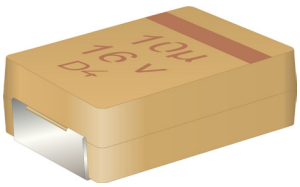
TCM SERIES
GENERAL PURPOSE TANTALUM CAPACITORS

VENKEL LTD.



FEATURES:

- Excellent frequency characteristics and impedance
- Laser marking for easy identification
- Voltage range: 2.5V to 50V
- Operating Temperature: -55°C to + 125°C
- Capacitance range: 0.1uF to 1500uF
- Molded case sizes: A (3216), B (3528), C (6032), D (7343), and E (7343H)

RoHS Compliant | REACH Compliant | HF Halogen FREE | Conflict Minerals FREE 3TG

PART NUMBER STRUCTURE

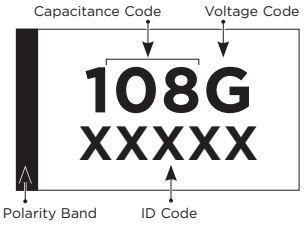
TA	016	TCM	106	K	C	R
Tantalum Capacitor	**Rated Voltage** 2R5 = 2.5V 004 = 4.0V 006 = 6.3V 010 = 10V 016 = 16V 020 = 20V 025 = 25V 035 = 35V 050 =50V	**Series** TCM	**Capacitance** (pico - Farads) 1st two figures are significant. Third is the number of zeros to follow. 105 = 1.0uF 226 = 22uF 107 = 100uF 108 = 1000uF	**Tolerance** K = ±10% M = ±20%	**Case Code** A B C D E	**Packaging** R = Tape & Reel

Example P/N: TA016TCM106KCR

Standard termination finish is 100% matte Tin (Sn) over Nickel

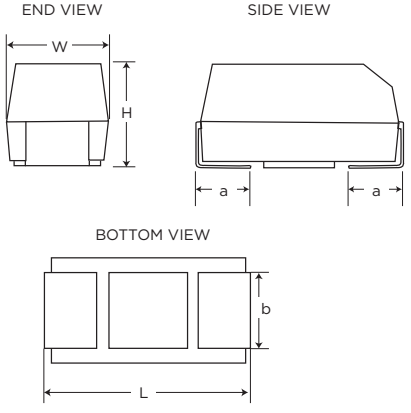
MARKING CODE

VOLTAGE CODE (A,B,C,D & E CASE)



VOLTAGE CODE	RATED VOLTAGE
e	2.5V
G	4V
J	6.3V
A	10V
C	16V
D	20V
E	25V
V	35V
T	50V

DIMENSIONS



Unit: mm (inch)

CASE CODE	L	W	H	a	b
A	3.2 ± 0.2 (0.126 ± 0.008)	1.6 ± 0.2 (0.063 ± 0.008)	1.6 ± 0.2 (0.063 ± 0.008)	0.8 ± 0.3 (0.031 ± 0.012)	1.2 ± 0.2 (0.047 ± 0.008)
B	3.5 ± 0.2 (0.138 ± 0.008)	2.8 ± 0.2 (0.110 ± 0.008)	1.9 ± 0.2 (0.075 ± 0.008)	0.8 ± 0.3 (0.031 ± 0.012)	2.2 ± 0.2 (0.087 ± 0.008)
C	6.0 ± 0.3 (0.236 ± 0.012)	3.2 ± 0.3 (0.126 ± 0.012)	2.5 ± 0.3 (0.098 ± 0.012)	1.3 ± 0.3 (0.051 ± 0.012)	2.2 ± 0.2 (0.087 ± 0.008)
D	7.3 ± 0.3 (0.287 ± 0.012)	4.3 ± 0.3 (0.169 ± 0.012)	2.8 ± 0.3 (0.110 ± 0.012)	1.3 ± 0.3 (0.051 ± 0.012)	2.4 ± 0.2 (0.094 ± 0.008)
E	7.3 ± 0.3 (0.287 ± 0.012)	4.3 ± 0.3 (0.169 ± 0.012)	4.0 ± 0.3 (0.157 ± 0.012)	1.3 ± 0.3 (0.051 ± 0.012)	2.4 ± 0.2 (0.094 ± 0.008)

