

T322 and T323 Series MIL-PRF-49137/1 and 5 (CX01 and CX05 Style)

Overview

tantalum capacitors designed specifically for high speed

temperature range -55°C to $+85^{\circ}\text{C}$ at full rated voltage and with 2/3 85°C rated voltage at 125°C . The gold color

and legibility. T323 Series capacitors are qualified under MIL-PRF-49137/1 and 5 as Military Style CX01 and CX05.

and filtering in commercial computers, data processing,

speed computers due to its low ESR/impedance at high

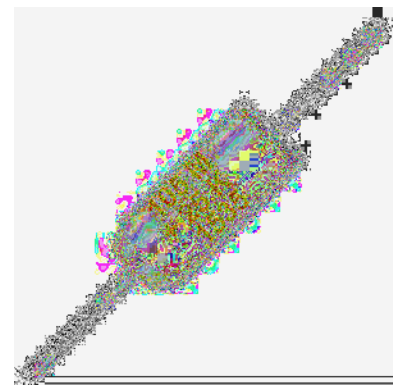
Benefits

- Taped and reeled per EIA Specification RS-296
- Qualified to MIL-PRF-49137/1 and 5
- Capacitance values of $0.1\ \mu\text{F}$ to $330\ \mu\text{F}$
- Voltage rating of 2 – 50 VDC
- Operating temperature range of -55°C to $+85^{\circ}\text{C}$
- Case sizes: A, B, C, D, E, F

Applications

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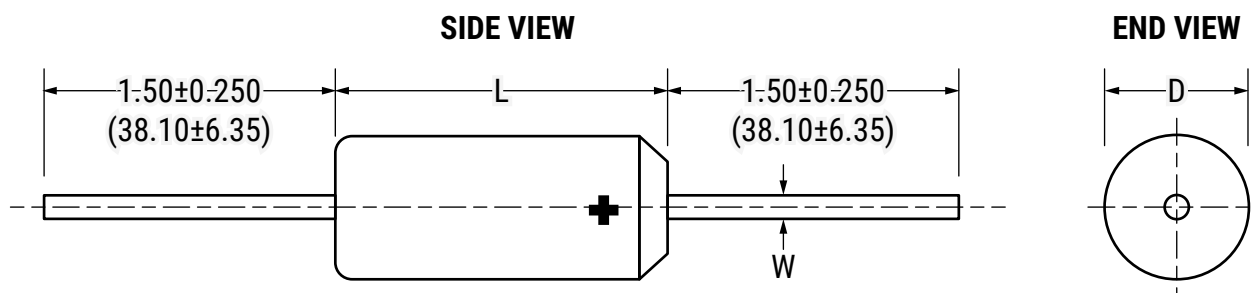
Ordering Information

T	32X	A	474	M	035	A	T	
			(pF)		Rated Voltage (VDC)	Failure Rate/	Finish	
		D F	First two digits significant figures. Third digit specifies number					Reeling per EIA specification RS-296 7200 = Reel

MIL-PRF-49137/1/5 (CX01 and CX05 Style)

CX	05	D	225	K
		Rated Voltage (VDC)	Code (pF)	
CX = MIL-PRF		D = 6 F = 10	First two digits represent significant figures. Third digit specifies number of	

Dimensions – Millimeters (Inches)



Case Size	D Maximum	L Maximum	W
	0.110 (2.79)	0.290 (7.37)	
	0.180 (4.57)	0.345 (8.76)	
D	0.180 (4.57)	0.420 (10.67)	
	0.280 (7.11)		
F	0.300 (7.62)	0.710 (18.03)	

