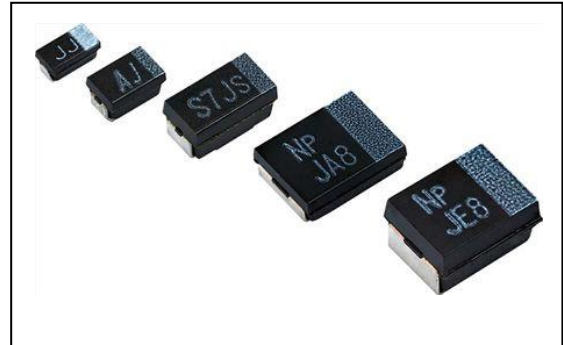


Polymer Tantalum Surface Mount Chip Capacitors, Molded Case, High Performance Type

FEATURES

- Ultra-low ESR
- Molded case available in 7 case codes
- Terminations:
cases J, P: 100 % tin
case A: 100 % tin or Ni / Pd / Au
cases T, B, V, D: Ni / Pd / Au
- Compatible with “high volume” automatic pick and place equipment • Qualified to EIA-717
- Moisture sensitivity level 3



APPLICATIONS

- Decoupling, smoothing, filtering
- Bulk energy storage in wireless cards
- Infrastructure equipment
- Storage and networking
- Computer motherboards
- Smartphones and tablets

PERFORMANCE / ELECTRICAL CHARACTERISTICS

Operating Temperature: -55 °C to +105 °C
 Capacitance Range: 3.3 μF to 680 μF
 Capacitance Tolerance: ± 20 %
 Voltage Rating: 2.5 V_{DC} to 50 V_{DC}

ORDERING INFORMATION

TP55 **B** **156** **M** **6R3** **C** **0500**
 TYPE CASE CODE CAPACITANCE CAPACITANCE TOLERANCE DC VOLTAGE RATING (AT +85 °C) TERMINATION / PACKAGING ESR

This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros

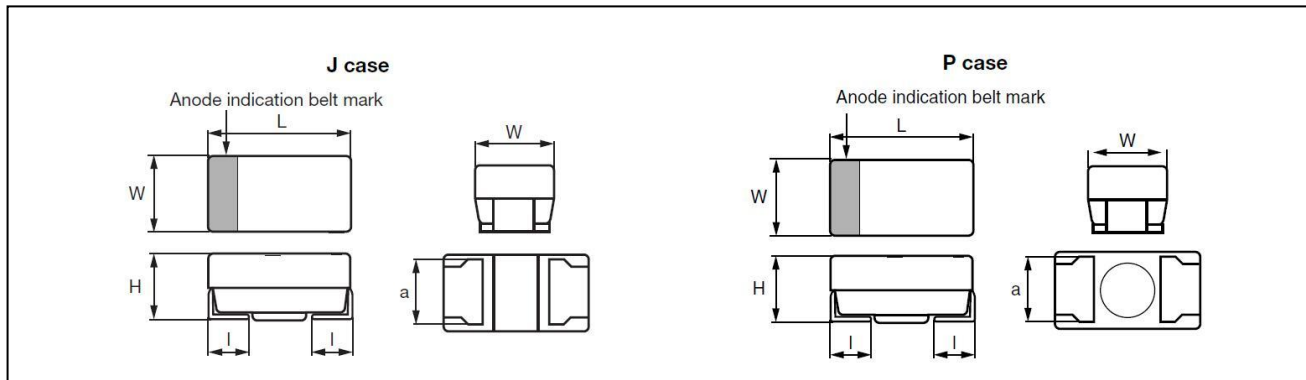
M = ±20 %

2R5 = 2.5 V
 004 = 4 V
 6R3 = 6.3 V
 010 = 10 V
 12R = 12.5 V
 016 = 16 V
 020 = 20 V
 025 = 25 V
 035 = 35 V
 050 = 50 V

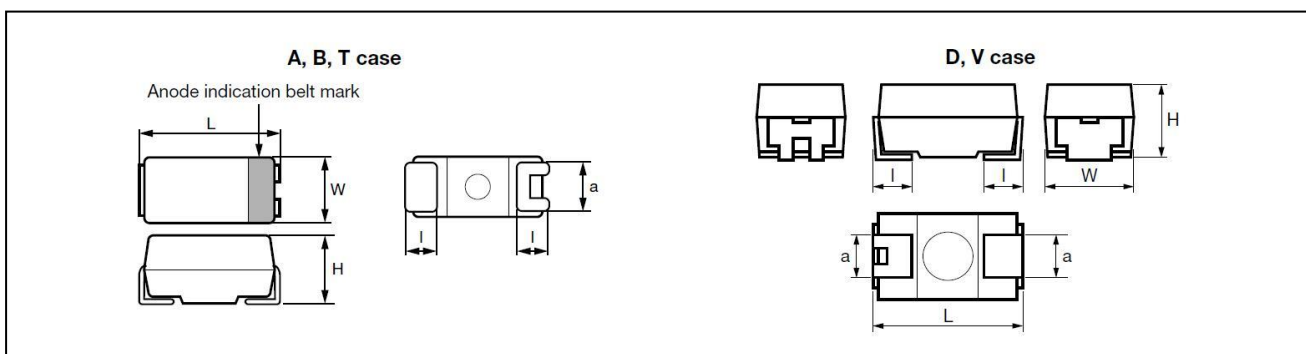
C = lead (Pb)-free solderable coating, 7" reel