STANDARD RATINGS & CASE CODES

RATED VOLTAGE / CAPACITANCE (UF)	2.5V	4V	6.3V	10V	16V	20V	25V	35V	50V
0.1								A	A
0.15								A	A,B
0.22								A	A,B
0.33								A	A,B
0.47							A	A,B	A,B,C
0.68							A	A,B	A,B,C
1					A	A	A	A,B	A,B,C
1.5				A	A	A	A,B	A,B,C	B,C,D
2.2			A	A	A,B	A,B	A,B	A,B,C	B,C,D
3.3			A	A	A,B	A,B	A,B,C	B,C	C,D
4.7			A	A,B	A,B	A,B,C	A,B,C	B,C,D	C,D
6.8			A,B	A,B	A,B,C	A,B,C	B,C	C,D	C,D
10		A	A,B	A,B,C	A,B,C	B,C	B,C,D	C,D,E	D,E
15		A	A,B	A,B,C	A,B,C	B,C,D	C,D	C,D	D,E
22		A	A,B,C	A,B,C	A*,B,C,D	B,C,D	C,D	D,E	
33	A	A,B	A,B,C	A,B,C,D	B,C,D	C,D	C,D,E	D,E	
47	A	A,B	A,B,C,D	B,C,D	C,D	C,D,E	D,E	D,E	
68	A	A,B	B,C,D	B,C,D	C,D	C*,D,E	D,E		
100	A,B	A,B,C	B,C,D	B,C,D,E	C,D,E	D,E	E		
150	B	B,C	B*, C,D	C,D,E	D,E	E			
220	B,D	B,C,D	C,D,E	C,D,E	D*,E				
330	D	C,D	C,D,E	D,E	E*				
470	C,D	C,D,E	D,E	E					
680	C,D,E	D,E	D,E	E*					
1000	D*,E	D,E	E*						
1500	D,E	E							

*Only Available in 20% (M) Tolerance

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
2.5	33	A	85	1.7	125	0.8	8	1.7	210	189	84	TA2R5TCM336#AR
2.5	47	A	85	1.7	125	0.9	6	3	158	142	63	TA2R5TCM476#AR
2.5	68	A	85	1.7	125	1.4	8	1.5	224	201	89	TA2R5TCM686#AR
2.5	100	A	85	1.7	125	2.5	30	1.4	231	208	93	TA2R5TCM107#AR
2.5	100	B	85	1.7	125	2.5	8	1.4	246	222	99	TA2R5TCM107#BR
2.5	150	B	85	1.7	125	3	10	1.6	230	207	92	TA2R5TCM157#BR
2.5	220	B	85	1.7	125	4.4	16	1.6	230	207	92	TA2R5TCM227#BR
2.5	220	D	85	1.7	125	5.5	8	0.3	707	636	283	TA2R5TCM227#DR
2.5	330	D	85	1.7	125	8.2	8	0.3	707	636	283	TA2R5TCM337#DR
2.5	470	C	85	1.7	125	9.4	12	0.2	742	667	297	TA2R5TCM477#CR
2.5	470	D	85	1.7	125	11.6	8	0.2	866	779	346	TA2R5TCM477#DR
2.5	680	C	85	1.7	125	17	18	0.2	742	667	297	TA2R5TCM687#CR
2.5	680	D	85	1.7	125	17	16	0.2	866	779	346	TA2R5TCM687#DR
2.5	680	E	85	1.7	125	17	10	0.2	908	817	363	TA2R5TCM687#ER
2.5	1000	D	85	1.7	125	25	20	0.2	866	779	346	TA2R5TCM108MDR
2.5	1000	E	85	1.7	125	25	14	0.4	642	578	257	TA2R5TCM108#ER
2.5	1500	D	85	1.7	125	37.5	60	0.2	866	779	346	TA2R5TCM1583#DR
2.5	1500	E	85	1.7	125	37	20	0.2	908	817	363	TA2R5TCM158#ER

