



FEATURES:

- Low profile
- Excellent frequency characteristics and impedance
- Voltage range: 4V to 10V
- Capacitance range: 1uF to 100uF
- Temperature Range: -55°C to +105°C



PART NUMBER STRUCTURE

TA Tantalum Capacitor	6R3 Rated Voltage 4R0 = 4.0V 6R3 = 6.3V 010 = 10V	MPU Series MPU	105 Capacitance (pico - Farads) 1st two figures are significant. Third is the number of zeros to follow. 105 = 1.0µF 226 = 22µF 107 = 100µF	M Tolerance M = ±20%	U Case Code U M S	R Packaging R = Tape and Reel	1500 ESR EXAMPLE: 1500 = 1500m
---------------------------------	--	-----------------------------	--	-----------------------------------	--------------------------------------	--	---

Example P/N: TA6R3MPU105MUR1500

MARKING CODE

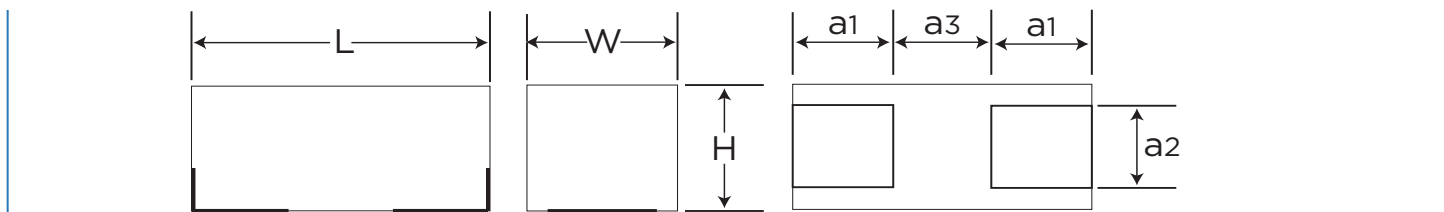
U CASE

M CASE

S CASE

VOLTAGE CODE	RATED VOLTAGE
G	4V
J	6.3V
A	10V

DIMENSIONS



Unit: mm (inch)

CASE CODE	SIZE	L	W	H	a1	a2	a3
U	0402	1.1 ± 0.05 (0.043 ± 0.002)	0.60 ± 0.05 (0.024 ± 0.002)	0.55 ± 0.05 (0.022 ± 0.002)	0.30 ± 0.05 (0.012 ± 0.002)	0.35 ± 0.05 (0.014 ± 0.002)	0.50 ± 0.05 (0.020 ± 0.002)
M	0603	1.6 ± 0.2 (0.063 ± 0.008)	0.85 ± 0.2 (0.033 ± 0.008)	0.80 ± 0.1 (0.031 ± 0.004)	0.5 ± 0.1 (0.020 ± 0.004)	0.65 ± 0.1 (0.026 ± 0.004)	0.60 ± 0.10 (0.024 ± 0.004)
S	0805	2.0 ± 0.2 (0.079 ± 0.008)	1.25 ± 0.2 (0.049 ± 0.008)	0.80 ± 0.1 (0.031 ± 0.004)	0.5 ± 0.1 (0.020 ± 0.004)	0.90 ± 0.1 (0.035 ± 0.004)	1.00 ± 0.1 (0.039 ± 0.004)

VOLTAGE RATINGS & CASE CODES

RATED VOLTAGE	4V	6.3V	10V	CAPACITANCE CODE
CAPACITANCE (uF)				
1.0		U		A
2.2			M	J
4.7		U	M	S
10		M	M	a
22		M/S	M/S	J
33		M/S	S	n
47		M/S	S	s
68		S		w
100	S			A

POLYMER VOLTAGE DE-RATING GUIDELINES:

