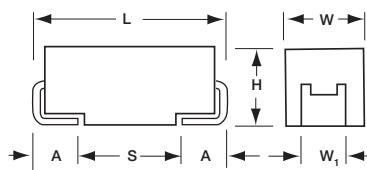
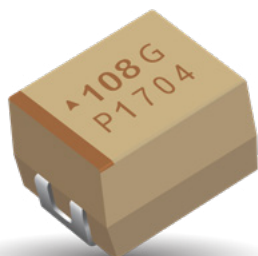


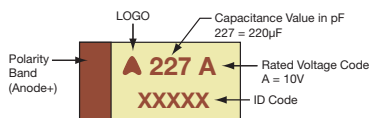
TBM MULTIANODE

Tantalum Ultra Low ESR COTS-Plus



MARKING

D, E, V CASE



TBM COTS-Plus series uses an internal multi-anode design to achieve ultra-low ESR which improves performance in high ripple power applications.

TBM is available with Weibull Grade "B" reliability and all MIL-PRF-55365 Rev. G surge test options ("A", "B" & "C").

There are four termination finishes available: solder plated, fused solder plated, hot solder dipped and gold plated (these correspond to "H", "K", "C" and "B" termination, respectively, per MIL-PRF-55365).

The molding compound has been selected to meet the requirements of UL94V-0 (Flame Retardancy) and outgassing requirements of ASTM E-595.

For moisture sensitivity levels please refer to the High Reliability Tantalum MSL section located in the back of the High Reliability Tantalum Catalog.

CASE DIMENSIONS: millimeters (inches)

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 Min.
D	7.30 (0.287)	4.30 (0.169)	2.90 (0.114)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
E	7.30 (0.287)	4.30 (0.169)	4.10 (0.162)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
V	7.30 (0.287)	6.10 (0.240)	3.55 (0.140)	3.10 (0.122)	1.30 (0.051)	4.40 (0.173)

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

CAPACITANCE AND RATED VOLTAGE RANGE

LETTER DENOTES CASE SIZE ESR LIMIT IN BRACKETS

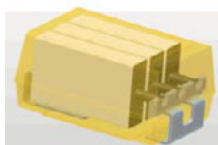
Capacitance		Rated Voltage DC (V _R) to 85°C								
µF	Code	2.5V (e)	4V (G)	6V (J)	10V (A)	12V (B)	16V (C)	20V (D)	25V (E)	35V (V)
22	226									D(70) E(60,100)
33	336								D(65)	E(50,65)
47	476								E(65)	E(55)
68	686								E(45)	
100	107							E(35,45)		
150	157						E(30,40)			
220	227				D(35)	E(35)	E(25)			
330	337		D(35)	D(35)	E(23,35)					
470	477		D(35)	E(18,30)	E(23)					
680	687		E(18,23)	E(18), V(23)						
1000	108	D(25)	E(18,23) V(18)							
1500	158	E(12,18)	E(15)							
2000	208									

Available Ratings: ESR limits quoted in brackets (mOhms)

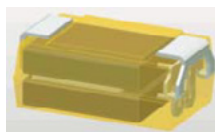
Notes: Voltage ratings are minimum values. KYOCERA AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.

EIA standards for Low ESR solid tantalum capacitors allow an ESR movement of 1.25 times initial limit post mounting.

MULTIANODE CONSTRUCTION



MULTIANODE TBM D LOW SELF INDUCTANCE CONSTRUCTION "MIRROR" DESIGN



TBM MULTIANODE

Tantalum Ultra Low ESR COTS-Plus



HOW TO ORDER

COTS-PLUS:

TBM	E	477	*	006	L		#	@	0	^	++
Type	Case Size	Capacitance Code	Capacitance Tolerance	Voltage Code	Standard or Low ESR Range	Packaging	Inspection Level	Reliability Grade	Qualification Level	Termination Finish	Surge Test Option
		pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	M = ±20% K = ±10%	002 = 2.5Vdc 004 = 4Vdc 006 = 6Vdc 010 = 10Vdc 012 = 12Vdc 016 = 16Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc	C = Std ESR L = Low ESR	B = Bulk R = 7" T&R S = 13" T&R W = Waffle See page 8 for additional packaging options.	S = Std. Conformance L = Group A	Weibull: B = 0.1%/1000 hrs. 90% conf. C = 0.01%/1000 hrs. 90% conf. Z = Non-ER	0 = N/A	H = Solder Plated 0 = Fused Solder Plated 8 = Hot Solder Dipped 9 = Gold Plated 7 = Matte Sn	00 = None 23 = 10 Cycles, +25°C 24 = 10 Cycles, -55°C & +85°C 45 = 10 cycles, -55°C & +85°C before Weibull



For RoHS compliant products, please select correct termination style.