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
4	10	A	85	2.7	125	0.5	6	6	112	101	45	TA004TCM106#AR
4	15	A	85	2.7	125	0.6	6	4	137	123	55	TA004TCM156#AR
4	22	A	85	2.7	125	0.9	6	3.5	146	132	59	TA004TCM226#AR
4	33	A	85	2.7	125	1.3	6	3	158	142	63	TA004TCM336#AR
4	33	B	85	2.7	125	1.3	6	2.8	174	157	70	TA004TCM336#BR
4	47	A	85	2.7	125	1.9	8	2.6	170	153	68	TA004TCM476#AR
4	47	B	85	2.7	125	1.9	6	2.4	188	169	75	TA004TCM476#BR
4	68	A	85	2.7	125	2.7	10	1.5	224	201	89	TA004TCM686#AR
4	68	B	85	2.7	125	2.7	6	1.8	217	196	87	TA004TCM686#BR
4	100	A	85	2.7	125	4	30	1.4	231	208	93	TA004TCM107#AR
4	100	B	85	2.7	125	4	8	0.9	307	277	123	TA004TCM107#BR
4	100	C	85	2.7	125	4	6	1.3	291	262	116	TA004TCM107#CR
4	150	B	85	2.7	125	6	10	1.5	238	214	95	TA004TCM157#BR
4	150	C	85	2.7	125	6	6	0.3	606	545	242	TA004TCM157#CR
4	220	B	85	2.7	125	8.8	12	1.1	278	250	111	TA004TCM227#BR
4	220	C	85	2.7	125	8.8	8	1.2	303	272	121	TA004TCM227#CR
4	220	D	85	2.7	125	8.8	8	0.9	408	367	163	TA004TCM227#DR
4	330	C	85	2.7	125	13.2	8	0.3	606	545	242	TA004TCM337#CR
4	330	D	85	2.7	125	13.2	8	0.9	408	367	163	TA004TCM337#DR
4	470	C	85	2.7	125	18.8	14	0.3	606	545	242	TA004TCM477#CR
4	470	D	85	2.7	125	18.8	12	0.9	408	367	163	TA004TCM477#DR
4	470	E	85	2.7	125	18.8	10	0.5	574	517	230	TA004TCM477#ER
4	680	D	85	2.7	125	27.2	14	0.5	548	493	219	TA004TCM687#DR
4	680	E	85	2.7	125	27.2	10	0.9	428	385	171	TA004TCM687#ER
4	1000	D	85	2.7	125	40	60	0.2	866	779	346	TA004TCM108#DR
4	1000	E	85	2.7	125	40	14	0.4	642	578	257	TA004TCM108#ER
4	1500	E	85	2.7	125	60	30	0.2	908	817	363	TA004TCM158#ER
6.3	2.2	A	85	4	125	0.5	6	9	91	82	37	TA006TCM225#AR
6.3	3.3	A	85	4	125	0.5	6	7	104	93	41	TA006TCM335#AR
6.3	4.7	A	85	4	125	0.5	6	6	112	101	45	TA006TCM475#AR
6.3	6.8	A	85	4	125	0.5	6	5	122	110	49	TA006TCM685#AR
6.3	6.8	B	85	4	125	0.6	6	5	130	117	52	TA006TCM685#BR
6.3	10	A	85	4	125	0.6	6	4	137	123	55	TA006TCM106#AR
6.3	10	B	85	4	125	0.6	6	3	168	151	67	TA006TCM106#BR
6.3	15	A	85	4	125	0.9	6	3.5	146	132	59	TA006TCM156#AR
6.3	15	B	85	4	125	0.9	6	2	206	186	82	TA006TCM156#BR
6.3	22	A	85	4	125	1.4	6	3	158	142	63	TA006TCM226#AR
6.3	22	B	85	4	125	1.4	6	2.5	184	166	74	TA006TCM226#BR
6.3	22	C	85	4	125	1.4	6	2	235	211	94	TA006TCM226#CR
6.3	33	A	85	4	125	2.1	8	2.2	185	166	74	TA006TCM336#AR
6.3	33	B	85	4	125	2.1	6	2.2	197	177	79	TA006TCM336#BR
6.3	33	C	85	4	125	2.1	6	1.8	247	222	99	TA006TCM336#CR
6.3	47	A	85	4	125	2.8	10	1.6	217	195	87	TA006TCM476#AR

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
6.3	47	B	85	4	125	3	6	2	206	186	82	TA006TCM476#BR
6.3	47	C	85	4	125	3	6	1.6	262	236	105	TA006TCM476#CR
6.3	47	D	85	4	125	3	6	1.1	369	332	148	TA006TCM476#DR
6.3	68	B	85	4	125	4	8	0.9	307	277	123	TA006TCM686#BR
6.3	68	C	85	4	125	4.3	6	1.5	271	244	108	TA006TCM686#CR
6.3	68	D	85	4	125	4.3	6	0.9	408	367	163	TA006TCM686#DR
6.3	100	B	85	4	125	6.3	10	1.7	224	201	89	TA006TCM107#BR
6.3	100	C	85	4	125	6.3	6	0.9	350	315	140	TA006TCM107#CR
6.3	100	D	85	4	125	6.3	6	0.9	408	367	163	TA006TCM107#DR
6.3	150	B	85	4	125	9.5	10	1.2	266	240	106	TA006TCM157MBR
6.3	150	C	85	4	125	9.5	6	1.3	291	262	116	TA006TCM157#CR
6.3	150	D	85	4	125	9.5	6	0.9	408	367	163	TA006TCM157#DR
6.3	220	C	85	4	125	13.9	8	1.2	303	272	121	TA006TCM227#CR
6.3	220	D	85	4	125	13.9	8	0.4	612	551	245	TA006TCM227#DR
6.3	220	E	85	4	125	13.9	8	0.4	642	578	257	TA006TCM227#ER
6.3	330	C	85	4	125	19.8	12	0.5	469	422	188	TA006TCM337#CR
6.3	330	D	85	4	125	20.8	8	0.4	612	551	245	TA006TCM337#DR
6.3	330	E	85	4	125	20.8	8	0.4	642	578	257	TA006TCM337#ER
6.3	470	D	85	4	125	28	12	0.4	612	551	245	TA006TCM477#DR
6.3	470	E	85	4	125	28	10	0.4	642	578	257	TA006TCM477#ER
6.3	680	D	85	4	125	40.8	20	0.5	548	493	219	TA006TCM687#DR
6.3	680	E	85	4	125	42.8	10	0.5	574	517	230	TA006TCM687#ER
6.3	1000	E	85	4	125	60	20	0.2	908	817	363	TA006TCM108MER
10	1.5	A	85	7	125	0.5	6	10	87	78	35	TA010TCM155#AR
10	2.2	A	85	7	125	0.5	6	7	104	93	41	TA010TCM225#AR
10	3.3	A	85	7	125	0.5	6	5.5	117	105	47	TA010TCM335#AR
10	4.7	A	85	7	125	0.5	6	5	122	110	49	TA010TCM475#AR
10	4.7	B	85	7	125	0.5	6	4	146	131	58	TA010TCM475#BR
10	6.8	A	85	7	125	0.7	6	4	137	123	55	TA010TCM685#AR
10	6.8	B	85	7	125	0.7	6	3	168	151	67	TA010TCM685#BR
10	10	A	85	7	125	1	6	3	158	142	63	TA010TCM106#AR
10	10	B	85	7	125	1	6	2.1	201	181	80	TA010TCM106#BR
10	10	C	85	7	125	1	6	2.5	210	189	84	TA010TCM106#CR
10	15	A	85	7	125	1.5	6	3.2	153	138	61	TA010TCM156#AR
10	15	B	85	7	125	1.5	6	2.8	174	157	70	TA010TCM156#BR
10	15	C	85	7	125	1.5	6	2	235	211	94	TA010TCM156#CR
10	22	A	85	7	125	2.2	8	3	158	142	63	TA010TCM226#AR
10	22	B	85	7	125	2.2	6	2.4	188	169	75	TA010TCM226#BR
10	22	C	85	7	125	2.2	6	1.8	247	222	99	TA010TCM226#CR
10	33	A	85	7	125	3.3	8	1.7	210	189	84	TA010TCM336#AR
10	33	B	85	7	125	3.3	6	1.8	217	196	87	TA010TCM336#BR
10	33	C	85	7	125	3.3	6	1.6	262	236	105	TA010TCM336#CR
10	33	D	85	7	125	3.3	6	1.1	369	332	148	TA010TCM336#DR

