## **High Capacitance Tantalum Solid Electrolytic Chip Capacitors Undertab Series**





#### **FEATURES**

- · Large Case Size for Maximum Capacitance
- 3x Reflow 260°C Compatible
- 100% Surge Current Tested
- · Low Profile Solution
- **Consumer Applications** (e.g. PCMCIA/USB Wireless Express Cards etc.)
- CV Range: 1000-3300µF / 4-10V
- · 2 Case Sizes Available

## **APPLICATIONS**

- · Data Transfer Modems
- · SSD Backup Circuits





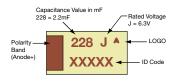
#### **CASE DIMENSIONS:**

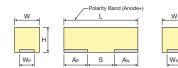
## millimeters (inches)

Code	EIA Code	EIA Metric	L±0.20 (0.008)	W+0.20 (0.008) -0.10 (0.004)	H max.	W <sub>P</sub> ±0.10 (0.004)	W <sub>N</sub> ±0.10 (0.004)	A <sub>P</sub> ±0.10 (0.004)	A <sub>N</sub> ±0.10 (0.004)	S Min.
4	2924	7361-20	7.30 (0.287)	6.10 (0.240)	2.00 (0.079)	4.75 (0.187)	4.75 (0.187)	2.00 (0.079)	3.20 (0.126)	2.10 (0.083)
6	5831	14878-20	14.80 (0.583)	7.80 (0.307)	2.00 (0.079)	5.50 (0.217)	5.50 (0.217)	2.45 (0.096)	2.45 (0.096)	9.90 (0.390)

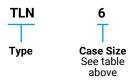
## **MARKING**

## **4,6 CASE**





## **HOW TO ORDER**









010 = 10 Vdc







ESR in  $m\Omega$ 

## **TECHNICAL SPECIFICATIONS**

Technical Data:	All technical data relate to an ambient temperature of +25°C								
Capacitance Range:	1000 μF to 3300 μF								
Capacitance Tolerance:			±20%						
Leakage Current DCL:		0.01CV							
Rated Voltage $(V_R)$ $-55^{\circ}C \le +40$		4	6.3	10					
Category Voltage (V <sub>c</sub> ) at 85°C:		2	3.2	5					
Category Voltage (V <sub>c</sub> )	at 125°C:	0.8	1.3	2					
Temperature Range:		-55°C to	+125°C v	with cate	gory voltage				
Reliability:		0.2% per 1000 hours at 85°C, 0.5xV $_{\mbox{\tiny R}}$ with 0.10/V series impedance with 60% confidence level							





## **CAPACITANCE AND RATED VOLTAGE RANGE** (LETTER DENOTES CASE SIZE)

Capac	citance	Voltage Rating DC (VR) to 85°C							
μF	Code	4V (G)	6.3V (J)	10V (A)					
680	687								
1000	108			4(100)/6(55)					
1500	158		4(100)	6(55)					
2200	228		6(55)						
3300	338	6(55)							

Released ratings (ESR ratings in mOhms in parentheses)

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

## **RATINGS & PART NUMBER REFERENCE**

	Case Size	Capacitance (μF)	Rated Voltage (V)	Rated Temperature (°C)	Category Voltage (V)	Category Temperature (°C)	DCL Max. (µA)	ESR Max.	100kHz RMS Current (mA)			
Part Number								@ 100kHz (mΩ)	25°C	85°C	125°C	MSL
4 Volt @ 40°C												
TLN6338M004#0055	6	3300	4	40	0.8	125	132	55	2045	1840	818	3
6.3 Volt @ 40°C												
TLN4158M006#0100	4	1500	6.3	40	1.3	125	90	100	1285	1156	514	3
TLN6228M006#0055	6	2200	6.3	40	1.3	125	132	55	2045	1840	818	3
10 Volt @ 40°C												
TLN4108M010#0100	4	1000	10	40	2	125	100	100	1285	1156	514	3
TLN6108M010#0055	6	1000	10	40	2	125	100	55	2045	1840	818	3
TLN6158M010#0055	6	1500	10	40	2	125	150	55	2045	1840	818	3

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

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.