Table 1 – Ratings & Part Number Reference

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	CX01 & CX05 Capacitors per MIL-PRF-49137/1 & 5	
(V) 85°C	µF		(See below for part options)	µA @ 25°C Max/5 Minimum	% @ 25°C 120 Hz Maximum	Military Part Number	KEMET Part Number
	27.0		T322B276(1)002A(2)				
	47.0		T322C476(1)002A(2)				
	4.7		T322A475(1)004A(2)				
	27.0		T322C276(1)004A(2)	0.7			
	47.0	D D	T322C476(1)004A(2) T322D566(1)004A(2) T322D686(1)004A(2)				
	4.7 4.7 4.7		T322A475J006A(2) T322A475K006A(2) T322A475M006A(2)			CX05D475K CX05D475M	T323A475K006A(2) T323A475M006A(2)
						CX01D565K CX01D565M	
						CX01D685K CX01D685M	
						CX01D825K CX01D825M	
						CX01D106K CX01D106M	
				0.7 0.7 0.7		CX01D126K CX01D126M CX05D156K CX05D156M	
	27.0		T322C276(1)006A(2)				
(V) 85°C	µF	Case Code/ Case Size	(see below for part options)	µA @ 25°C Max/5 Minimum	% @ 25°C 120 Hz Maximum	Military Part Number	KEMET Part Number
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	CX01 & CX05 Capacitors per MIL-PRF-49137/1 & 5	

(1) To complete KEMET part number, insert M for ±20%, K for ±10% or J for 5%. Designates capacitance tolerance.

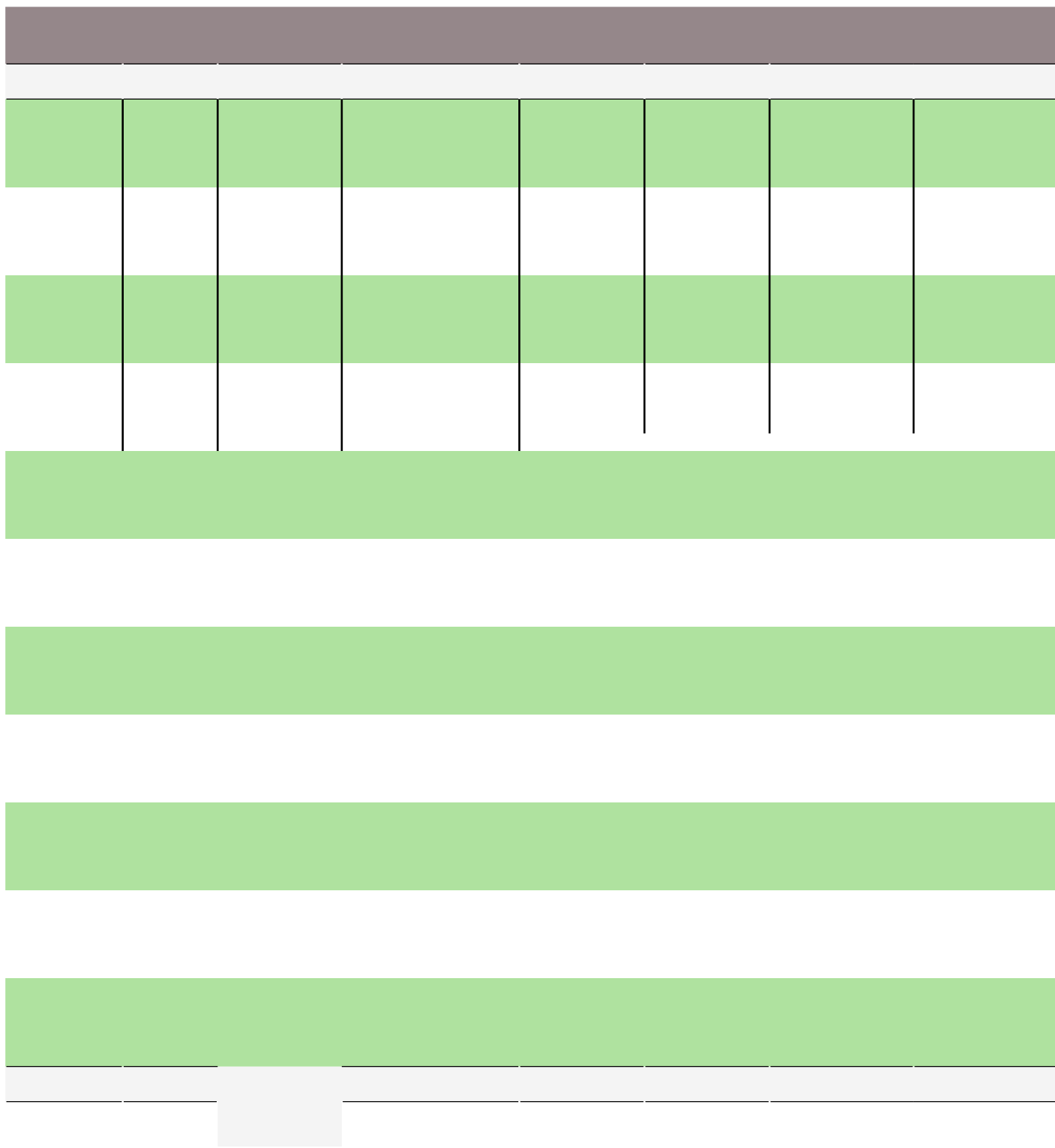
(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, S = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.

