1,500V<sub>rms</sub> <math>U_s</math> : 5,625V <math>U_{TT}</math> : 5,625Vdc</b>														
0.47	55	56	2.9	8.5	20	0.7	2.1	15	T1	97	97	0.18	885	E53.H56-471T10/H
1.1	75	56	1.2	6.3	60	1.6	5	15	T2	111	111	0.33	380	E53.M56-112T20/H
1.7	95	56	0.8	4.9	80	2.5	8	15	T2	131	131	0.52	240	E53.P56-172T20/H
2.15	105	56	0.64	4.5	100	3	10	15	T2	141	141	0.64	190	E53.Q56-222T20/H
2.7	115	56	0.51	4.1	100	4	12	15	T2	151	151	0.77	144	E53.R56-272T20/H
<b>Rated voltage <math>U_N</math> : 5,000Vdc / 2,100Vac <math>U_{rms}</math> : 1,500V<sub>rms</sub> <math>U_s</math> : 7,500V <math>U_{TT}</math> : 7,500Vdc</b>														
3	115	100	1.2	2.3	125	2.1	6.3	15	T2	195	195	1.37	78	E53.R10-302T21/H
4	115	100	1	2.3	125	2.5	7.5	15	T2	195	195	1.37	78	E53.R10-402T21/H
<b>Rated voltage <math>U_N</math> : 5,600Vdc / 2,450Vac <math>U_{rms}</math> : 1,750V<sub>rms</sub> <math>U_s</math> : 8,400V <math>U_{TT}</math> : 8,400Vdc</b>														
0.22	55	97	13.7	4.9	25	0.2	0.7	15	T1	138	138	0.31	576	E53.H97-221T10/H
0.25	55	97	12.1	4.9	25	0.3	0.8	15	T1	138	138	0.32	540	E53.H97-251T10/H
0.5	55	97	8	4.9	25	0.4	1.3	15	T1	138	138	0.33	396	E53.H97-501T10/H
<b>Rated voltage <math>U_N</math> : 7,200Vdc / 2,450Vac <math>U_{rms}</math> : 1,750V<sub>rms</sub> <math>U_s</math> : 10,800V <math>U_{TT}</math> : 10,800Vdc</b>														
0.22	55	97	13.7	4.9	25	0.2	0.7	15	T1	138	138	0.31	504	E53.H97-221T11/H
0.25	55	97	12.1	4.9	25	0.3	0.8	15	T1	138	138	0.32	504	E53.H97-251T11/H

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