

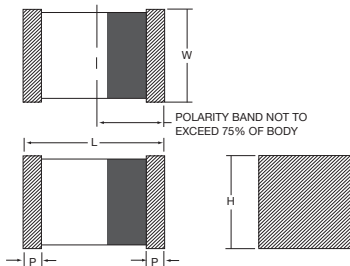


The TBC HRC6000 Medical Grade series is the next generation of our internally qualified medical grade tantalum capacitors. These components are screened using our newly designed Q-Process to effectively remove components that may experience parametric shifts through customer processing or display instability through life testing.



Due to the deficiencies of Weibull grading and its tendency to Burn-In potentially unstable units, this Q-Process utilizes a Product Level Designation system based on a simulated production routine performed on a sample from the population. Once that is completed a calculation is done based on the performance of the sample which can take into account the application conditions of the end customer. This system also allows for derating recommendations to be relaxed as illustrated by the section below.

These components are manufactured and tested in the AVX Biddeford Maine factory which is ISO 13485 certified. For more information on this process or to request a specific rating please contact the factory.



CASE DIMENSIONS: millimeters (inches)

Case Code	EIA Code	Length (L)	Width (W)	Height (H)	Term. Width (P) min.
R	0805	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)	0.15 (0.006)

TECHNICAL SPECIFICATIONS

Technical Data:	Unless otherwise specified, all technical data relate to an ambient temperature of +25°C		
Capacitance Range:	10 μF		
Capacitance Tolerance:	±5%; ±10%; ±20%		
Rated Voltage (V _R)	≧ +85°C:	10	
Category Voltage (V _C)	≧ +125°C:	6.7	
Temperature Range:	-55°C to +125°C		

TBC Series



HRC6000 Medical Grade

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

Capacitance		Rated Voltage							
μF	Code	4V	6V	10V	16V	20V	25V	35V	40V
3.3	335								
4.7	475								
6.8	685								
10	106			R					
15	156								
22	226								

HOW TO ORDER

TBC	R	106	*	010	C	□	L	@	6	^	++
Type	Case Size	Capacitance Code pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	Capacitance Tolerance J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$	Voltage Code 010 = 10Vdc	ESR C = Std ESR	Packaging B = Bulk R = 7" T&R W = Waffle	Inspection Level L = Group A	Reliability Grade Product Level Designator: P = 0.1%/1000 hrs. 60% conf. R = 0.01%/1000 hrs. 60% conf.	Qualification Level 6 = HRC6000	Termination Finish 0 = Solder Fused 9 = Gold Plated 7 = 100% Matte Tin	Surge Test Option 00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C

*Contact factory for AVX HRC6000 Medical Grade SCD details.

Not RoHS Compliant



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RATING & PART NUMBER REFERENCE		Parametric Specifications by Rating									Typical Ripple Data by Rating						
		Cap @ 120Hz	DC Rated Voltage	ESR @ 100kHz	DCL max			DF max			Power Dissipation	25°C Ripple Current	85°C Ripple Current	125°C Ripple Current	25°C Ripple Voltage	85°C Ripple Voltage	125°C Ripple Voltage
					+25°C	+85°C	+125°C	+25°C	+85/125°C	-55°C							
AVX HRC6000 P/N	Case	µF @ 25°C	V @ +85°C	Ohms @ +25°C	(µA)	(µA)	(µA)	(%)	(%)	(%)	W	A (100kHz)	A (100kHz)	A (100kHz)	V (100kHz)	V (100kHz)	V (100kHz)
TBCR106*010C=L@6^++	R	10	10	6	0.250	2.500	3.000	8	16	12	0.045	0.087	0.078	0.035	0.014	0.013	0.006

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.

HRC6000 DERATING GUIDELINES

Due to our new Q-Process test procedures the need for a typical 50% derating of the capacitors rated voltage in application can be relaxed. Below is a table outlining some of the common applications where these components are utilized along with appropriate derating recommendations. When determining the appropriate capacitor voltage rating to utilize, the application voltage is determined by the maximum D.C. voltage with the addition of any A.C. ripple voltage that may be present.

Recommended Derating	Application
20%	Filtering
0%	Pacing
0%	Hold-Up
0%	Charging

