

# TS14

## FEATURES

- Wide temperature range, long life:  
105°C 2000 hours
- Miniature and low impedance

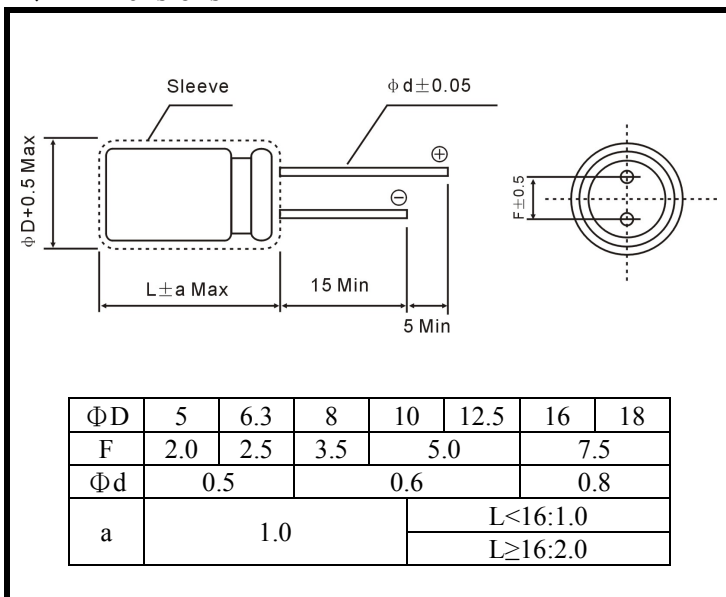


## ◆ Specifications

ITEMS		PERFORMANCE CHARACTERISTICS																																												
Operating Temperature Range(°C)	-40~+105	-40~+105																																												
Rated Voltage Range (V)	6.3~100	160~400																																												
Capacitance Tolerance (25°C, 120Hz)	±20%																																													
Leakage current (μA)	0.01CV or 3 whichever is greater. (at 25°C, after 2 minutes)		CV≤1000: 0.1CV+40 (at 25°C, after 1 minute)																																											
			CV>1000: 0.04CV+100 (at 25°C, after 1 minute)																																											
C: Nominal Capacitance (μF) V: Rated Voltage (V)																																														
Dissipation Factor (25°C, 120Hz)	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>315</th> <th>350</th> <th>400</th> </tr> </thead> <tbody> <tr> <td>Tan δ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> </tr> </tbody> </table>																Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400	Tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	0.15	0.20	0.20	0.20
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	315	350	400																															
Tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	0.15	0.20	0.20	0.20																																
When nominal capacitance is over 1000 μF tan δ shall be added 0.02 to the listed value with increase of every 1000 μF																																														
Temperature Stability (120Hz)	Rated voltage (V)										6.3	10	16	25	35	50	63	100																												
	Impedance Ratio	Z-25°C / Z+20°C		4		3		2																																						
		Z-40°C / Z+20°C		8		6		4		3																																				
	Rated voltage (V)										160~250				315~400																															
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Load Life (105°C)	Time		2000 hours (ØD ≤ 8, 1000 hours)																																											
	Leakage current		Not more than the specified value.																																											
	Capacitance Change		Within ±20% of the initial value.																																											
	Dissipation Factor		Not more than 200% of the specified value.																																											
Shelf Life (105°C)	1000 hours, No voltage applied. After test: U <sub>R</sub> to be applied for 30 minutes, 24 to 48 hours before measurement.																																													

## ◆ Dimensions

mm



## ◆ Multiplier for ripple current

### Frequency coefficient

Rated Voltage(V)	Freq(Hz) Cap (μF)	50	120	1K	10K	100K
		6.3~100				
	0.1~4.7	--	0.4	0.7	0.8	1.0
	10~47	--	0.5	0.8	0.9	1.0
	100~220	--	0.7	0.9	0.9	1.0
	330~1000	--	0.8	0.9	1.0	1.0
	2200~15000	--	0.9	1.0	1.0	1.0
160~400	0.47~220	0.8	1.0	1.3	1.4	1.6