Table 1 – Ratings & Part Number Reference cont'd

Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	CX01 & CX05 Capacitors per MIL-PRF-49137/1 & 5	
(V) 85°C	µF		(See below for part options)	µA @ 25°C Max/5 Minimum	% @ 25°C 120 Hz Maximum	Military Part Number	KEMET Part Number
		D	T322D156J020A(2)				T323D156K020A(2) T323D156M020A(2)
		D	T322D156K020A(2)				
		D	T322D156M020A(2)				
		D	T322D186(1)020A(2)				
		D	T322D226(1)020A(2)				
	27.0		T322E276(1)20A(2)				
	47.0		T322E476(1)20A(2)	7.5			
	0.47	F	T322F826(1)020A(2)				
		F	T322F107(1)020A(2)				
			T322A474(1)025A(2)				
	2.7		T322B275(1)025A(2)	0.7			
				0.7			
				0.7			
	4.7		T322C475(1)025A(2)				
	27.0	D	T322D126(1)025A(2)				
		D	T322D156(1)025A(2)				
	47.0		T322E276(1)025A(2)	7.9			
		F	T322E476(1)025A(2)				
		F	T322F566(1)025A(2)				
		F	T322F686(1)025A(2)				
(V) 85°C	µF	Case Code/ Case Size	(see below for part options)	µA @ 25°C Max/5 Minimum	% @ 25°C 120 Hz Maximum	Military Part Number	KEMET Part Number
Rated Voltage	Rated Cap	Case Code/ Case Size	KEMET Part Number	DC Leakage	DF	CX01 & CX05 Capacitors per MIL-PRF-49137/1 & 5	

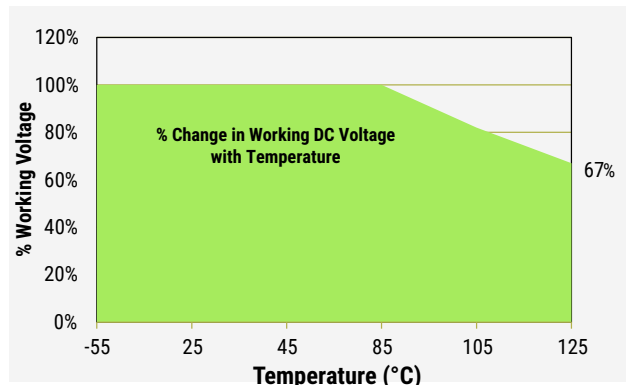
(1) To complete KEMET part number, insert M for ±20%, K for ±10% or J for 5%. Designates capacitance tolerance.

(2) To complete KEMET part number, insert T = 100% Matte Tin (Sn) Plated, S = Standard Solder coated (SnPb 5% Pb minimum). Designates termination finish.



Recommended Voltage Derating Guidelines

	-55°C to 85°C	85°C to 125°C
DC Voltage with	R	R



Ripple Current/Ripple Voltage

equivalent series resistance (ESR) and the power dissipation

1. Dissipated power must not exceed the limits specified
2. The positive peak AC voltage plus the DC bias voltage, if any, must not exceed the DC voltage rating of the

Case Size	Maximum Power Dissipation (Pmax) Watts at 25°C
	0.070
D	
F	

specified for reverse voltage.

$$I(\text{max}) = \sqrt{P_{\text{max}}/R}$$

$$E(\text{max}) = Z \sqrt{P_{\text{max}}/R}$$

I = rms ripple current (amperes)

E = rms ripple voltage (volts)

P max = maximum power dissipation (watts)

R = ESR at specified frequency (ohms)

Z = Impedance at specified frequency (ohms)

and ESR data shown in the respective product section.

