## **TWA SERIES**



# MIL-PRF-39006/33 Series - Military Conventional Wet Tantalum

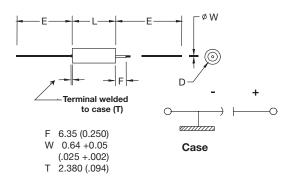


#### **GENERAL DESCRIPTION**

This data sheet contains the MIL-PRF-39006 ratings for which KYOCERA AVX is a qualified approved supplier. This will be continually updated as the qualification expands.

This design is an axial leaded tubular case. It includes a welded tantalum can and header assembly that provides a hermetic seal to withstand harsh environments. The 1000 hour failure rates of 1%, 0.1% and 0.01% correspond to "M", "P", and "R" respectively. For details on testing conditions please refer to MIL-PRF-39006.

#### **OUTLINE DIMENSIONS**



### **CURRENTLY QUALIFIED M39006 RATINGS INCLUDE T3-T4 CASE SIZE:**

	M Level Reliability Dashes	P Level Reliability Dashes
M39006/33	25V-75V	25V-75V

#### **CASE DIMENSIONS: Millimeters (inches)**

DLA Case Size	Case Size	<b>L</b> +0.79 (0.031) -0.41 (0.016)	<b>D</b> Basic Case ±0.41 (0.016)	<b>D</b> Insulated Case Max	<b>E</b> ±6.35 (0.250)		
Т3	D	19.46 (0.766)	9.52 (0.375)	10.31 (0.406)	57.15 (2.250)		
T4	E	26.97 (1.062)	9.52 (0.375)	10.31 (0.406)	57.15 (2.250)		

#### VOLTAGE RATINGS (Operating Temperature -55°C to 125°C)

Voltage (DC)												
Rated Voltage: (V <sub>r</sub> )	85°C	6	8	10	15	25	30	50	60	75	100	125
Derated Voltage: (V <sub>c</sub> )	125°C	4	5	6	10	15	20	30	40	50	65	85
Surge Voltage: (V <sub>s</sub> )	85°C	6.9	9.2	11.5	17.3	28.8	34.5	57.5	69	86.3	115	144

### HOW TO ORDER MILITARY M39006 PART NUMBER:



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### RIPPLE CURRENT MULTIPLIERS vs. Frequency, temperature and applied voltage<sup>1/2/3/</sup>

App	ency of olied Current		120	)Hz			800	)Hz	1kHz				
	t Still Air ature (°C)	≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
0. 60500	100%	0.60	0.39	-	-	0.71	0.43	-	-	0.72	0.45	-	_
% of 85°C Rated	90%	0.60	0.46	-	-	0.71	0.55	-	_	0.72	0.55	-	_
Peak	80%	0.60	0.52	0.35	-	0.71	0.62	0.42	_	0.72	0.62	0.42	_
Voltage	70%	0.60	0.58	0.44	-	0.71	0.69	0.52	1	0.72	0.70	0.52	_
Voltage	66-2/3%	0.60	0.60	0.46	0.27	0.71	0.71	0.55	0.32	0.72	0.72	0.55	0.32

Ap	Frequency of Applied Ripple Current		10k	ιHz			401	ιHz		100kHz				
Ambient Still Air Temperature (°C)		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125	
% of	100%	0.88	0.55	-	-	1.00	0.63	-	-	1.10	0.69	-	_	
85°C	90%	0.88	0.67	-	-	1.00	0.77	-	ı	1.10	0.85	-	_	
Rated	80%	0.88	0.76	0.52	_	1.00	0.87	0.59	ı	1.10	0.96	0.65	_	
Peak	70%	0.88	0.85	0.64	-	1.00	0.97	0.73	ı	1.10	1.07	0.80	_	
Voltage	66-2/3%	0.88	0.88	0.68	0.40	1.00	1.00	0.77	0.45	1.10	1.10	0.85	0.50	

<sup>1/</sup>At 125°C the rated voltage of the capacitors decreases to 66 2/3 of the 85°C rated voltage.

## CAPACITANCE AND RATED VOLTAGE, V<sub>R</sub> (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capac	itance	Rated Voltage DC (V <sub>R</sub> ) to 85°C									
μF	Code	25V	30V	50V	60V	75V					
470	477					E					
560	567				Е						
680	687			Е							
750	757										
1000	108		D								
1200	128	D									
1500	158		E								
1800	188	Е									

### M39006 /33 RATINGS AND DASH NUMBER REFERENCE

	06/33 hes	Tolerance (%)	Talavanaa	Talaranaa	Toloranoo	Tolerance	Tolerance	Talavanaa	Cap (µF)	DC Rated Voltage	DC Leakage max (μA)		DF ESR	Impedance max	Maximum Capacitance Change (%)			AC Ripple (mA rms)	Case
M Level	P Level		25°C at 120Hz	(V) at 85°C	+25°C	+85°C & +125°C	max (%)	(Ohms) at 120Hz	(Ohms) -55°C at 120Hz	-55°C	+85°C	+125°C	85°C at 40kHz	Size					

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

<sup>2/</sup>The peak of the applied ac ripple voltage plus the applied dc voltage must not exceed the dc voltage rating of the capacitors.

 $<sup>3/\</sup>text{The ripple current listed in the parametric tables represents a rating calculated by using a maximum internal temperature rise (\Delta T) at <math>50^{\circ}\text{C}$ at 40 kHz at 85°C ambient temperature, with a maximum peak rated voltage of 66.67 percent of the 85°C peak voltage rating.