Maximum 100 kHz ESR in mΩ

DIMENSIONS in millimeters



DIMENSIONS in millimeters



Unit : mm

Case code	EIA SIZE	L	W	H	l	a
J	1608-09	1.6±0.1	0.8±0.1	0.8±0.1	0.30±0.15	0.6±0.1
P	2012-12	2.0±0.2	1.25±0.2	1.2 max.	0.50±0.2	0.9±0.1
A	3216-18	3.2±0.2	1.6±0.2	1.6±0.2	0.70±0.3	1.2±0.2
T	3528-12	3.5±0.2	2.8±0.2	1.2 max.	0.80±0.3	2.2±0.2
B	3528-21	3.5±0.2	2.8±0.2	1.9±0.2	0.80±0.3	2.2±0.2
V	7343-20	7.3±0.2	4.3±0.3	1.9±0.1	1.30±0.3	2.4±0.2
D	7343-30	7.3±0.2	4.3±0.3	2.8±0.2	1.30±0.3	2.4±0.2

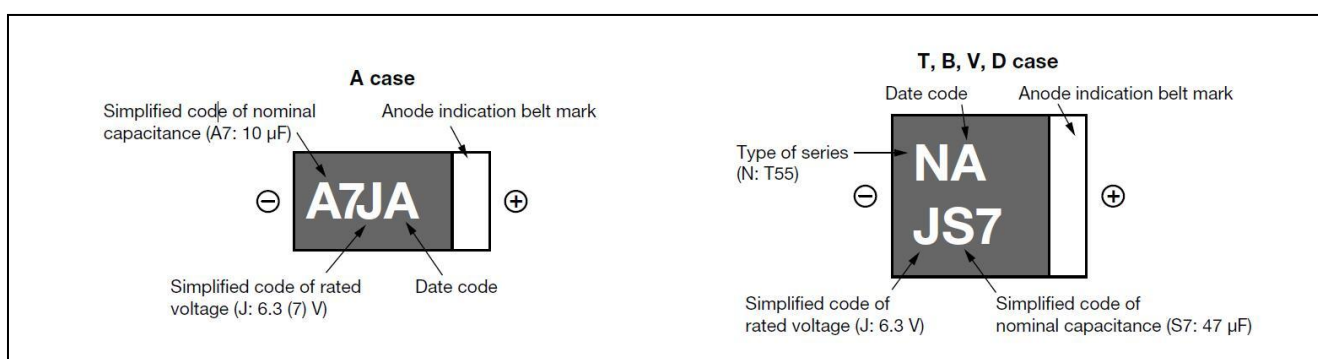
RATINGS AND CASE CODES

uF	2.5	4.0	6.3	7.0	10	16	20	25	35	50
3.3			J/P		J/P					
4.7			J/P/A		P/A					
6.8			P/A		A	B		B	B	
10		J/P/A	P/A		A	B		B		D
15		P/A	A		A	B	B	B		
22	A	A/B	A/T/B		A/T/B	B			D	
33	A	A/B	A/T/B		A/T/B	V		D	D	
47	A	A/B	A/T/B		B	V	V			

RATINGS AND CASE CODES

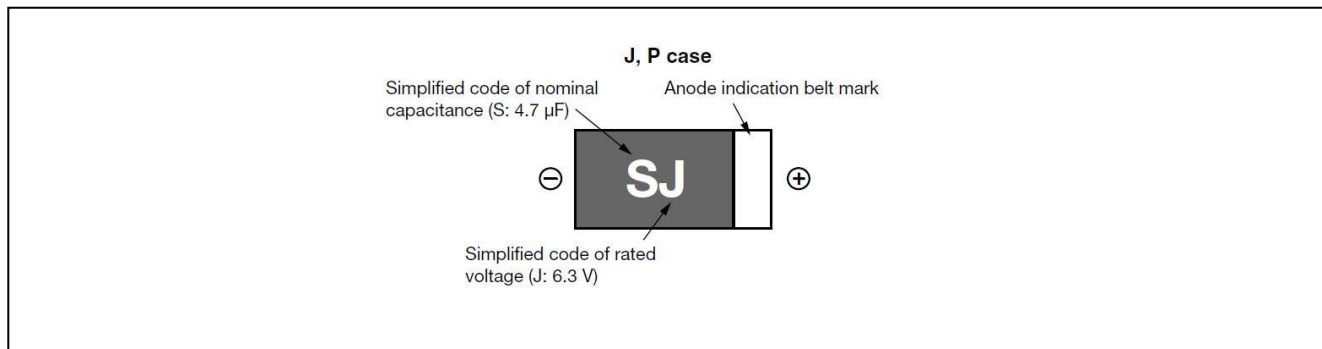
uF	2.5	4.0	6.3	7.0	10	16	20	25	35	50
68	A/B	A/T/B	T/B		V					
100	A/T/B	A/T/B	A/T/B/V	A	V/D	V	D	D		
150	B	B/V	B/V		V					
220	B/V	B/V/D	B/V/D		V/D					
330	B/V	V/D	V/D		D					
470	B/V/D	D	V/D							
680		D								