VOLTAGE	DE-RATING (%)
<10V	10%
> 10V	20%

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (uF)	CASE CODE	SIZE	MAX. DCL @ +25°C (uA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (MΩ)	100KHZ RMS CURRENT (mA) @ +45°C	TOLERANCE (%)	VENKEL PART NUMBER
4	100	S	0805	80	10	200	474	±20%	TA4R0MPU107MSR0200*
6.3	1	U	0402	0.60	6	1500	100	±20%	TA6R3MPU105MUR1500
6.3	4.7	U	0402	20	10	1500	100	±20%	TA6R3MPU475MUR1500
6.3	10	M	0603	10	8	500	224	±20%	TA6R3MPU106MMR0500
6.3	10	M	0603	10	8	300	289	±20%	TA6R3MPU106MMR0300
6.3	10	M	0603	10	8	200	354	±20%	TA6R3MPU106MMR0200
6.3	22	M	0603	10	8	500	224	±20%	TA6R3MPU226MMR0500
6.3	22	M	0603	10	8	300	289	±20%	TA6R3MPU226MMR0300
6.3	22	M	0603	10	8	200	354	±20%	TA6R3MPU226MMR0200
6.3	22	S	0805	13.9	10	200	474	±20%	TA6R3MPU226MSR0200
6.3	22	S	0805	13.9	10	150	548	±20%	TA6R3MPU226MSR0150
6.3	33	M	0603	41.6	10	500	224	±20%	TA6R3MPU336MMR0500*
6.3	33	S	0805	20.8	10	200	474	±20%	TA6R3MPU336MSR0200
6.3	47	M	0603	59.2	10	500	224	±20%	TA6R3MPU476MMR0500**
6.3	47	M	0603	59.2	10	300	289	±20%	TA6R3MPU476MMR0300**
6.3	47	S	0805	29.6	10	200	474	±20%	TA6R3MPU476MSR0200
6.3	47	S	0805	29.6	10	150	548	±20%	TA6R3MPU476MSR0150
6.3	68	S	0805	86	10	200	474	±20%	TA6R3MPU686MSR0200*
10	2.2	M	0603	10	6	500	224	±20%	TA010MPU225MMR0500
10	4.7	M	0603	10	6	500	224	±20%	TA010MPU475MMR0500
10	10	M	0603	10	15	500	224	±20%	TA010MPU106MMR0500
10	10	M	0603	10	15	300	289	±20%	TA010MPU106MMR0300
10	22	M	0603	44	10	300	289	±20%	TA010MPU226MMR0300**
10	22	S	0805	22	10	200	474	±20%	TA010MPU226MSR0200
10	33	S	0805	99	10	200	474	±20%	TA010MPU336MSR0200*
10	47	S	0805	94	10	200	474	±20%	TA010MPU476MSR0200*

Leakage Current: After 5 minute's application of rated voltage, leakage current at 20°C.

Standard Rated temperature is 85°C

* Rated temperature 60°C

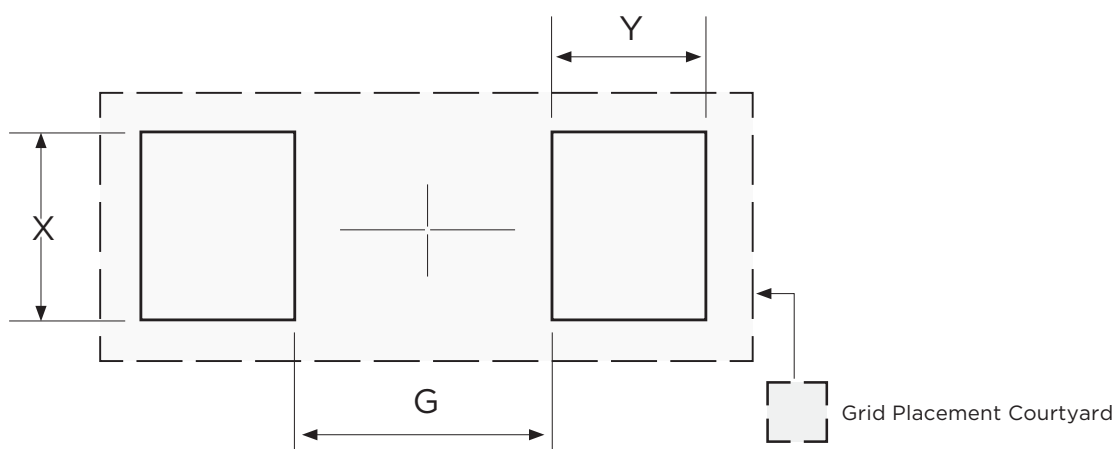
** Rated temperature 60°C and Height is 1.0mm MAX

RATED VOLTAGE, SURGE VOLTAGE & DERATED VOLTAGE

RATED VOLTAGE $\leq 60^{\circ}\text{C}$				RATED VOLTAGE $\leq 85^{\circ}\text{C}$		
	4V	6.3V	10V		6.3V	10V
60°C Surge Voltage	5.2V	8V	13V	85°C Surge Voltage	8V	13V
85°C Derated Voltage	2.8V	4.5V	7.2V	105°C Derated Voltage	5	8
105°C Derated Voltage	2V	3.3V	5V			

RECOMMENDED LAND PATTERN OR PAD LAYOUT

The diagram below provides the land pattern dimensions for the MPU Polymer Capacitor series. These recommendations represent best design practices based on customer use, feedback and known industry standards. This information is a guideline and variations will occur depending on board design, component density and process.



