

## FEATURES

- TRS 5 (Size code 5 = low profile).
- Compact size with low impedance at high frequency.
- Long life +105°C (2000 hours for Ø6.3mm, 3000 hours for Ø8mm and 10mm, 5000 hours for Ø ≥ 13mm).
- Solvent resistant.

## PART NUMBERING

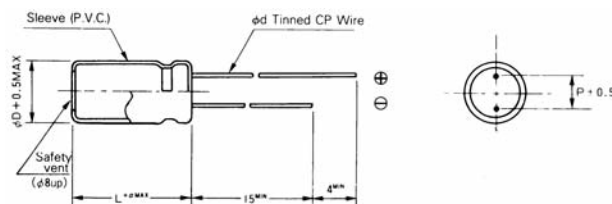
Part Number Example: TRS-050/100M5X11F							
TRS	-	050	/	100	M	5X11	F
Type		Rated DC Voltage		Capacitance Code (µF)*	Tolerance Code	Size	RoHs Compliant

\* Capacitance Code: First two digits represent significant figures, third digit represents multiplier (number of zeros).

## SPECIFICATIONS

Performance Characteristics								
Operating Temperature Range	-55°C ~ +105°C.							
Temperature Characteristics (120Hz)	Impedance Ratio							
	Rated Voltage (WVDC)	6.3	10	16	25	35	50	63
	Z (-55°C) / Z (+20°C)	4	4	3	3	3	2	2
Voltage Range	6.3VDC ~ 63VDC.							
Capacitance Range	0.47µF ~ 10000µF.							
Capacitance Tolerance (20°C, 120Hz)	±20%.							
Maximum Dissipation Factor (20°C, 120Hz)	Rated Voltage (WVDC)	6.3	10	16	25	35	50	63
	DF %	24	20	16	14	12	10	9
Maximum Leakage Current (after 1 minute)	I = 0.01CV or 2µA, whichever is greater.							
Applicable Standards	Characteristics of JIS C-5141.							
Load Life Test (105°C)	After 5000 Hrs for 10mm dia. application of rated voltage, capacitors meet the following characteristics (3kHrs for 8mm diam & 2KHrs for 5 & 6.3mm diam)							
	Capacitance Change	Within ±20% of initial value.						
	DF	200% or less of initial specified value.						
	Leakage Current	Initial specified value or less.						
Shelf Life (105°C)	After leaving capacitors under no load for 1000 hours and applying voltage according to JIS C-5102 4-3, they meet the specified value for load life characteristics listed above.							

## DIMENSIONS



## DIMENSIONS (UNIT: mm)

D	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
dØ	0.5		0.6			0.8	

\*: dØ = 0.8 for 12.5Ø at L > 25.

α	(L < 20) 1.5 (L ≥ 20) 2.0
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## ALLOWABLE RIPPLE CURRENT VS. AMBIENT TEMPERATURE

Ambient Temperature (°C)	~ +45	-65	-85	-105
Compensation Coefficiency	2.4	2.2	1.7	1

Frequency coefficient of allowable ripple current (10kHz ~ 200kHz = 1).

CASE SIZE OF STANDARD PRODUCTS (DØXL (mm))

Capacity		6.3vdc (surge 8vdc)			10vdc (surge 13vdc)			16vdc (surge 20vdc)		
(µf)	Code	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
10	100							5x11	37	4.00
15	150							5x11	60	3.52
22	220				5x11	56	2.60	5x11	70	2.00
27	270				5x11	57	2.40	5x11	110	1.60
33	330				5x11	58	2.20	5x11	130	1.26
39	390				5x11	95	1.85	5x11	150	0.87
47	470				5x11	120	1.20	5x11	190	0.52
56	560				5x11	130	1.05	5x11	205	0.49
68	680				5x11	145	0.89	5x11	210	0.45
82	820				5x11	170	0.75	6.3x11	250	0.37
100	101	5x11	185	0.95	5x11	205	0.48	6.3x11	260	0.31
120	121	5x11	190	0.90	5x11	230	0.44	6.3x11	290	0.29
150	151	6.3x11	210	0.75	6.3x11	270	0.37	6.3x11	300	0.26
180	181	6.3x11	240	0.70	6.3x11	290	0.35	6.3x15	370	0.23
								8x11.5	368	0.24
220	221	6.3x11	300	0.55	6.3x11	330	0.28	6.3x15	470	0.20
								8x11.5	455	0.21
270	271	6.3x11	310	0.49	6.3x15	370	0.25	8x11.5	490	0.17
					8x11.5	390	0.21			
330	331	6.3x15	320	0.34	6.3x15	445	0.15	8x11.5	550	0.12
		8x11.5	390	0.30	8x11.5	430	0.16			
470	471	6.3x15	435	0.25	8x11.5	555	0.115	8x16	745	0.092
		8x11.5	430	0.22				10x12.5	722	0.095
560	561	8x11.5	480	0.20	8x11.5	620	0.095	10x12.5	780	0.082
680	681	8x11.5	510	0.18	8x16	630	0.090	10x16	920	0.074
820	821	8x16	620	0.14	8x20	870	0.084	10x16	1020	0.067
1000	102	8x16	710	0.10	8x20	1040	0.070	10x20	1180	0.050
		10x12.5	625	0.12	10x16	1010	0.072			
1200	122	10x16	810	0.095	10x16	1130	0.062	10x25	1370	0.047
1500	152	10x16	1050	0.074	10x20	1270	0.056	10x25	1470	0.041
1800	182	10x20	1200	0.065	10x25	1430	0.045	13x20	1630	0.038
					13x20	1450	0.048			
2200	222	10x20	1400	0.060	13x20	1690	0.040	13x20	1800	0.035
		10x25	1300	0.057				13x25	1950	0.033
2700	272	10x25	1400	0.055	13x20	1800	0.033	13x25	2050	0.031
		13x20	1410	0.052						
3300	332	13x20	1500	0.048	13x25	1980	0.029	13x30	2410	0.025
								16x25	2340	0.028
4700	472	13x25	1950	0.032	13x30	2300	0.025	16x31.5	2650	0.022
		13x30	1800	0.025	16x25	2100	0.029	18x25	2570	0.024
6800	682	13x30	2020	0.024	16x31.5	2240	0.023	18x31.5	2700	0.020
		16x25	2230	0.021						
8200	822	16x31.5	2530	0.020	16x35.5	2580	0.019	18x35.5	2830	0.018
10000	103	16x35.5	2740	0.019	18x31.5	2770	0.017	18x41	3300	0.015

For capacitance values or sizes not listed above, consult Factory or Area Representative.