MARKING



VOLTAGE CODE		CAPACITANCE CODE	
V	CODE	CAP , uF	CODE
2.5	e	3.3	N6
4	G	4.7	S6
6.3(7)	J	6.8	W6
10	A	10	A7
12.5	B	15	E7
16	C	22	J7
20	D	33	N7
25	E	47	S7
35	V	68	W7
50	H	100	A8
		150	E8
		220	J8
		330	N8
		470	S8
		680	W8

MARKING



RATED VOLTAGE	CAPACITANCE	MARKING
4	10	AG
4	15	EG
6.3	3.3	NJ
6.3	4.7	SJ
6.3	6.8	WJ
6.3	10	AJ
10	3.3	NA
10	4.7	SA

DATE CODE

YEAR	MONTH											
	1	2	3	4	5	6	7	8	9	10	11	12
2013	A	B	C	D	E	F	G	H	J	K	L	M
2014	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	a	b	c	d	e	f	g	h	j	k	l	m
2016	n	p	q	r	s	t	u	v	w	x	y	z

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
2.5 V _{CC} AT +105°C							
22	A	TP55A226M2R5C0200	5.5	10	200	0.75	1000
22	A	TP55A226M2R5C0180	5.5	10	180	0.79	1000
33	A	TP55A336M2R5C0200	8.2	10	200	0.75	1000
33	A	TP55A336M2R5C0180	8.2	10	180	0.79	1000
47	A	TP55A476M2R5C0200	11.7	10	200	0.75	1000
47	A	TP55A476M2R5C0180	11.7	10	180	0.79	1000
68	A	TP55A686M2R5C0250	17.0	10	250	0.67	1000
68	A	TP55A686M2R5C0200	17.0	10	200	0.75	1000
68	B	TP55B686M2R5C0070	17.0	8	70	1.36	1000
100	A	TP55A107M2R5C0200	25.0	10	200	0.75	1000
100	A	TP55A107M2R5C0100	25.0	10	100	1.07	1000
100	T	TP55T107M2R5C0070	25.0	10	70	1.22	1000
100	B	TP55B107M2R5C0070	25.0	8	70	1.36	1000
100	B	TP55B107M2R5C0055	25.0	8	55	1.53	1000
150	B	TP55B157M2R5C0070	37.5	8	70	1.36	1000
150	B	TP55B157M2R5C0055	37.5	8	55	1.53	1000
220	B	TP55B227M2R5C0070	55.0	8	70	1.36	1000
220	B	TP55B227M2R5C0055	55.0	8	55	1.53	1000
220	B	TP55B227M2R5C0045	55.0	8	45	1.69	1000
220	B	TP55B227M2R5C0035	55.0	8	35	1.93	1000
220	B	TP55B227M2R5C0030	55.0	8	30	2.08	1000
220	B	TP55B227M2R5C0025	55.0	8	25	2.28	1000
220	V	TP55V227M2R5C0025	55.0	10	25	2.73	1000
220	V	TP55V227M2R5C0018	55.0	10	18	3.22	1000
220	V	TP55V227M2R5C0015	55.0	10	15	3.53	1000
330	B	TP55B337M2R5C0070	82.5	8	70	1.36	1000
330	B	TP55B337M2R5C0045	82.5	8	45	1.70	1000
330	B	TP55B337M2R5C0035	82.5	8	35	1.93	1000
330	B	TP55B337M2R5C0025	82.5	8	25	2.28	1000
330	V	TP55V337M2R5C0040	82.5	10	40	2.16	1000
330	V	TP55V337M2R5C0025	82.5	10	25	2.73	1000
330	V	TP55V337M2R5C0018	82.5	10	18	3.22	1000
330	V	TP55V337M2R5C0015	82.5	10	15	3.53	1000
470	B	TP55B477M2R5C0025	117.5	8	25	2.28	1000
470	V	TP55V477M2R5C0012	117.5	10	12	3.94	1000
470	D	TP55D477M2R5C0050	117.5	10	50	2.12	1000
470	D	TP55D477M2R5C0040	117.5	10	40	2.37	1000
470	D	TP55D477M2R5C0025	117.5	10	25	3.00	1000
470	D	TP55D477M2R5C0015	117.5	10	15	3.87	1000
470	D	TP55D477M2R5C0012	117.5	10	12	4.33	1000
4.0 V _{CC} AT +105°C							
10	J	TP55J106M004C0500	10.0	10	500	0.32	1000
10	P	TP55P106M004C0500	5.0	10	500	0.36	1000
10	P	TP55P106M004C0300	5.0	10	300	0.46	1000
10	P	TP55P106M004C0200	5.0	10	200	0.56	1000
10	A	TP55A106M004C0500	4.0	10	500	0.48	1000
10	A	TP55A106M004C0200	4.0	10	200	0.76	1000
15	P	TP55P156M004C0500	10.0	10	500	0.36	1000
15	P	TP55P156M004C0200	10.0	10	200	0.56	1000
15	A	TP55A156M004C0500	6.0	10	500	0.48	1000
15	A	TP55A156M004C0300	6.0	10	300	0.61	1000
15	A	TP55A156M004C0200	6.0	10	200	0.76	1000
22	A	TP55A226M004C0500	8.8	10	500	0.48	1000
22	A	TP55A226M004C0300	8.8	10	300	0.61	1000
22	A	TP55A226M004C0200	8.8	10	200	0.76	1000

Notes

• Termination code “C”: cases J, P: 100 % tin, case A: 100 % tin or Ni / Pd / Au, cases T, B, V, D: Ni / Pd / Au.