Temperature Compensation Multipliers for Maximum Power Dissipation		
T ≤ 25°C	T ≤ 85°C	T ≤ 125°C

T = Environmental Temperature

The maximum power dissipation rating must be reduced with increasing environmental operating temperatures. Refer to the Temperature Compensation Multiplier table for details.

Storage

– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be

For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

Tape & Reel Packaging Information

Specification RS-296E.

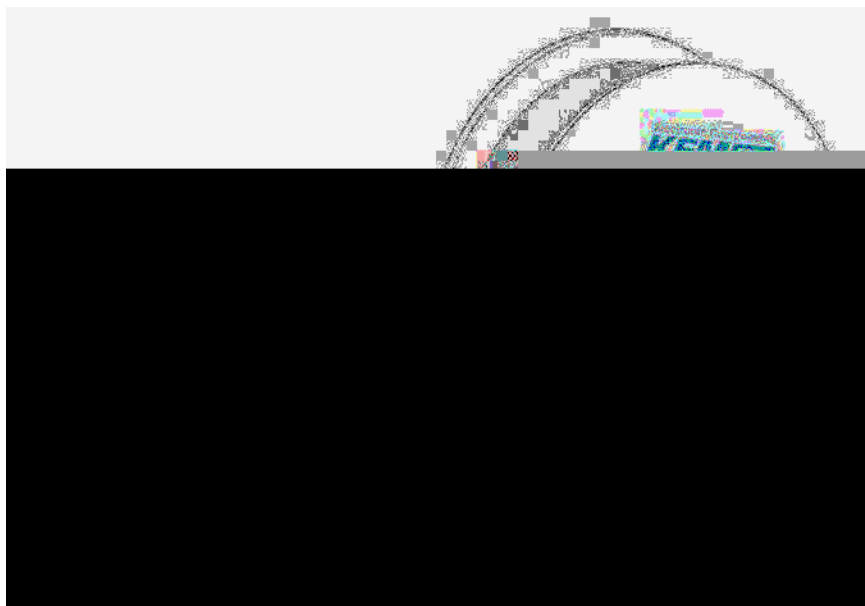


Table 2 – Packaging Quantity

Case Size	Standard Bulk Quantity	Standard Reel Quantity	Reel C-Spec	Ammo Pack Quantity	Ammo Pack C-Spec
			C-7200		C-7293
					C-7442
D					C-7443
F					

Figure 2

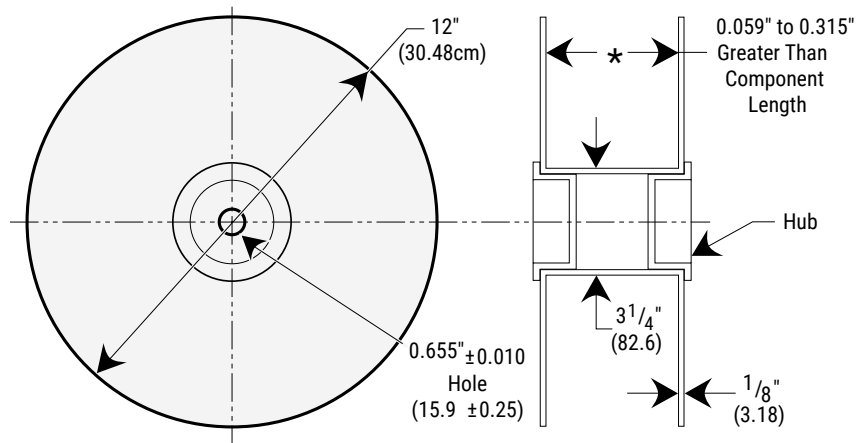
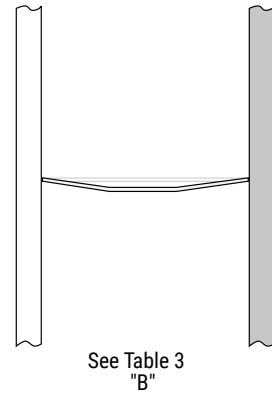


Figure 3



KEMET Electronics Corporation Sales Offices

For a complete list of our global sales offices, please visit www.kemet.com/sales.

Disclaimer

All product specifications, statements, information and data (collectively, the "Information") in this datasheet are subject to change. The customer is responsible for

applications, but are not intended to constitute – and KEMET specifically disclaims – any warranty concerning suitability for a specific customer application or use.

(such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other