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
10	47	B	85	7	125	4.7	8	1	292	262	117	TA010TCM476#BR
10	47	C	85	7	125	4.7	6	1.2	303	272	121	TA010TCM476#CR
10	47	D	85	7	125	4.7	6	0.4	612	551	245	TA010TCM476#DR
10	68	B	85	7	125	6.8	8	1.4	246	222	99	TA010TCM686#BR
10	68	C	85	7	125	6.8	6	1.3	291	262	116	TA010TCM686#CR
10	68	D	85	7	125	6.8	6	0.9	408	367	163	TA010TCM686#DR
10	100	B	85	7	125	10	8	1.4	246	222	99	TA010TCM107#BR
10	100	C	85	7	125	10	8	1.2	303	272	121	TA010TCM107#CR
10	100	D	85	7	125	10	6	0.9	408	367	163	TA010TCM107#DR
10	100	E	85	7	125	10	6	0.9	428	385	171	TA010TCM107#ER
10	150	C	85	7	125	15	8	0.9	350	315	140	TA010TCM157#CR
10	150	D	85	7	125	15	8	0.9	408	367	163	TA010TCM157#DR
10	150	E	85	7	125	15	8	0.9	428	385	171	TA010TCM157#ER
10	220	C	85	7	125	22	16	0.5	469	422	188	TA010TCM227#CR
10	220	D	85	7	125	22	8	0.5	548	493	219	TA010TCM227#DR
10	220	E	85	7	125	22	8	0.5	574	517	230	TA010TCM227#ER
10	330	D	85	7	125	33	8	0.9	408	367	163	TA010TCM337#DR
10	330	E	85	7	125	33	8	0.9	428	385	171	TA010TCM337#ER
10	470	E	85	7	125	47	10	0.5	574	517	230	TA010TCM477#ER
10	680	E	85	7	125	68	18	0.4	642	578	257	TA010TCM687MER
16	1	A	85	10	125	0.5	4	11	83	74	33	TA016TCM105#AR
16	1.5	A	85	10	125	0.5	6	8	97	87	39	TA016TCM155#AR
16	2.2	A	85	10	125	0.5	6	6.5	107	97	43	TA016TCM225#AR
16	2.2	B	85	10	125	0.5	6	2.3	192	173	77	TA016TCM225#BR
16	3.3	A	85	10	125	0.5	6	5	122	110	49	TA016TCM335#AR
16	3.3	B	85	10	125	0.5	6	4.5	137	124	55	TA016TCM335#BR
16	4.7	A	85	10	125	0.8	6	4	137	123	55	TA016TCM475#AR
16	4.7	B	85	10	125	0.8	6	3.5	156	140	62	TA016TCM475#BR
16	6.8	A	85	10	125	1.1	6	3.5	146	132	59	TA016TCM685#AR
16	6.8	B	85	10	125	1.1	6	2.5	184	166	74	TA016TCM685#BR
16	6.8	C	85	10	125	1.1	6	2.5	210	189	84	TA016TCM685#CR
16	10	A	85	10	125	1.6	6	3	158	142	63	TA016TCM106#AR
16	10	B	85	10	125	1.6	6	2.8	174	157	70	TA016TCM106#BR
16	10	C	85	10	125	1.6	6	2	235	211	94	TA016TCM106#CR
16	15	A	85	10	125	2.4	6	2	194	174	77	TA016TCM156#AR
16	15	B	85	10	125	2.4	6	2.5	184	166	74	TA016TCM156#BR
16	15	C	85	10	125	2.4	6	1.8	247	222	99	TA016TCM156#CR
16	22	A	85	10	125	3.5	10	2.3	181	163	72	TA016TCM226MAR
16	22	B	85	10	125	3.5	6	2.3	192	173	77	TA016TCM226#BR
16	22	C	85	10	125	3.5	6	1	332	298	133	TA016TCM226#CR
16	22	D	85	10	125	3.5	6	1.1	369	332	148	TA016TCM226#DR
16	33	B	85	10	125	5.3	8	2.1	201	181	80	TA016TCM336#BR
16	33	C	85	10	125	5.3	6	1.5	271	244	108	TA016TCM336#CR