(1) Rating in development, contact factory for availability.

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
4 VDC AT +105 °C							
22	B	TP55B226M004C0150	8.8	8	150	0.93	1000
22	B	TP55B226M004C0200	8.8	8	200	0.81	1000
33	A	TP55A336M004C0500	13.2	10	500	0.48	1000
33	A	TP55A336M004C0300	13.2	10	300	0.61	1000
33	A	TP55A336M004C0200	13.2	10	200	0.76	1000
33	B	TP55B336M004C0200	13.2	8	200	0.81	1000
47	A	TP55A476M004C0500	18.8	10	500	0.48	1000
47	A	TP55A476M004C0200	18.8	10	200	0.76	1000
47	A	TP55A476M004C0180	18.8	10	180	0.79	1000
47	T	TP55T476M004C0200	18.8	10	200	0.72	1000
47	T	TP55T476M004C0080	18.8	10	80	1.15	1000
47	T	TP55T476M004C0070	18.8	10	70	1.22	1000
47	B	TP55B476M004C0150	18.8	8	150	0.93	1000
47	B	TP55B476M004C0070	18.8	8	70	1.36	1000
68	A	TP55A686M004C0500	27.2	10	500	0.48	1000
68	A	TP55A686M004C0250	27.2	10	250	0.67	1000
68	A	TP55A686M004C0200	27.2	10	200	0.76	1000
68	T	TP55T686M004C0200	27.2	10	200	0.72	1000
68	T	TP55T686M004C0180	27.2	10	180	0.76	1000
68	T	TP55T686M004C0080	27.2	10	80	1.15	1000
68	T	TP55T686M004C0070	27.2	10	70	1.22	1000
68	B	TP55B686M004C0150	27.2	8	150	0.93	1000
68	B	TP55B686M004C0070	27.2	8	70	1.36	1000
100	A	TP55A107M004C0200	40.0	10	200	0.75	1000
100	A	TP55A107M004C0100	40.0	10	100	1.07	1000
100	T	TP55T107M004C0150	40.0	10	150	0.84	1000
100	T	TP55T107M004C0070	40.0	10	70	1.22	1000
100	B	TP55B107M004C0070	40.0	8	70	1.36	1000
100	B	TP55B107M004C0055	40.0	8	55	1.53	1000
100	B	TP55B107M004C0045	40.0	8	45	1.70	1000
100	B	TP55B107M004C0040	40.0	8	40	1.80	1000
100	B	TP55B107M004C0035	40.0	8	35	1.92	1000
150	B	TP55B157M004C0070	60.0	8	70	1.36	1000
150	B	TP55B157M004C0055	60.0	8	55	1.53	1000
150	B	TP55B157M004C0045	60.0	8	45	1.69	1000
150	B	TP55B157M004C0040	60.0	8	40	1.80	1000
150	B	TP55B157M004C0035	60.0	8	35	1.93	1000
150	V	TP55V157M004C0045	60.0	10	45	2.03	1000
150	V	TP55V157M004C0025	60.0	10	25	2.73	1000
150	V	TP55V157M004C0015	60.0	10	15	3.53	1000
220	B	TP55B227M004C0070	88.0	8	70	1.36	1000
220	B	TP55B227M004C0060	88.0	8	60	1.47	1000
220	B	TP55B227M004C0055	88.0	8	55	1.53	1000
220	B	TP55B227M004C0045	88.0	8	45	1.70	1000
220	B	TP55B227M004C0035	88.0	8	35	1.93	1000
220	V	TP55V227M004C0055	88.0	10	55	1.84	1000
220	V	TP55V227M004C0045	88.0	10	45	2.03	1000
220	V	TP55V227M004C0040	88.0	10	40	2.16	1000
220	V	TP55V227M004C0035	88.0	10	35	2.31	1000
220	V	TP55V227M004C0025	88.0	10	25	2.73	1000
220	V	TP55V227M004C0018	88.0	10	18	3.22	1000
220	V	TP55V227M004C0015	88.0	10	15	3.53	1000
220	D	TP55D227M004C0055	88.0	10	55	2.02	1000
220	D	TP55D227M004C0040	88.0	10	40	2.37	1000
220	D	TP55D227M004C0025	88.0	10	25	3.00	1000

Notes

- Termination code "C": cases J, P: 100 % tin, case A: 100 % tin or Ni / Pd / Au, cases T, B, V, D: Ni / Pd / Au.

(1) Rating in development, contact factory for availability.

