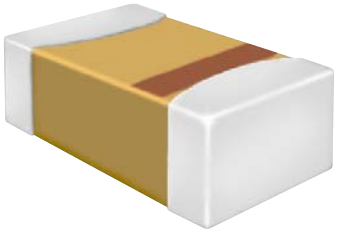
TMC Series

Established Reliability TACmicrochip®

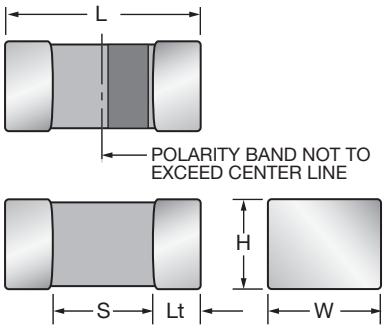


- Weibull graded
- Reliability level: 0.1% / 1000 hrs.
- Low leakage
- CV range: 0.47-68µF / 3-20V
- 5 case sizes available

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	Length (L)	Width (W)	Height (H)	Termination Spacing(S)	Minimum Termination Length (Lt)	Average Mass
A	1206	3126-18	3.20 +0.20 -0.20 (0.126 +0.008 -0.008)	1.60 +0.20 -0.20 (0.063 +0.008 -0.008)	1.60 +0.20 -0.20 (0.063 +0.008 -0.008)	1.80 min.	0.15 (0.006)	44.6mg
B	1210	3528-15	3.50 +0.20 -0.20 (0.138 +0.008 -0.008)	2.80 +0.20 -0.10 (0.110 +0.008 -0.004)	1.50 max.	2.00 min.	0.15 min.	90.0mg
H	0805	2012-10	2.00 +0.20 -0.00 (0.079 +0.008 -0.000)	1.35 +0.15 -0.00 (0.53 +0.006 -0.000)	1.00 max.	0.70 min.	0.15 min.	17.1mg
K	0402	1005-07	1.00 +0.20 -0.00 (0.039 +0.008 -0.000)	0.50 +0.20 -0.00 (0.020 +0.008 -0.000)	0.50 +0.20 -0.00 (0.020 +0.008 -0.000)	0.40 min.	0.10 (0.004)	2.8mg
L	0603	1608-10	1.60 +0.25 -0.15 (0.063 +0.010 -0.006)	0.85 +0.20 -0.10 (0.033 +0.008 -0.004)	0.85 +0.20 -0.10 (0.033 +0.008 -0.004)	0.55 min.	0.15 (0.006)	8.6mg
R	0805	2012-15	2.00 +0.25 -0.15 (0.079 +0.010 -0.006)	1.35 +0.20 -0.10 (0.053 +0.008 -0.004)	1.35 +0.20 -0.10 (0.053 +0.008 -0.004)	0.70 min.	0.15 (0.006)	29.9mg

Under development

HOW TO ORDER

TMC — **Type**
TACmicrochip®

R — **Case Size**
See table above

106 — **Capacitance Code**
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

M — **Tolerance**
K = ±10%
M = ±20%

010 — **Rated DC Voltage**
003 = 3Vdc
004 = 4Vdc
006 = 6.3Vdc
010 = 10Vdc
016 = 16Vdc
020 = 20Vdc
025 = 25Vdc
050 = 50Vdc

E — **Packaging**
E = Non Modular qty. supplied on 7" reel
V = Non Modular qty. supplied on 4¼" reel
E, V = Standard Tin Termination Plastic Tape

HS — **Termination and Special Requirements**
Alternative characters may be used for special requirements.

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C								
Capacitance Range:		0.10 µF to 68 µF								
Capacitance Tolerance:		±10%; ±20%								
Leakage Current DCL:		0.005CV or 0.2µA whichever is the greater								
Rated Voltage (V_R)	≤ +85°C:	3	4	6.3	10	16	20	25	50	
Category Voltage (V_C)	≤ +125°C:	2	2.7	4	7	10	13	17	33	
Surge Voltage (V_S)	≤ +85°C:	3.9	5.2	8	13	20	26	32	65	
Surge Voltage (V_S)	≤ +125°C:	2.6	3.2	5	8	12	16	20	40	
Temperature Range:		-55°C to +125°C								
Reliability:		HRC5000, Weibull B grade, 0.1% per 1000 hours								
Termination Finish:		Nickel and Tin Plating (standard), Nickel and Gold Plating option available upon request								

TMC Series

Established Reliability TACmicrochip®

ESTABLISHED RELIABILITY RANGE (EIA SIZES) (LETTER DENOTES CASE SIZE)

Capacitance		Voltage Rating DC (V_R) at 85°C								
µF	Code	2.0V	3.0V	4.0V	6.3V	10V	16V	20V	25V	50V
0.10 0.15 0.22	104 154 224							K*		
0.33 0.47 0.68	334 474 684					K/L L	L L			
1.0 1.5 2.2	105 155 225				K	K*/L L L	L L		R*	A*
3.3 4.7 6.8	335 475 685				 L R	L/R L/R R	R* R*	R R(M)	A*	
10 15 22	106 156 226		R	R R R	R R* R	H*/R A*	R	A*		
33 47 68	336 476 686		R	R(M) R* A	R* A A*	B* B				

Released codes (M tolerance only)

*Codes under development – subject to change.