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
16	33	D	85	10	125	5.3	6	0.9	408	367	163	TA016TCM336#DR
16	47	C	85	10	125	7.5	6	0.5	469	422	188	TA016TCM476#CR
16	47	D	85	10	125	7.5	6	0.9	408	367	163	TA016TCM476#DR
16	68	C	85	10	125	10.9	6	1.3	291	262	116	TA016TCM686#CR
16	68	D	85	10	125	10.9	6	0.9	408	367	163	TA016TCM686#DR
16	100	C	85	10	125	16	8	1	332	298	133	TA016TCM107#CR
16	100	D	85	10	125	16	6	0.6	500	450	200	TA016TCM107#DR
16	100	E	85	10	125	16	6	0.9	428	385	171	TA016TCM107#ER
16	150	D	85	10	125	24	6	0.9	408	367	163	TA016TCM157#DR
16	150	E	85	10	125	24	8	0.3	742	667	297	TA016TCM157#ER
16	220	D	85	10	125	35.2	10	0.5	548	493	219	TA016TCM227MDR
16	220	E	85	10	125	35.2	10	0.5	574	517	230	TA016TCM227#ER
16	330	E	85	10	125	52.8	30	0.4	642	578	257	TA016TCM337MER
20	1	A	85	13	125	0.5	4	9	91	82	37	TA020TCM105#AR
20	1.5	A	85	13	125	0.5	6	6.5	107	97	43	TA020TCM155#AR
20	2.2	A	85	13	125	0.5	6	5.3	119	107	48	TA020TCM225#AR
20	2.2	B	85	13	125	0.5	6	3.5	156	140	62	TA020TCM225#BR
20	3.3	A	85	13	125	0.7	6	4.5	129	116	52	TA020TCM335#AR
20	3.3	B	85	13	125	0.7	6	3	168	151	67	TA020TCM335#BR
20	4.7	A	85	13	125	0.9	6	4	137	123	55	TA020TCM475#AR
20	4.7	B	85	13	125	0.9	6	3	168	151	67	TA020TCM475#BR
20	4.7	C	85	13	125	0.9	6	2.8	198	178	79	TA020TCM475#CR
20	6.8	A	85	13	125	1.4	6	2.4	177	159	71	TA020TCM685#AR
20	6.8	B	85	13	125	1.4	6	2.5	184	166	74	TA020TCM685#BR
20	6.8	C	85	13	125	1.4	6	2	235	211	94	TA020TCM685#CR
20	10	B	85	13	125	2	6	2.1	201	181	80	TA020TCM106#BR
20	10	C	85	13	125	2	6	1.2	303	272	121	TA020TCM106#CR
20	15	B	85	13	125	3	6	2	206	186	82	TA020TCM156#BR
20	15	C	85	13	125	3	6	1.7	254	229	102	TA020TCM156#CR
20	15	D	85	13	125	3	6	1.1	369	332	148	TA020TCM156#DR
20	22	B	85	13	125	4.4	6	1.8	217	196	87	TA020TCM226#BR
20	22	C	85	13	125	4.4	6	1.6	262	236	105	TA020TCM226#CR
20	22	D	85	13	125	4.4	6	0.9	408	367	163	TA020TCM226#DR
20	33	C	85	13	125	6.6	6	1.5	271	244	108	TA020TCM336#CR
20	33	D	85	13	125	6.6	6	0.9	408	367	163	TA020TCM336#DR
20	47	C	85	13	125	9.4	6	0.5	469	422	188	TA020TCM476#CR
20	47	D	85	13	125	9.4	6	0.9	408	367	163	TA020TCM476#DR
20	47	E	85	13	125	9.4	6	0.9	428	385	171	TA020TCM476#ER
20	68	C	85	13	125	13.6	8	0.5	469	422	188	TA020TCM686MCR
20	68	D	85	13	125	13.6	6	0.4	612	551	245	TA020TCM686#DR
20	68	E	85	13	125	13.6	6	0.9	428	385	171	TA020TCM686#ER
20	100	D	85	13	125	20	6	0.5	548	493	219	TA020TCM107#DR
20	100	E	85	13	125	20	6	0.4	642	578	257	TA020TCM107#ER
20	150	E	85	13	125	30	8	0.3	742	667	297	TA020TCM157#ER

