

## TR series

**+105°C, High Ripple Current(高纹波), Ultra Low Impedance(极低阻抗品)**

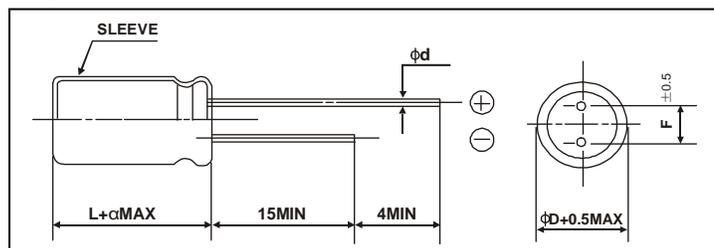
### ◆ FEATURES

- Low impedance at 100kHz
- Enabled high ripple current by a reduction of ESR at high frequency range
- Load life: 105°C 2000 hours

### ◆ SPECIFICATIONS

Items	Characteristics												
Category Temperature Range	-40°C ~ +105°C												
Rated Voltage Range	6.3~16V.DC												
Capacitance Tolerance	±20%(120Hz, +20°C)												
Leakage Current(MAX)	$I=0.03CV$ (after 2 minutes) $I$ =Leakage Current( $\mu$ A) $C$ =Nominal Capacitance( $\mu$ F) $V$ =Rated Voltage(V)												
Dissipation Factor(MAX) Tan $\delta$	<table border="1"> <thead> <tr> <th>Rated Voltage(V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th rowspan="2">20°C, 120Hz</th> </tr> </thead> <tbody> <tr> <td>Tan<math>\delta</math></td> <td>0.22</td> <td>0.19</td> <td>0.16</td> </tr> </tbody> </table> <p>When nominal capacitance is over 1000<math>\mu</math>F, tan<math>\delta</math> shall be added 0.02 to the listed value with increase of every 1000<math>\mu</math>F</p>	Rated Voltage(V)	6.3	10	16	20°C, 120Hz	Tan $\delta$	0.22	0.19	0.16			
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Load Life	After applying rated voltage with max ripple current for 2000hrs at 105°C, the capacitors shall meet the following requirements <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±25% of the initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value</td> </tr> </tbody> </table>	Capacitance Change	Within ±25% of the initial value	Dissipation Factor	Not more than 200% of the specified value	Leakage Current	Not more than the specified value						
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Other	JISC-5141    EIAJ RC-2372												

### ◆ CASE SIZE TABLE



φD	8	10	13
F	3.5	5.0	
φd	0.5	0.6	
α	$L \leq 16: \alpha = 1.5$		$L \geq 20: \alpha = 2.0$

### ◆ RIPPLE CURRENT MULTIPLIER

Frequency(Hz)	120	1k	10k	100k
Factor	0.50	0.80	0.90	1.00

## ◆ STANDARD RATINGS

size:ΦD×L(mm)

Cap(μF)	Code	6.3V(0J)			10V(1A)			16V(1C)		
		Size	Ripple Current	Impedance	Size	Ripple Current	Impedance	Size	Ripple Current	Impedance
470	477				8×12	960	56	8×12	1036	43
680	687				8×12	1036	43	8×16	1355	34
								10×13	1400	31
820	827	8×12	1036	43	8×14	1210	38	10×16	1605	28
1000	108	8×12	1190	38	8×16	1355	34	8×20	1700	25
					10×13	1400	31	10×16	1818	23
1200	128	8×16	1355	34	10×16	1520	29	10×20	2145	20
1500	158	8×20	1540	28	8×20	1700	25	10×20	2318	16
		10×13	1400	31	10×16	1818	23			
1800	188	8×25	1960	21	10×20	2318	16	10×25	2564	14
		10×16	1818	23						
2200	228	10×20	2318	15	10×25	2545	14	10×25	2690	14
								13×25	2980	13
3300	338	10×25	2364	14	10×30	2755	13			
4700	478	10×30	2755	13						

Maximum Allowable Ripple Current(mA rms) at 105°C 100KHz

Maximum Impedance(mΩ) at 20°C 100KHZ