SIZE	G (mm)	X (mm)	Y (mm)
U (0402)	0.40 (0.0157)	0.35 (0.0138)	0.40 (0.0157)
M (0603)	0.60 (0.0236)	0.65 (0.0256)	0.70 (0.0276)
S (0805)	0.80 (0.0315)	0.90 (0.0354)	0.70 (0.0276)

NOTE: This pattern is a recommendation for pad design. No guarantee is implied by it.

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

ENVIRONMENT TEST CRITERIA

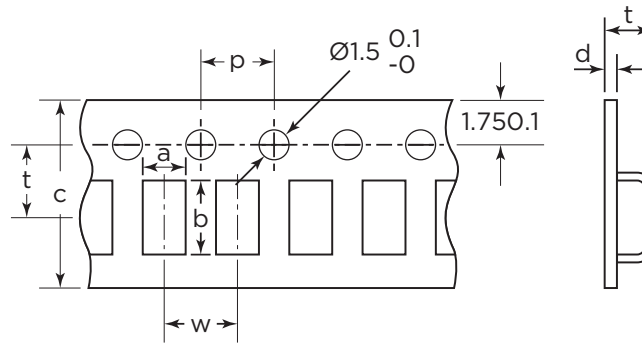
OPERATING TEMPERATURE RANGE	-55°C TO +105°C
TEST	CONDITION
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change: -20 to +30% Dissipation Factor: 200% or less of initial specified value Leakage Current: 300% or less of initial specified value
Temperature Cycles	-55°C / +125°C, 30 minutes each, 5 cycles Capacitance Change: ±20% Dissipation Factor: 200% or less of initial specified value Leakage Current: 400% or less of initial specified value
Resistance to Soldering Heat	5 seconds reflow at 260°C Capacitance Change: ±20% Dissipation Factor: 200% or less of initial specified value Leakage Current: 300% or less of initial specified value
Surge	After application of surge in series with a 1kΩ resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change: ±20% Dissipation Factor: 200% or less of initial specified value Leakage Current: 300% or less of initial specified value
Endurance	After 1000 hours' application of rated voltage in series with a 3Ω resistor at 85°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change: ±20% Dissipation Factor: 200% or less of initial specified value Leakage Current: 400% or less of initial specified value
Shear Test	After applying the pressure load of 5N for 10±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on a substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.
Terminal Strength	Keeping a capacitor surface-mounted on a substrate upside down and supporting the substrate at both of the opposite bottom points 45mm apart from the center of capacitor, the pressure strength is applied with a specified jig at the center of substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals.

TECHNICAL SPECIFICATIONS

Operating Temperature Range:	-55°C to +105°C
Rated Temperature:	+85°C
Capacitance Tolerance:	±20% @ 120Hz
Dissipation Factor:	Refer to part number data
ESR 100kHz:	Refer to part number data
Leakage Current:	Refer to part number data Provided that: After 5 minutes application of rated voltage, leakage current at 105°C 10 times or less than 20°C specified value.
Moisture Sensitivity Level (MSL)	3

TAPE & REEL SPECIFICATIONS

CARRIER TAPE

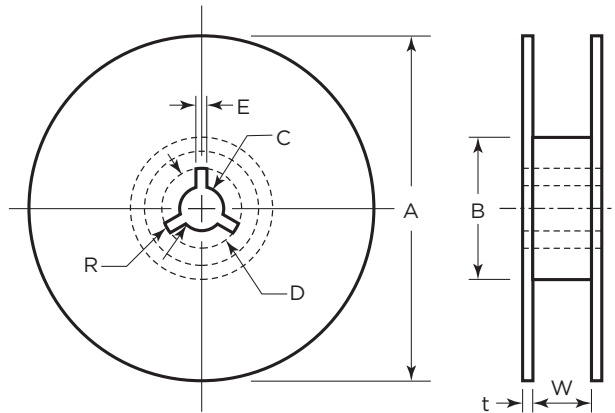


TAPE DIMENSIONS

Unit: mm

CASE SIZE	a	b	c	t	p	w	d
U	0.73±0.08	1.20±0.05	8.0±0.3	0.7 MAX	4.0±0.1	2.0±0.1	-
M	0.97±0.05	1.85±0.05	8.0±0.3	1.3 MAX	4.0±0.1	4.0±0.1	0.2±0.05
S	1.35±0.1	2.15±0.1	8.0±0.3	1.4 MAX	4.0±0.1	4.0±0.1	0.2 ±0.1

REEL



REEL DIMENSIONS

Unit: mm

CASE SIZE	A	B	C	D	E	W	T	R
U, M, S	180 +0 -3	50 MIN	13.0±0.2	21.0±0.8	2.0±0.5	9.0±0.3	1.2±0.5	1.0

QUANTITY PER REEL

CASE SIZE	REEL SIZE
	7"
U	10,000 pcs
M	4,000 pcs
S	4,000 pcs