ELECTRICAL SPECIFICATIONS & PART NUMBERS

RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
25	0.47	A	85	17	125	0.5	4	14	73	66	29	TA025TCM474#AR
25	0.68	A	85	17	125	0.5	4	10	87	78	35	TA025TCM684#AR
25	1	A	85	17	125	0.5	4	8	97	87	39	TA025TCM105#AR
25	1.5	A	85	17	125	0.5	6	7.5	100	90	40	TA025TCM155#AR
25	1.5	B	85	17	125	0.5	6	5	130	117	52	TA025TCM155#BR
25	2.2	A	85	17	125	0.6	6	7	104	93	41	TA025TCM225#AR
25	2.2	B	85	17	125	0.6	6	4.5	137	124	55	TA025TCM225#BR
25	3.3	A	85	17	125	0.8	6	3.7	142	128	57	TA025TCM335#AR
25	3.3	B	85	17	125	0.8	6	3.5	156	140	62	TA025TCM335#BR
25	3.3	C	85	17	125	0.8	6	2.8	198	178	79	TA025TCM335#CR
25	4.7	A	85	17	125	1.2	6	3.1	156	140	62	TA025TCM475#AR
25	4.7	B	85	17	125	1.2	6	1.5	238	214	95	TA025TCM475#BR
25	4.7	C	85	17	125	1.2	6	2.4	214	193	86	TA025TCM475#CR
25	6.8	B	85	17	125	1.7	6	2.8	174	157	70	TA025TCM685#BR
25	6.8	C	85	17	125	1.7	6	2	235	211	94	TA025TCM685#CR
25	10	B	85	17	125	2.5	6	2.5	184	166	74	TA025TCM106#BR
25	10	C	85	17	125	2.5	6	1.8	247	222	99	TA025TCM106#CR
25	10	D	85	17	125	2.5	6	1.2	354	318	141	TA025TCM106#DR
25	15	C	85	17	125	3.8	6	1.6	262	236	105	TA025TCM156#CR
25	15	D	85	17	125	3.8	6	1	387	349	155	TA025TCM156#DR
25	22	C	85	17	125	5.5	6	1.4	280	252	112	TA025TCM226#CR
25	22	D	85	17	125	5.5	6	0.9	408	367	163	TA025TCM226#DR
25	33	C	85	17	125	8.3	6	0.9	350	315	140	TA025TCM336#CR
25	33	D	85	17	125	8.3	6	0.9	408	367	163	TA025TCM336#DR
25	33	E	85	17	125	8.3	6	0.9	428	385	171	TA025TCM336#ER
25	47	D	85	17	125	11.8	6	0.9	408	367	163	TA025TCM476#DR
25	47	E	85	17	125	11.8	6	0.9	428	385	171	TA025TCM476#ER
25	68	D	85	17	125	17	6	0.9	408	367	163	TA025TCM686#DR
25	68	E	85	17	125	17	6	0.9	428	385	171	TA025TCM686#ER
25	100	E	85	17	125	25	10	0.3	742	667	297	TA025TCM107#ER
35	0.1	A	85	23	125	0.5	4	24	56	50	22	TA035TCM104#AR
35	0.15	A	85	23	125	0.5	4	21	60	54	24	TA035TCM154#AR
35	0.22	A	85	23	125	0.5	4	18	65	58	26	TA035TCM224#AR
35	0.33	A	85	23	125	0.5	4	15	71	64	28	TA035TCM334#AR
35	0.47	A	85	23	125	0.5	4	12	79	71	32	TA035TCM474#AR
35	0.47	B	85	23	125	0.5	4	10	92	83	37	TA035TCM474#BR
35	0.68	A	85	23	125	0.5	4	8	97	87	39	TA035TCM684#AR
35	0.68	B	85	23	125	0.5	4	8	103	93	41	TA035TCM684#BR
35	1	A	85	23	125	0.5	4	7.5	100	90	40	TA035TCM105#AR
35	1	B	85	23	125	0.5	4	6.5	114	103	46	TA035TCM105#BR
35	1.5	A	85	23	125	0.5	6	7.5	100	90	40	TA035TCM155#AR
35	1.5	B	85	23	125	0.5	6	5.2	128	115	51	TA035TCM155#BR