CASE SIZE OF STANDARD PRODUCTS (DØXL (mm))

Capacity		25vdc (surge 32vdc)			35vdc (surge 44vdc)			50vdc (surge 63vdc)			63vdc (surge 79vdc)		
(µf)	Code	Size	Ripple	Imp	Size	Ripple	Imp	Size	Ripple	Imp	Size	Ripple	Imp
0.47	R47							5X11	15	5.00	5X11	16	5.00
1	1R0							5X11	25	3.95	5X11	27	3.95
2.2	2R2							5X11	33	2.60	5X11	38	2.60
3.3	3R3							5X11	45	2.00	5X11	48	2.00
4.7	4R7							5X11	58	1.89	5X11	62	1.89
5.6	5R6							5X11	80	1.85	5X11	85	1.82
6.8	6R8							5X11	85	1.77	5X11	90	1.75
8.2	8R2							5X11	90	1.72	5X11	100	1.69
10	100	5X11	56	2.10	5X11	70	1.90	5X11	100	1.70	5X11	105	1.65
15	150	5X11	97	1.95	5X11	115	1.72	5X11	110	1.53	5X11	110	1.47
22	220	5X11	120	1.80	5X11	130	1.36	6.3X11	135	1.00	6.3X11	170	0.80
27	270	5X11	130	1.56	5X11	140	1.20	6.3X11	160	0.93	6.3X11	190	0.75
33	330	5X11	150	1.20	5X11	175	0.95	6.3X11	230	0.74	8X11.5	245	0.61
39	390	5X11	170	0.82	6.3X11	200	0.74	6.3X11	240	0.65	8X11.5	270	0.58
47	470	5X11	220	0.50	6.3X11	250	0.44	8X11.5	285	0.50	8X11.5	290	0.56
56	560	5X11	245	0.44	6.3X11	270	0.40	8X11.5	300	0.39	8X11.5	320	0.38
68	680	6.3X11	270	0.39	6.3X11	300	0.35	8X11.5	340	0.30	8X16	480	0.21
82	820	6.3X11	285	0.33	6.3X15	350	0.29	8X11.5	400	0.25	8X16	510	0.24
100	101	6.3X11	300	0.28	6.3X15	390	0.18	8X16	475	0.18	10X16	590	0.24
					8X11.5	380	0.19						
120	121	6.3X11	350	0.22	8X11.5	460	0.17	8X16	520	0.17	10X16	660	0.16
150	151	6.3X15	420	0.20	8X16	580	0.15	10X16	675	0.13	10X20	790	0.11
180	181	6.3X15	440	0.18	8X16	630	0.13	10X16	760	0.095	10X20	850	0.095
		8X11.5	435	0.19									
220	221	8X11.5	550	0.125	8X16	740	0.095	10X20	900	0.085	10X25	1020	0.082
					10X12.5	720	0.098				13X20	1054	0.080
270	271	8X11.5	620	0.095	8X20	830	0.086	10X20	950	0.075	13X20	1100	0.072
					10X16	840	0.088						
330	331	8X16	740	0.085	10X16	995	0.065	10X25	1050	0.068	10X30	1200	0.064
		10X12.5	720	0.082							13X25	1160	0.067
470	471	10X16	1040	0.065	10X20	1150	0.050	13X20	1490	0.048	16X25	1750	0.048
560	561	10X16	1070	0.061	10X25	1310	0.048	13X20	1550	0.045	16X25	1830	0.044
680	681	10X20	1280	0.052	13X20	1440	0.044	13X25	1840	0.041	16X31.5	2070	0.040
820	821	10X25	1460	0.043	13X20	1600	0.038	13X30	2060	0.036	16X31.5	2100	0.035
1000	102	10X25	1580	0.038	13X30	1950	0.036	13X40	2200	0.033	16X35.5	2450	0.031
		13X25	1530	0.039				16X31.5	2130	0.030			
1200	122	13X25	1800	0.036	16X25	2200	0.029	16X31.5	2520	0.027	18X31.5	2500	0.026
1500	152	13X25	2020	0.032	16X31.5	2520	0.027	16X35.5	2700	0.026	18X35.5	2700	0.025
1800	182	13X30	2300	0.027	16X31.5	2560	0.026	18X31.5	2800	0.025	18X41	2900	0.024
2200	222	13X30	2480	0.025	16X31.5	2650	0.025	18X35.5	2900	0.024	18X41	2990	0.023
		16X25	2405	0.027	18X25	2570	0.026						
2700	272	16X31.5	2670	0.024	18X31.5	2660	0.023	18X41	2970	0.021			
3300	332	16X31.5	3050	0.020	18X35.5	3000	0.020						
		18X25	2960	0.022									
4700	472	16X40	3490	0.022	18X41	3300	0.019						
		18X35.5	3600	0.021									
6800	682	18X41	3520	0.017									

For capacitance values or sizes not listed above, consult Factory or Area Representative.