TMCP Series (0805 Size Tantalum Chip Capacitors)
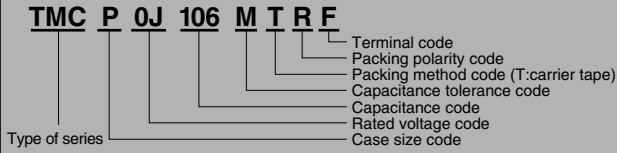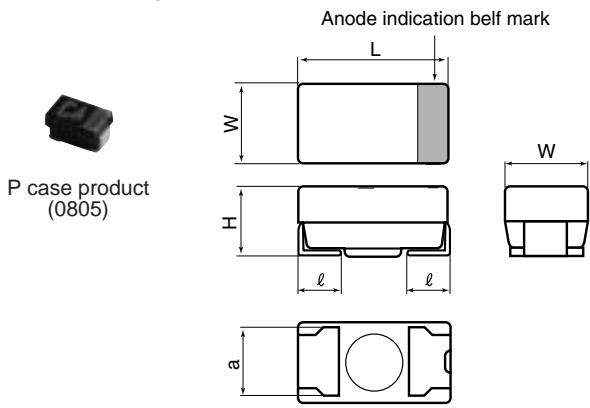
Features
- Rendered even smaller-sized thanks to the accumulated technological knowhow (reduced to about 1/3 the cubic volume of the TMCS type).
- Suitable for high-density packaging essential to Audio Visual and other equipment downsizing.

Product symbol : (Example) TMC Series P case 6.3V 10μF ±20%

TMC P 0J 106 M T R F

- Terminal code
- Packing polarity code
- Packing method code (T:carrier tape)
- Capacitance tolerance code
- Capacitance code
- Rated voltage code
- Case size code
- Type of series

Outline of drawings and dimensions

Anode indication belf mark

P case product (0805)

Dimensions   (Unit : mm)

Case code	Case size				
	$L^{\pm0.2}$	$W^{\pm0.2}$	H^{MAX}	$\ell^{\pm0.2}$	$a^{\pm0.1}$
P	2.0	1.25	1.2	0.5	0.9

Standard value and case size

Capacitance		Rated voltage (V.DC)					
		2.5	4	6.3	10	16	20
μF	Code	0E	0G	0J	1A	1C	1D
0.10	104						P
0.15	154						P
0.22	224						P
0.33	334						P
0.47	474						P
0.68	684						P
1.0	105					P	P
1.5	155				P		
2.2	225				P		
3.3	335				P		
4.7	475			P	P		
6.8	685			P			
10	106			P	P		
15	156	P	P	P			
22	226	P	P	P			
33	336	P	P				

For ratings not covered the table, consult Hitachi AIC.

Product specifications

Product specifications	TMCP	Test conditions JIS C5101-3-1998
Operating temperature range	−55°C ~ +125°C	
Rated voltage	DC2.5 ~ 20V	85°C
Surge voltage	DC3.2 ~ 26V	85°C
Derated voltage	DC1.6 ~ 13V	125°C
Capacitance	0.1 ~ 33μF	
Capacitance tolerance	±10% or 20%	Paragraph 7.8, 120 Hz
Leakage current	Refer to table standard product table	Paragraph 7.7, in 5 minutes after the rated voltage is applied.
tanδ	Refer to table standard product table	Paragraph 7.9, 120Hz
Surge withstanding voltage	△C/C ±10% or less tanδ Specified initial value or less LC Specified initial value or less	Paragraph 7.14

Temperature characteristics

	Specified initial value	−55	85	125
△C/C	–	-12 ~ 0%	0 ~ +10%	0 ~ +12%
tanδ	0.06	0.10	0.08	0.10
Value shown table or less	0.08	0.12	0.10	0.12
	0.10	0.14	0.12	0.14
	0.12	0.16	0.14	0.16
	0.20	0.24	0.22	0.24
	0.30	0.60	0.30	0.40
LC	0.01CV or 0.5μA or less	–	0.1CV or 5μA or less	0.125CV or 6.25μA or less

Paragraph 7.12

Solder heat resistance	△C/C ±5% or less tanδ Specified initial value or less LC Specified initial value or less	Solder Dip 260±5℃ 10±1 sec. Reflow 260℃ 10±1 sec.
Moisture resistance no load	△C/C ±10% or less tanδ Specified initial value or less LC Specified initial value or less	Paragraph 9.5, 40°C 90 ~ 95%RH,500hrs
High-temperature load	△C/C ±10% or less tanδ Specified initial value or less LC 125% Specified initial value or less	Paragraph 9.10, 85°C The rated voltage is applied for 2000 hours.
Thermal shock	△C/C ±10% or less tanδ Specified initial value or less LC Specified initial value or less	Leave at -55°C, normal temperature, 125°C, and normal temperature for 30 min., 3 min., 30 min., and 3 min. Repeat this operation 5 times running.
Moisture resistance load	△C/C ±10% or less tanδ 150% Specified initial value or less LC 200% Specified initial value or less	40°C, humidity 90 to 95%RH The rated voltage is applied for 500 hours.
Failure rate	1% / 1000hrs	85°C. The rated voltage is applied (through a protective resistor of 1 ω/V).

TANTALUM ELECTROLYTIC CAPACITORS

Standard product tables - TMCP series

Standard product table - TMCP series

Rated voltage V. DC	Capacitance μF	tanδ	Leakage current μA	Case code	Product name
2.5	15	0.08	0.5	P	TMCP0E156
	22	0.10	0.6	P	TMCP0E226
	33	0.20	0.8	P	TMCP0E336
4	15	0.08	0.6	P	TMCP0G156
	22	0.10	0.9	P	TMCP0G226
	33	0.30	13.2	P	TMCP0G336
6.3	4.7	0.08	0.5	P	TMCP0J475
	6.8	0.08	0.5	P	TMCP0J685
	10	0.08	0.7	P	TMCP0J106
	15	0.12	1.9	P	TMCP0J156
	22	0.30	13.9	P	TMCP0J226
10	1.5	0.08	0.5	P	TMCP1A335
	2.2	0.08	0.5	P	TMCP1A475
	3.3	0.08	0.5	P	TMCP1A475
	4.7	0.08	0.5	P	TMCP1A475
	10	0.20	10.0	P	TMCP1A106
16	1.0	0.06	0.5	P	TMCP1C105
20	0.1	0.06	0.5	P	TMCP1D104
	0.15	0.06	0.5	P	TMCP1D154
	0.22	0.06	0.5	P	TMCP1D224
	0.33	0.06	0.5	P	TMCP1D334
	0.47	0.06	0.5	P	TMCP1D474
	0.68	0.06	0.5	P	TMCP1D684
	1	0.08	0.5	P	TMCP1D105

Marking indication

TMCP＊△△□□□○○○	TMCP＊△△□□□○○○F
(Example 1) 6.3V1μF — A6 — Anode indication belt mark / Simplified code of nominal capacitance (A6 : 1μF)	(Example 1) 6.3V1μF — A6 — Anode indication belt mark / Simplified code of nominal capacitance (A6 : 1μF)
(Example 2) 10V1μF — AA — Anode indication belt mark / Simplified code of nominal capacitance (A : 1μF) / Simplified code of rated voltage (A : 10V)	(Example 2) 10V1μF — AA — Anode indication belt mark / Simplified code of nominal capacitance (A : 1μF) / Simplified code of rated voltage (A : 10V)

When the capacitance code is the same, use the voltage code for the higher rated voltage.

When indicating both rated voltage and nominal capacitance by code, omit the multiplier of the capacitance code.

Hitachi AIC Inc.