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
4 VDC AT +105 °C							
330	V	TP55V337M004C0050	132.0	10	50	1.93	1000
330	V	TP55V337M004C0045	132.0	10	45	2.03	1000
330	V	TP55V337M004C0040	132.0	10	40	2.16	1000
330	V	TP55V337M004C0025	132.0	10	25	2.73	1000
330	V	TP55V337M004C0018	132.0	10	18	3.22	1000
330	V	TP55V337M004C0015	132.0	10	15	3.53	1000
330	D	TP55D337M004C0050	132.0	10	50	2.12	1000
330	D	TP55D337M004C0040	132.0	10	40	2.37	1000
330	D	TP55D337M004C0025	132.0	10	25	3.00	1000
330	D	TP55D337M004C0015	132.0	10	15	3.87	1000
470	D	TP55D477M004C0055	188.0	10	55	2.02	1000
470	D	TP55D477M004C0050	188.0	10	50	2.12	1000
470	D	TP55D477M004C0040	188.0	10	40	2.37	1000
470	D	TP55D477M004C0025	188.0	10	25	3.00	1000
470	D	TP55D477M004C0018	188.0	10	18	3.53	1000
470	D	TP55D477M004C0015	188.0	10	15	3.87	1000
470	D	TP55D477M004C0012	188.0	10	12	4.33	1000
680	D	TP55D687M004C0025	272.0	10	25	3.00	1000
680	D	TP55D687M004C0018	272.0	10	18	3.53	1000
680	D	TP55D687M004C0015	272.0	10	15	3.87	1000
6.3 VDC AT +105 °C							
3.3	J	TP55J335M6R3C0500	10.0	10	500	0.32	1000
3.3	P	TP55P335M6R3C0500	5.0	10	500	0.36	1000
4.7	J	TP55J475M6R3C0500	10.0	10	500	0.32	1000
4.7	P	TP55P475M6R3C0500	5.0	10	500	0.36	1000
4.7	A	TP55A475M6R3C0500	3.0	10	500	0.48	1000
6.8	P	TP55P685M6R3C0500	5.0	10	500	0.36	1000
6.8	A	TP55A685M6R3C0500	4.2	10	500	0.48	1000
10	P	TP55P106M6R3C0500	10.0	10	500	0.36	1000
10	P	TP55P106M6R3C0200	10.0	10	200	0.56	1000
10	A	TP55A106M6R3C0500	6.3	10	500	0.48	1000
10	A	TP55A106M6R3C0300	6.3	10	300	0.61	1000
10	A	TP55A106M6R3C0200	6.3	10	200	0.76	1000
15	A	TP55A156M6R3C0500	9.4	10	500	0.48	1000
15	A	TP55A156M6R3C0300	9.4	10	300	0.61	1000
15	A	TP55A156M6R3C0200	9.4	10	200	0.76	1000
22	A	TP55A226M6R3C0500	13.8	10	500	0.48	1000
22	A	TP55A226M6R3C0300	13.8	10	300	0.61	1000
22	A	TP55A226M6R3C0200	13.8	10	200	0.76	1000
22	T	TP55T226M6R3C0150	13.8	10	150	0.84	1000
22	T	TP55T226M6R3C0070	13.8	10	70	1.22	1000
22	B	TP55B226M6R3C0150	13.8	8	150	0.93	1000
33	A	TP55A336M6R3C0500	20.7	10	500	0.48	1000
33	A	TP55A336M6R3C0200	20.7	10	200	0.76	1000
33	A	TP55A336M6R3C0180	20.7	10	180	0.79	1000
33	T	TP55T336M6R3C0200	20.7	10	200	0.72	1000
33	T	TP55T336M6R3C0150	20.7	10	150	0.84	1000
33	T	TP55T336M6R3C0070	20.7	10	70	1.22	1000
33	B	TP55B336M6R3C0200	20.7	8	200	0.81	1000
33	B	TP55B336M6R3C0150	20.7	8	150	0.93	1000
33	B	TP55B336M6R3C0080	20.7	8	80	1.27	1000
33	B	TP55B336M6R3C0070	20.7	8	70	1.36	1000
33	B	TP55B336M6R3C0040	20.7	8	40	1.8	1000

Notes

• Termination code "C": cases J, P: 100 % tin, case A: 100 % tin or Ni / Pd / Au, cases T, B, V, D: Ni / Pd / Au.

(1) Rating in development, contact factory for availability.

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
6.3 VDC AT +105 °C							
47	A	TP55A476M6R3C0500	29.6	10	500	0.48	1000
47	A	TP55A476M6R3C0200	29.6	10	200	0.76	1000
47	A	TP55A476M6R3C0180	29.6	10	180	0.79	1000
47	A	TP55A476M6R3C0150	29.6	10	150	0.88	1000
47	A	TP55A476M6R3C0100	29.6	10	100	1.07	1000
47	A	TP55A476M6R3C0070	29.6	10	70	1.28	1000
47	T	TP55T476M6R3C0200	29.6	10	200	0.72	1000
47	T	TP55T476M6R3C0120	29.6	10	120	0.93	1000
47	T	TP55T476M6R3C0080	29.6	10	80	1.36	1000
47	T	TP55T476M6R3C0070	29.6	10	70	1.47	1000
47	B	TP55B476M6R3C0150	29.6	8	150	1.80	1000
47	B	TP55B476M6R3C0070	29.6	8	70	0.72	1000
47	B	TP55B476M6R3C0060	29.6	8	60	0.83	1000
47	B	TP55B476M6R3C0040	29.6	8	40	1.22	1000
68	T	TP55T686M6R3C0200	42.8	10	200	0.72	1000
68	T	TP55T686M6R3C0150	42.8	10	150	0.83	1000
68	T	TP55T686M6R3C0070	42.8	10	70	1.22	1000
68	B	TP55B686M6R3C0150	42.8	8	150	0.93	1000
68	B	TP55B686M6R3C0070	42.8	8	70	1.36	1000
100	A	TP55A107M6R3C0200	63.0	10	200	0.76	1000
100	A	TP55A107M6R3C0150	63.0	10	150	0.88	1000
100	A	TP55A107M6R3C0100	63.0	10	100	1.07	1000
100	A	TP55A107M6R3C0070	63.0	10	70	1.28	1000
100	A	TP55A107M6R3C0045	63.0	10	45	1.59	1000
100	T	TP55T107M6R3C0200	63.0	10	200	0.72	1000
100	T	TP55T107M6R3C0070	63.0	10	70	1.22	1000
100	B	TP55B107M6R3C0100	63.0	8	100	1.14	1000
100	B	TP55B107M6R3C0070	63.0	8	70	1.36	1000
100	B	TP55B107M6R3C0055	63.0	8	55	1.53	1000
100	B	TP55B107M6R3C0045	63.0	8	45	1.70	1000
100	B	TP55B107M6R3C0040	63.0	8	40	1.80	1000
100	B	TP55B107M6R3C0035	63.0	8	35	1.93	1000
100	V	TP55V107M6R3C0045	63.0	10	45	2.03	1000
150	B	TP55B157M6R3C0100	94.5	8	100	1.14	1000
150	B	TP55B157M6R3C0070	94.5	8	70	1.36	1000
150	B	TP55B157M6R3C0055	94.5	8	55	1.53	1000
150	B	TP55B157M6R3C0045	94.5	8	45	1.70	1000
150	B	TP55B157M6R3C0040	94.5	8	40	1.80	1000
150	B	TP55B157M6R3C0035	94.5	8	35	1.93	1000
150	B (1)	TP55B157M6R3C0025	94.5	8	25	2.28	1000
150	V	TP55V157M6R3C0055	94.5	10	55	1.84	1000
150	V	TP55V157M6R3C0045	94.5	10	45	2.03	1000
150	V	TP55V157M6R3C0040	94.5	10	40	2.16	1000
150	V	TP55V157M6R3C0035	94.5	10	35	2.31	1000
150	V	TP55V157M6R3C0025	94.5	10	25	2.73	1000
150	V	TP55V157M6R3C0018	94.5	10	18	3.22	1000