ELECTRICAL SPECIFICATIONS & PART NUMBERS

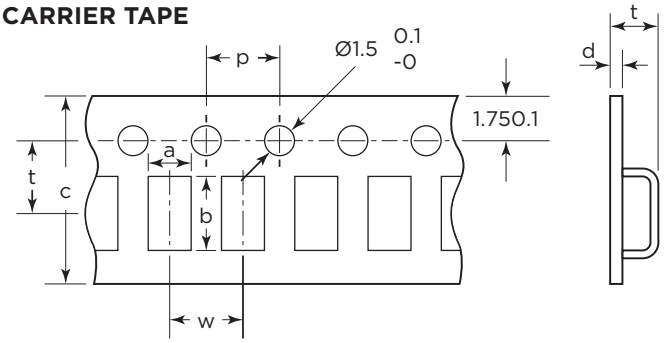
RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
35	1.5	C	85	23	125	0.5	6	4.5	156	141	63	TA035TCM155#CR
35	2.2	A	85	23	125	0.8	6	4.5	129	116	52	TA035TCM225#AR
35	2.2	B	85	23	125	0.8	6	4.2	142	128	57	TA035TCM225#BR
35	2.2	C	85	23	125	0.8	6	3.5	177	160	71	TA035TCM225#CR
35	3.3	B	85	23	125	1.2	6	3.5	156	140	62	TA035TCM335#BR
35	3.3	C	85	23	125	1.2	6	2.5	210	189	84	TA035TCM335#CR
35	4.7	B	85	23	125	1.6	6	3.1	166	149	66	TA035TCM475#BR
35	4.7	C	85	23	125	1.6	6	2.2	224	201	89	TA035TCM475#CR
35	4.7	D	85	23	125	1.6	6	1.5	316	285	126	TA035TCM475#DR
35	6.8	C	85	23	125	2.4	6	1.8	247	222	99	TA035TCM685#CR
35	6.8	D	85	23	125	2.4	6	1.3	340	306	136	TA035TCM685#DR
35	10	C	85	23	125	3.5	6	1.6	262	236	105	TA035TCM106#CR
35	10	D	85	23	125	3.5	6	1	387	349	155	TA035TCM106#DR
35	10	E	85	23	125	3.5	6	0.9	428	385	171	TA035TCM106#ER
35	15	C	85	23	125	5.3	6	1.4	280	252	112	TA035TCM156#CR
35	15	D	85	23	125	5.3	6	0.9	408	367	163	TA035TCM156#DR
35	22	D	85	23	125	7.7	6	0.9	408	367	163	TA035TCM226#DR
35	22	E	85	23	125	7.7	6	0.5	574	517	230	TA035TCM226#ER
35	33	D	85	23	125	11.6	6	0.9	408	367	163	TA035TCM336#DR
35	33	E	85	23	125	11.6	6	0.9	428	385	171	TA035TCM336#ER
35	47	D	85	23	125	16.5	6	0.9	408	367	163	TA035TCM476#DR
35	47	E	85	23	125	16.5	6	0.9	428	385	171	TA035TCM476#ER
50	0.1	A	85	33	125	0.5	4	22	58	53	23	TA050TCM104#AR
50	0.15	A	85	33	125	0.5	4	15	71	64	28	TA050TCM154#AR
50	0.15	B	85	33	125	0.5	4	17	71	64	28	TA050TCM154#BR
50	0.22	A	85	33	125	0.5	4	18	65	58	26	TA050TCM224#AR
50	0.22	B	85	33	125	0.5	4	14	78	70	31	TA050TCM224#BR
50	0.33	A	85	33	125	0.5	4	17	66	60	27	TA050TCM334#AR
50	0.33	B	85	33	125	0.5	4	12	84	76	34	TA050TCM334#BR
50	0.47	A	85	33	125	0.5	4	9.5	89	80	36	TA050TCM474#AR
50	0.47	B	85	33	125	0.5	4	9.5	95	85	38	TA050TCM474#BR
50	0.47	C	85	33	125	0.5	4	8	117	106	47	TA050TCM474#CR
50	0.68	A	85	33	125	0.5	4	7.9	97	88	39	TA050TCM684#AR
50	0.68	B	85	33	125	0.5	4	8	103	93	41	TA050TCM684#BR
50	0.68	C	85	33	125	0.5	4	7	125	113	50	TA050TCM684#CR
50	1	A	85	33	125	0.5	4	6.6	107	96	43	TA050TCM105#AR
50	1	B	85	33	125	0.5	6	7	110	99	44	TA050TCM105#BR
50	1	C	85	33	125	0.5	4	5.5	141	127	57	TA050TCM105#CR
50	1.5	B	85	33	125	0.8	8	5.4	125	113	50	TA050TCM155#BR
50	1.5	C	85	33	125	0.8	6	4.5	156	141	63	TA050TCM155#CR
50	1.5	D	85	33	125	0.8	6	4	194	174	77	TA050TCM155#DR