ESR allowed to move up to 1.25 times catalogue limit post mounting

DCL allowed to move up to 2.00 times catalogue limit post mounting

For typical weight and composition see page 259.

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

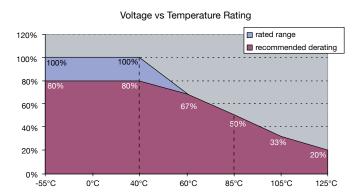
# **High Capacitance Tantalum Solid Electrolytic Chip Capacitors Undertab Series**



## **QUALIFICATION TABLE**

TEST	TLN PulseCap™ series (Temperature range -55°C to +125°C)											
IESI		Condition	Characteristics									
	Apply rated voltage	ge (Ur) at 40°C and	/ or category	Visual examination	n no visible damage							
Endurance		5°C for 2000 hours t	DCL	2 x initia	2 x initial limit							
Elluurance	1 '	1Ω/V. Stabilize at ro	ΔC/C	within +5/-30% of initial value								
	for 1-2 hours befo	re measuring.		ESR	1.25 x initial limit							
	Store at 65°C and	I 90-95% relative hu	Visual examination	no visib	no visible damage							
		plied voltage. Stabil	DCL	2 x initia	2 x initial limit							
Humidity		humidity for 1-2 hou	ΔC/C	within ±	within ±10% of initial value							
	measuring.			ESR	1.25 x ir	nitial limit						
	Step	Temperature°C	Duration(min) 15		+20°C	-55°C	+20°C	+85°C	+125°C	+20°C		
Tomporoturo	2	+20 -55	15	DCL	2 x IL*	n/a	2 x IL*	20 x IL*	25 x IL*	2 x IL*		
Temperature Stability	3 4	+20 +85	15 15	ΔC/C	n/a	+5/-20%	±10%	+20/-0%	-	-		
Otability	5	+125	15			-			-			
	6	+20	15	ESR		2.5 x IL*	1.25 x IL*	1.25 x IL*	1.25 x IL*	125xIL*		
	Apply 1.3x rated v	oltage (Ur) at 40°C	for 1000 cycles	Visual examination		no visible damage						
Surge		(30 sec charge, 5 m	DCL		2 x initial limit							
Voltage	discharge) through a charge / discharge resistance			ΔC/C		within ±5% of initial value						
	of 1000Ω			ESR	1.25 x ir	nitial limit						
				Visual examination	no visib	le damage	9					
Mechanical			DCL	initial limit								
Shock	MIL-STD-202, Method 213, Condition C			ΔC/C	within ±5% of initial value							
OHOOK				DF	initial lin	initial limit						
				ESR	initial lir	initial limit						
				Visual examination	no visib	no visible damage						
				DCL	initial limit							
Vibration	MIL-STD-202, Met	thod 204, Condition	n D	ΔC/C	within ±5% of initial value							
				DF	initial lin	initial limit						
			ESR	initial limit								

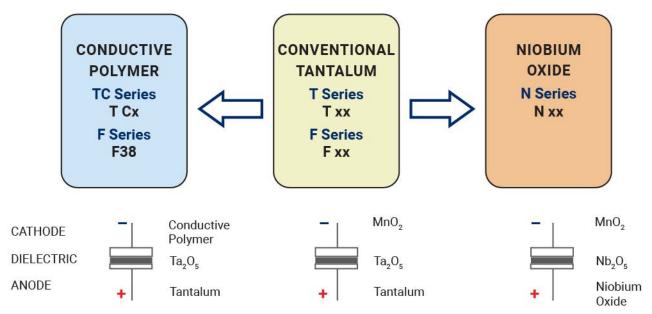
<sup>\*</sup>Initial Limit



## **High Capacitance Tantalum Solid Electrolytic Chip Capacitors Undertab Series**



## SOLID ELECTROLYTIC CAPACITOR ROADMAP



## FIVE CAPACITOR CONSTRUCTION STYLES



## **SERIES LINE UP: CONVENTIONAL SMD MnO**,