### Temperature coefficient

Temperature (°C)	+70	+85	+105
Rated Voltage (V)			
6.3~100	2.0	1.7	1.0
160~400	1.8	1.4	1.0

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◆ STANDARD RATINGS Ripple Current: 105°C, 120H

WV Cap (μF)	10			16			25		
	Size	Impedance	Ripple	Size	Impedance	Ripple	Size	Impedance	Ripple
	ØDxL (mm)	Ω	mArms	ØDxL (mm)	Ω	mArms	ØDxL (mm)	Ω	mArms
4.7	--	--	--	--	--	--	5x11	3.0	85
10	--	--	--	5x11	2.5	92	5x11	2.5	92
22	5x11	2.5	92	5x11	1.9	105	5x11	1.9	105
33	5x11	1.9	105	5x11	1.5	120	5x11	1.5	120
47	5x11	1.5	120	5x11	1.2	130	5x11	1.2	130
100	5x11	1.2	130	5x11	0.58	220	6.3x11	0.58	220
220	6.3x11	0.58	220	6.3x11	0.47	290	8x11.5	0.39	315
330	6.3x11	0.47	265	8x11.5	0.39	315	8x14	0.23	500
470	8x11.5	0.39	315	10x12	0.23	500	10x12	0.18	615
1000	8x14	0.18	615	10x20	0.12	825	10x20	0.090	1050
2200	10x20	0.090	1050	10x20	0.068	1300	12x25	0.056	1740
3300	12x20	0.068	1300	16x25	0.056	1740	16x31.5	0.045	2110
4700	12.5x25	0.056	1740	16x25	0.045	2110	18x35.5	0.036	2580
6800	16x31.5	0.045	2110	18x35.5	0.036	2580	--	--	--
10000	18x35.5	0.036	2580	--	--	--	--	--	--
15000	--	--	--	--	--	--	--	--	--

WV Cap (μF)	35			50			63			100		
	Size	Impedance	Ripple	Size	Impedance	Ripple	Size	Impedance	Ripple	Size	Impedance	Ripple
	ØDxL (mm)	Ω	mArms	ØDxL (mm)	Ω	mArms	ØDxL (mm)	Ω	mArms	ØDxL (mm)	Ω	mArms
0.1	--	--	--	5x11	18.0	10	--	--	--	--	--	--
0.22	--	--	--	5x11	13.0	15	--	--	--	--	--	--
0.33	--	--	--	5x11	10.0	18	--	--	--	--	--	--
0.47	--	--	--	5x11	7.0	23	--	--	--	5x11	13.0	30
1	--	--	--	5x11	4.9	35	--	--	--	5x11	11.0	45
2.2	--	--	--	5x11	4.2	53	--	--	--	5x11	9.2	60
3.3	--	--	--	5x11	3.9	65	--	--	--	5x11	7.2	67
4.7	5x11	2.5	92	5x11	3.6	82	5x11	5.8	74	5x11	6.3	75
10	5x11	1.9	105	5x11	2.7	100	5x11	3.6	95	6.3x11	3.3	110
22	5x11	1.5	120	5x11	1.9	125	6.3x11	2.1	130	6.3x11	1.4	165
33	5x11	1.5	130	6.3x11	1.1	195	6.3x11	1.7	160	8x12	0.94	305
47	6.3x11	0.58	220	6.3x11	0.90	245	8x11.5	1.2	305	10x16	0.68	320
100	8x11.5	0.39	315	8x11.5	0.50	385	10x12.5	0.65	395	10x20	0.28	585
220	8x12	0.23	500	10x16	0.27	505	10x17	0.32	505	16x25	0.16	1120
330	10x16	0.18	615	10x20	0.18	675	12.5x20	0.22	660	16x25	0.13	1290
470	10x17	0.12	825	12.5x20	0.12	895	12.5x25	0.16	850	16x31.5	0.11	1350
1000	12.5x20	0.068	1300	16x25	0.076	1495	16x31.5	0.098	1430	--	--	--
2200	16x25	0.045	2110	18x35.5	0.050	2190	--	--	--	--	--	--
3300	18x35.5	0.036	2580	--	--	--	--	--	--	--	--	--

Note: Specification are subject to change without notice. For more detail and update, please visit our website.