ELECTRICAL SPECIFICATIONS & PART NUMBERS

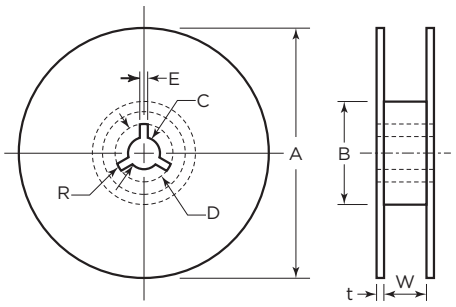
RATED VOLTAGE (V)	CAPACITANCE (UF)	CASE CODE	RATED TEMP (°C)	CATEGORY VOLTAGE (V)	CATEGORY TEMP (°C)	MAX. DCL @ +25°C (UA)	MAX. DF @ +25°C 120 Hz (%)	MAX. ESR 100 kHz (Ω)	100kHz RMS Current (mA)			VENKEL PART NUMBER #=K OR M tolerance unless specified
									25°C	85°C	125°C	
50	2.2	B	85	33	125	1.1	8	4.5	137	124	55	TA050TCM225#BR
50	2.2	C	85	33	125	1.1	8	2.5	210	189	84	TA050TCM225#CR
50	2.2	D	85	33	125	1.1	6	2.5	245	220	98	TA050TCM225#DR
50	3.3	C	85	33	125	1.6	6	2.5	210	189	84	TA050TCM335#CR
50	3.3	D	85	33	125	1.7	6	2	274	246	110	TA050TCM335#DR
50	4.7	C	85	33	125	2.4	6	1.4	280	252	112	TA050TCM475#CR
50	4.7	D	85	33	125	2.4	6	1.4	327	295	131	TA050TCM475#DR
50	6.8	C	85	33	125	3.4	6	1	332	298	133	TA050TCM685#CR
50	6.8	D	85	33	125	3.4	6	1	387	349	155	TA050TCM685#DR
50	10	D	85	33	125	5	6	0.8	433	390	173	TA050TCM106#DR
50	10	E	85	33	125	5	6	0.8	454	409	182	TA050TCM106#ER
50	15	D	85	33	125	7.5	6	0.6	500	450	200	TA050TCM156#DR
50	15	E	85	33	125	7.5	6	0.6	524	472	210	TA050TCM156#ER

TAPE & REEL SPECIFICATIONS

CARRIER TAPE



REEL



CARRIER TAPE DIMENSIONS

Unit: mm

Case Size	a ± 0.1	b ± 0.1	c ± 0.1	t ± 0.1	p ± 0.1	w ± 0.1	d ± 0.1
A	1.9	3.9	8.0	2.0	4.0	4.0	0.2
B	3.1	3.9	8.0	2.3	4.0	4.0	0.2
C	3.9	6.3	12.0	2.7	4.0	8.0	0.3
D	4.6	7.7	12.0	3.3	4.0	8.0	0.3
E	4.6	7.7	12.0	4.2	4.0	8.0	0.3

REEL DIMENSIONS

Unit: mm

CASE SIZE	A ± 0 -3.0	B -0	C ± 0.2	D ± 0.8	E ± 0.5	W ± 0.3	T ± 0.5	R
A, B	180	60	13.0	21.0	2.0	13.0	2.0	1.0
C, D, E	330	60	13.0	21.0	2.0	13.0	2.0	1.0

QUANTITY PER REEL

CASE SIZE	REEL SIZE
	7"
A	2,000 pcs
B	2,000 pcs
C	500 pcs
D	500 pcs
E	400 pcs

ENVIRONMENTAL CHARACTERISTICS

TEST	CONDITION	CHARACTERISTICS						
Endurance	Apply rated voltage (Vr) at 85°C and/or category voltage (Vc) at 125°C for 2000 hours through a circuit impedance of 0.1Ω/V. Stabilize at room temperature for 1-2 hours before measuring.	Visual examination	no visible damage					
		DCL	1.25 x initial limit					
		ΔC/C	within ±10% of initial value					
		DF	initial limit					
Humidity	Store at 65°C and 95% relative humidity for 500 hours, with no applied voltage. Stabilize at room temperature and humidity for 1-2 hours before measuring	Visual examination	no visible damage					
		DCL	1.5 x initial limit					
		ΔC/C	within ±10% of initial value					
		DF	1.2 x initial limit					
Temperature Stability	Step 1: +20 °C, 15 min Step 2: -55 °C, 15 min Step 3: +20 °C, 15 min Step 4: +85 °C, 15 min Step 5: +125 °C, 15 min Step 6: +20 °C, 15 min		+20°C	-55°C	+20°C	+85°C	+125°C	+20°C
		DCL	IL*	n/a	IL*	10 x IL*	12.5 x IL*	IL*
		ΔC/C	n/a	+0/-10%	±5%	+10/-0%	+12/-0%	±5%
		DF	IL*	1.5 x IL*	IL*	1.5 x IL*	2.0 x IL*	IL*
Surge Voltage	Apply 1.3x category voltage (Vc) at 125°C for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge/discharge resistance of 1000Ω	Visual examination	no visible damage					
		DCL	initial limit					
		ΔC/C	within ±5% of initial value					
		DF	initial limit					
Mechanical Shock	MIL-STD-202, Method 213, Condition C	Visual examination	no visible damage					
		DCL	initial limit					
		ΔC/C	within ±5% of initial value					
		DF	initial limit					
		ESR	initial limit					
Vibration	MIL-STD-202, Method 204, Condition D	Visual examination	no visible damage					
		DCL	initial limit					
		ΔC/C	within ±5% of initial value					
		DF	initial limit					
		ESR	initial limit					