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.

RATINGS & PART NUMBER REFERENCE

AVX Part No.	EIA	Case Size	Cap (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
3 Volt @ 85°C (2 Volt @ 125°C)							
TMCR156*003EHS	0805	R	15	3	0.2	8	6
TMCR336*003EHS	0805	R	33	3	0.5	10	6
4 Volt @ 85°C (2.7 Volt @ 125°C)							
TMCR106*004EHS	0805	R	10	4	0.2	8	6
TMCR156*004EHS	0805	R	15	4	0.3	8	6
TMCR226*004EHS	0805	R	22	4	0.4	15	6
TMCR336M004EHS	0805	R	33	4	0.7	10	6
TMCR476*004EHS	0805	R	47	4	0.9	15	6
TMCA686*004EHS	1206	A	68	4	1.4	15	1
6.3 Volt @ 85°C (4 Volt @ 125°C)							
TMCK105*006EHS	0402	K	1.0	6.3	0.2	6	15
TMCL475*006EHS	0603	L	4.7	6.3	0.2	8	10
TMCR685*006EHS	0805	R	6.8	6.3	0.2	8	6
TMCR106*006EHS	0805	R	10	6.3	0.3	8	6
TMCR156*006EHS	0805	R	15	6.3	0.5	8	6
TMCR226*006EHS	0805	R	22	6.3	0.7	15	6
TMCR336*006EHS	0805	R	33	6.3	1	20	6
TMCA476*006EHS	1206	A	47	6.3	1.5	15	1
TMCA686*006EHS	1206	A	68	6.3	2.2	15	1
10 Volt @ 85°C (7 Volt @ 125°C)							
TMCK474*010EHS	0402	K	0.47	10	0.2	6	15
TMCL474*010EHS	0603	L	0.47	10	0.2	6	10
TMCL684*010EHS	0603	L	0.68	10	0.2	6	10
TMCK105*010EHS	0402	K	1.0	10	0.2	6	15
TMCL105*010EHS	0603	L	1.0	10	0.2	6	10
TMCL155*010EHS	0603	L	1.5	10	0.2	6	10
TMCL225*010EHS	0603	L	2.2	10	0.2	6	10
TMCL335*010EHS	0603	L	3.3	10	0.2	8	10
TMCR335*010EHS	0805	R	3.3	10	0.2	8	6
TMCL475*010EHS	0603	L	4.7	10	0.2	10	10
TMCR475*010EHS	0805	R	4.7	10	0.2	8	6
TMCR685*010EHS	0805	R	6.8	10	0.3	8	6
TMCH106*010EHS	0805	H	10	10	0.5	8	6
TMCR106*010EHS	0805	R	10	10	0.5	8	6
TMCA226*010EHS	1206	A	22	10	1.1	20	1
TMCB336*010EHS	1210	B	33	10	1.7	15	1
TMCB476*010EHS	1210	B	47	10	2.4	15	1
16 Volt @ 85°C (10 Volt @ 125°C)							
TMCL474*016EHS	0603	L	0.47	16	0.2	6	10
TMCL684*016EHS	0603	L	0.68	16	0.2	6	10
TMCL105*016EHS	0603	L	1.0	16	0.2	6	10
TMCL225*016EHS	0603	L	2.2	16	0.2	10	10
TMCR335*016#HS	0805	R	3.3	16	0.2	8	6
TMCR685*016#HS	0805	R	6.8	16	0.5	10	16
TMCR106*016EHS	0805	R	10	16	0.8	10	6
20 Volt @ 85°C (13 Volt @ 125°C)							
TMCK104*020EHS	0402	K	0.1	20	0.2	6	40
TMCR335*020EHS	0805	R	3.3	20	0.2	8	6
TMCR475M020EHS	0805	R	4.7	20	0.5	8	6
TMCA106*020#HS	1206	A	10	20	1.0	6	1
25 Volt @ 85°C (17 Volt @ 125°C)							
TMCR105*025EHS	0804	R	1.0	25	0.2	10	6
TMCA475*025EHS	1206	A	4.7	25	0.6	8	1
50 Volt @ 85°C (33 Volt @ 125°C)							
TMCA105*050#HS	1206	A	1.0	50	0.2	6	1

*Insert K for ±10% and M for ±20% Capacitance Tolerance

Refers to termination finished and packaging reel size

MSL level: See page 123 (6. Moisture Sensitivity Level) or packaging and reel label.

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.