Notes

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(1) Rating in development, contact factory for availability.

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
6.3 VDC AT +105 °C							
220	B	TP55B227M6R3C0200	138.6	8	200	0.80	1000
220	B	TP55B227M6R3C0070	138.6	8	70	1.36	1000
220	B	TP55B227M6R3C0045	138.6	8	45	1.69	1000
220	B	TP55B227M6R3C0035	138.6	8	35	1.93	1000
220	B	TP55B227M6R3C0025	138.6	8	25	2.28	1000
220	V	TP55V227M6R3C0050	138.6	10	50	1.93	1000
220	V	TP55V227M6R3C0045	138.6	10	45	2.03	1000
220	V	TP55V227M6R3C0040	138.6	10	40	2.16	1000
220	V	TP55V227M6R3C0035	138.6	10	35	2.31	1000
220	V	TP55V227M6R3C0025	138.6	10	25	2.73	1000
220	V	TP55V227M6R3C0018	138.6	10	18	3.22	1000
220	V	TP55V227M6R3C0015	138.6	10	15	3.53	1000
220	D	TP55D227M6R3C0055	138.6	10	55	2.02	1000
220	D	TP55D227M6R3C0050	138.6	10	50	2.12	1000
220	D	TP55D227M6R3C0040	138.6	10	40	2.37	1000
220	D	TP55D227M6R3C0035	138.6	10	35	2.53	1000
220	D	TP55D227M6R3C0025	138.6	10	25	3.00	1000
330	V	TP55V337M6R3C0050	207.9	10	50	1.93	1000
330	V	TP55V337M6R3C0045	207.9	10	45	2.03	1000
330	V	TP55V337M6R3C0040	207.9	10	40	2.16	1000
330	V	TP55V337M6R3C0025	207.9	10	25	2.73	1000
330	V	TP55V337M6R3C0018	207.9	10	18	3.22	1000
330	V	TP55V337M6R3C0015	207.9	10	15	3.53	1000
330	D	TP55D337M6R3C0055	207.9	10	55	2.02	1000
330	D	TP55D337M6R3C0050	207.9	10	50	2.12	1000
330	D	TP55D337M6R3C0045	207.9	10	45	2.23	1000
330	D	TP55D337M6R3C0040	207.9	10	40	2.37	1000
330	D	TP55D337M6R3C0025	207.9	10	25	3.00	1000
330	D	TP55D337M6R3C0018	207.9	10	18	3.53	1000
330	D	TP55D337M6R3C0015	207.9	10	15	3.87	1000
330	D	TP55D337M6R3C0012	207.9	10	12	4.33	1000
470	V	TP55V477M6R3C0055	296.1	10	55	1.84	1000
470	V	TP55V477M6R3C0050	296.1	10	50	1.93	1000
470	D	TP55D477M6R3C0030	296.1	10	30	2.73	1000
470	D	TP55D477M6R3C0025	296.1	10	25	3.00	1000
470	D	TP55D477M6R3C0018	296.1	10	18	3.53	1000
470	D	TP55D477M6R3C0015	296.1	10	15	3.87	1000
7 VDC AT +105 °C							
100	A	TP55A107M007C0070	70.0	10	70	1.28	1000
10 VDC AT +105 °C							
3.3	J	TP55J335M010C0500	10.0	10	500	0.32	1000
3.3	P	TP55P335M010C0500	5.0	10	500	0.36	1000
4.7	P	TP55P475M010C0500	10.0	10	500	0.36	1000
4.7	P	TP55P475M010C0200	10.0	10	200	0.56	1000
4.7	A	TP55A475M010C0500	4.7	10	500	0.48	1000
4.7	A	TP55A475M010C0300	4.7	10	300	0.61	1000
4.7	A	TP55A475M010C0200	4.7	10	200	0.76	1000
6.8	A	TP55A685M010C0500	6.8	10	500	0.48	1000
6.8	A	TP55A685M010C0300	6.8	10	300	0.61	1000
6.8	A	TP55A685M010C0200	6.8	10	200	0.76	1000
10	A	TP55A106M010C0500	10.0	10	500	0.48	1000
10	A	TP55A106M010C0300	10.0	10	300	0.61	1000
10	A	TP55A106M010C0200	10.0	10	200	0.76	1000
15	A	TP55A156M010C0500	15.0	10	500	0.48	1000
15	A	TP55A156M010C0200	15.0	10	200	0.76	1000

