

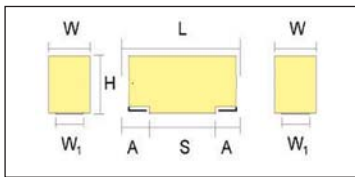
TLN Series



Tantalum Solid Electrolytic Chip Capacitors Undertab Series



- Undertab terminations layout:
 - High Volumetric Efficiency
 - High PCB assembly density
 - High capacitance in smaller dimensions
- 3x reflow 260°C compatible
- Consumer applications (e.g. PCMCIA/USB wireless express cards, mobiles, MP3 etc.)



For part marking see page 123

CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	L±0.20 (0.008)	W+0.20 (0.008) -0.10 (0.004)	H+0.20 (0.008) -0.10 (0.004)	W ₁ ±0.20 (0.008)	A+0.30 (0.012) -0.20 (0.008)
S	3216-12	3.50 (0.138)	1.60 (0.063)	1.20 (0.047) max	1.20 (0.047)	0.80 (0.031)

W₁ dimension applies to the termination width for A dimensional area only.

HOW TO ORDER

TLN

Type

S

Case Code
See table above

227

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

M

Tolerance
M = ±20%

004

Rated DC Voltage
004 = 4Vdc

R

Packaging
R = 7" T/R
S = 13" T/R

3000

ESR in mΩ

TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C		
Capacitance Range:	220 μF		
Capacitance Tolerance:	±20%		
Rated Voltage (V _R)	≤ +85°C:	4	10
Category Voltage (V _C)	≤ +85°C:	2	5
Category Voltage (V _C)	≤ +125°C:	0.8	2
Temperature Range:	-55°C to +125°C with category voltage		
Reliability:	0.2% per 1000 hours at 85°C, 0.5xV _R with 0.1Ω/V series impedance with 60% confidence level		

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CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC to 40°C / 0.5DC to 85°C/ 0.2DC to 125°C						
μF	Code	2.5V (e)	4V (G)	6.3V (J)	10V (A)	16V (C)	20V (D)	35V (V)
33	336				N*			
47	476				K(1500)/R*			
68	686				P*/S*			
100	107		R*	K*/P*	G*/L*/T*			
150	157		K*/P*	G*/S*	T*			
220	227		G*/S(3000)	L*/T*	H*/M*			
330	337		L*/T*	H*	M*/U*			
470	477		H*/M*	M*/U*				
680	687		U*	U*				

Available Ratings, (ESR ratings in mOhms in brackets)

Engineering samples - please contact manufacturer

*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.	Case Size	Cap (μF)	Rated Voltage (V)	Maximum Surge Current (A)	DCL (μA) Max.	ESR Max. (m Ω) @100kHz	100kHz Ripple Current (mA)			100kHz Ripple Voltage (mV)			
							25°C	85°C	105°C	25°C	85°C	105°C	
4 Volt @ 40°C (2V @ 85°C, 0.8V @ 125°C)													
TLNS227M004#3000	S	220	4	0.6	17.6	3000	135	122	54	406	366	162	
10 Volt @ 40°C (5V @ 85°C, 2V @ 125°C)													
TLNK476M010#1500	K	47	10	0.6	4.7	1500	191	172	77	287	259	115	

insert R for 7" reel or S for 13" reel

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5 RMS with DC bias of 1.5V. DCL is measured at rated voltage after 5 minutes.

TLN series is MSL level 3 according to J-STD-020C.

ESR allowed to move up to 1.25 times catalog limit post mounting.

DCL allowed to move up to 2.00 times catalog limit post mounting.

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