Notes

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(1) Rating in development, contact factory for availability.

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
10 VDC AT +105 °C							
22	A	TP55A226M010C0500	22.0	10	500	0.48	1000
22	A	TP55A226M010C0200	22.0	10	200	0.76	1000
22	T	TP55T226M010C0200	22.0	10	200	0.72	1000
22	T	TP55T226M010C0150	22.0	10	150	0.84	1000
22	T	TP55T226M010C0070	22.0	10	70	1.22	1000
22	B	TP55B226M010C0300	22.0	8	300	0.66	1000
22	B	TP55B226M010C0200	22.0	8	200	0.81	1000
22	B	TP55B226M010C0150	22.0	8	150	0.93	1000
22	B	TP55B226M010C0070	22.0	8	70	1.36	1000
33	A	TP55A336M010C0500	33.0	10	500	0.48	1000
33	A	TP55A336M010C0150	33.0	10	150	0.88	1000
33	A	TP55A336M010C0070	33.0	10	70	1.28	1000
33	A	TP55A336M010C0200	33.0	10	200	0.76	1000
33	T	TP55T336M010C0200	33.0	10	200	0.72	1000
33	T	TP55T336M010C0150	33.0	10	150	0.84	1000
33	T	TP55T336M010C0080	33.0	10	80	1.14	1000
33	T	TP55T336M010C0070	33.0	10	70	1.22	1000
33	T	TP55T336M010C0040	33.0	8	40	1.62	1000
33	B	TP55B336M010C0200	33.0	8	200	0.81	1000
33	B	TP55B336M010C0150	33.0	8	150	0.93	1000
33	B	TP55B336M010C0080	33.0	8	80	1.27	1000
33	B	TP55B336M010C0070	33.0	8	70	1.36	1000
47	B	TP55B476M010C0150	47.0	8	150	0.93	1000
47	B	TP55B476M010C0070	47.0	8	70	1.36	1000
68	V	TP55V686M010C0100	68.0	10	100	1.36	1000
68	V	TP55V686M010C0060	68.0	10	60	1.76	1000
100	V	TP55V107M010C0045	100.0	10	45	2.03	1000
100	D	TP55D107M010C0080	100.0	10	80	1.67	1000
100	D	TP55D107M010C0055	100.0	10	55	2.02	1000
100	D	TP55D107M010C0045	100.0	10	45	2.23	1000
100	D	TP55D107M010C0025	100.0	10	25	3.00	1000
100	D	TP55D107M010C0018	100.0	10	18	3.53	1000
150	V	TP55V157M010C0055	150.0	10	55	1.84	1000
150	V	TP55V157M010C0045	150.0	10	45	2.03	1000
150	V	TP55V157M010C0040	150.0	10	40	2.16	1000
150	V	TP55V157M010C0025	150.0	10	25	2.73	1000
150	V	TP55V157M010C0015	150.0	10	15	3.53	1000
220	V	TP55V227M010C0050	220.0	10	50	1.93	1000
220	V	TP55V227M010C0045	220.0	10	45	2.03	1000
220	V	TP55V227M010C0040	220.0	10	40	2.16	1000
220	V	TP55V227M010C0025	220.0	10	25	2.73	1000
220	V	TP55V227M010C0018	220.0	10	18	3.22	1000
220	D	TP55D227M010C0055	220.0	10	55	2.02	1000
220	D	TP55D227M010C0050	220.0	10	50	2.12	1000
220	D	TP55D227M010C0040	220.0	10	40	2.37	1000
220	D	TP55D227M010C0025	220.0	10	25	3.00	1000
220	D	TP55D227M010C0018	220.0	10	18	3.53	1000
330	D	TP55D337M010C0040	330.0	10	40	2.37	1000
330	D	TP55D337M010C0035	330.0	10	35	2.53	1000
330	D	TP55D337M010C0025	330.0	10	25	3.00	1000
330	D	TP55D337M010C0018	330.0	10	18	3.53	1000

Notes

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(1) Rating in development, contact factory for availability.

STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DCL AT +25 °C (μ A)	MAX. DF AT +25 °C 120 Hz (%)	MAX. ESR AT +25 °C 100 kHz (m Ω)	MAX. RIPPLE AT +45 °C 100 kHz _{RMS} (A)	HIGH TEMPERATURE LOAD, TIME (h)
12.5 VDC AT +105 °C							
15	T	TP55T156M12RC0080	18.7	8	80	1.14	1000
16 VDC AT +105 °C							
6.8	B	TP55B685M016C0200	10.8	8	200	0.80	1000
10	B	TP55B106M016C0200	16.0	8	200	0.80	1000
10	B	TP55B106M016C0100	16.0	8	100	1.14	2000
15	B	TP55B156M016C0150	24.0	8	150	0.93	1000
15	B	TP55B156M016C0090	24.0	8	90	1.20	2000
22	B	TP55B226M016C0150	35.2	8	150	0.93	1000
22	B	TP55B226M016C0070	35.2	8	70	1.36	1000
33	V	TP55V336M016C0070	52.8	10	70	1.63	2000
47	V	TP55V476M016C0070	75.2	10	70	1.63	1000
47	V	TP55V476M016C0045	75.2	10	45	2.03	2000
100	V	TP55V107M016C0050	160.0	10	50	1.93	2000
20 VDC AT +105 °C							
15	B	TP55B156M020C0090	30.0	8	90	1.20	2000
15	B	TP55B156M020C0070	30.0	8	70	1.36	1000
47	V	TP55V476M020C0045	94.0	10	45	2.03	1000
100	D	TP55D107M020C0055	200.0	10	55	2.02	1000
25 VDC AT +105 °C							
6.8	B	TP55B685M025C0100	17.0	8	100	1.14	1000
10	B	TP55B106M025C0150	25.0	8	150	0.93	1000
10	B	TP55B106M025C0100	25.0	8	100	1.14	1000
15	B	TP55B156M025C0100	37.5	8	100	1.14	2000
33	D	TP55D336M025C0060	82.5	10	60	1.93	1000
100	D	TP55D107M025C0060	250.0	10	60	1.93	1000
35 VDC AT +105 °C							
6.8	B	TP55B685M035C0200	23.8	8	200	0.81	1000
22	D	TP55D226M035C0120	77.0	10	120	1.36	1000
33	D	TP55D336M035C0100	115.5	10	100	1.50	1000
50 VDC AT +105 °C							
10	D	TP55D106M050C0120	50.0	10	120	1.36	1000
10	D	TP55D106M050C0090	50.0	10	90	1.58	1000

Notes

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(1) Rating in development, contact factory for availability.

RECOMMENDED VOLTAGE DERATING GUIDELINES

CAPACITOR VOLTAGE RATING	OPERATING VOLTAGE
2.5	2.3
4.0	3.6
6.3	5.7
7.0	6.3
10	9.0
12.5	11.2
16	12.8
20	16
25	20
35	28
50	40

POWER DISSIPATION

CASE CODE	MAXIMUM PERMISSIBLE POWER DISSIPATION (W) AT $\leq +45$ °C IN FREE AIR
J	0.050
P	0.064
A	0.115
T	0.105
B	0.130
V	0.187
D	0.225

STANDARD PACKAGING QUANTITY

CASE CODE	UNITS PER 7" REEL
J	4000
P	3000
A	2000
T	3000
B	2000
V	800
D	500

PERFORMANCE CHARACTERISTICS																	
ITEM	CONDITION													POST TEST PERFORMANCE			
Temperature characteristics	Measure the specified characteristics in each stage														Specified initial value	-55 °C	+105 °C
														Capacitance change		-20 % to 0 %	0 % to 30 %
														Dissipation factor shown in Standard Ratings table or less	8 to 10	14	
														Leakage current	Refer to Standard Ratings table		Not more than 1 CV or 30 μA which is greater
Surge voltage	105 °C, 1000 successive test cycles in series with a 1 kΩ resistor at the rate of 30 s ON,30 s OFF; test voltage per table below:													Capacitance change	Within ± 20 % of initial value		
	Rated voltage	2.5	4.0	6.3	7.0	10	12.5	16	20	25	35	50	Dissipation factor	Within initial limit			
	Surge voltage	3.2	5.2	8.2	9.0	13	16.2	20	23	29	40	57	Leakage current	Shall not exceed 300 % of initial limit			
Solder heat resistance	Reflow board surface peak temperature: less than 260 °C Time: 5 s max.													Capacitance change	Within ± 20 % of initial value		
														Dissipation factor	Initial specified value or less		
														Leakage current	Shall not exceed 300 % of initial specified value		
Moisture resistance no load	Leave at 60 °C and 90 % RH for 500 h													Capacitance change	$V_R \leq 4 V$	Relative to the value before test +50 % to -20 %	
															$V_R \geq 6.3 V$	Relative to the value before test +40 % to -20 %	
														Dissipation factor	Initial specified value or less		
														Leakage current	Shall not exceed 300 % of initial specified value		
High temperature load	105 °C. The rated voltage is applied through a protective resistor of 3 Ω for 1000 h or 2000 h ⁽¹⁾													Capacitance change	Within ± 20 % of initial value		
														Dissipation factor	Initial specified value or less		
														Leakage current	Shall not exceed 300 % of initial specified value		
Thermal shock	Leave at -55 °C, normal temperature, 105 °C, and normal temperature for 30 min., 15 min. 30 min., and 15 min. Repeat this operation 5 times running.													Capacitance change	Within ± 20 % of initial value or less		
														Dissipation factor	Initial specified value or less		
														Leakage current	Shall not exceed 300 % of initial specified value		
Failure rate	105 °C. The rated voltage is applied through a protective resistor of 1Ω/V.													1 % / 1000 h			

Notes

• Test conditions per JIS C5101-1

(1) Test time, please refer to table “Standard Ratings”