TECHNICAL SPECIFICATIONS

Technical Data: Unless otherwise specified, all technical data relate to an ambient temperature of +25°C

Capacitance Range:	22 µF to 1500 µF										
Capacitance Tolerance:	±10%; ±20%										
Rated Voltage DC (V _R)	≤ +85°C:	2.5	4	6	10	12	16	20	25	35	
Category Voltage (V _C)	≤ +125°C:	1.7	2.7	4	7	8.4	10	13	17	23	
Surge Voltage (V _S)	≤ +85°C:	3.3	5.2	8	13	15.6	20	26	32	46	
Surge Voltage (V _S)	≤ +125°C:	2.2	3.4	5	8	9.6	12	16	20	28	
Temperature Range:	-55°C to +125°C										

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Kyocera AVX:](#)

<u>TBME336K035LRSB0824</u>	<u>TBME687K006LRSB0824</u>	<u>TBME107K020LBSB0823</u>	<u>TBME107M020LBSB0824</u>
<u>TBME158K004LBSB0824</u>	<u>TBME336K035LBSB0824</u>	<u>TBME477K010LBSB0823</u>	<u>TBME477K010LBSB0824</u>
<u>TBME477K010LRSB0823</u>	<u>TBME686K025LBSB0823</u>	<u>TBME337K010LBSB0823</u>	<u>TBME687M006LRSB0824</u>
<u>TBME686K025LRSB0824</u>	<u>TBME107K020LBSB0824</u>	<u>TBME476K035LBSB0824</u>	<u>TBMD227K010LBSZ0000</u>
<u>TBME106K050LBSZ0000</u>	<u>TBME106M050LBSB0H00</u>	<u>TBME107K020LBLC0H24</u>	<u>TBME107K020LBSZ0000</u>
<u>TBME108K004LBSB0924</u>	<u>TBME108K004LBSZ0000</u>	<u>TBME157J016LBSZ0H00</u>	<u>TBME157K016LBSZ0000</u>
<u>TBME158K004LBSZ0000</u>	<u>TBME226K035LBLC0024</u>	<u>TBME226K035LBSB0024</u>	<u>TBME226K035LBSZ0000</u>
<u>TBME226K050LBSZ0000</u>	<u>TBME226M050LBSZ0000</u>	<u>TBME227K016LBSZ0000</u>	<u>TBME227K016LBSZ0H00</u>
<u>TBME227M016LBSC0845</u>	<u>TBME336K035LBSB0045</u>	<u>TBME336K035LBSZ0000</u>	<u>TBME337K010LBLB9812</u>
<u>TBME337K010LBSB0700</u>	<u>TBME337K010LBSZ0000</u>	<u>TBME476K035LBSB0H00</u>	<u>TBME477K006LBSB0700</u>
<u>TBME477K006LBSZ0000</u>	<u>TBME477K006LWSZ0800</u>	<u>TBME477K010LBSZ0000</u>	<u>TBME686K025LBSZ0000</u>
<u>TBME686M025LBSC0H23</u>	<u>TBME686M025LRSB0824</u>	<u>TBME226K050LBSB0823</u>	<u>TBME106K050LBSB0823</u>
<u>TBME477M010LBSB0823</u>	<u>TBME337K010LBSB0923</u>	<u>TBME227K016LBSB0823</u>	<u>TBME686M025LRSB0024</u>
<u>TBME686K025LBSB0023</u>	<u>TBME337M010LSSB0800</u>	<u>TBME476K035LRSB0824</u>	<u>TBME226K035LRSB0700</u>
<u>TBME337K010LRSZ0000</u>	<u>TBME227K016LRSB0745</u>	<u>TBME686M025LBSB0H00</u>	<u>TBME337K010CBSC0700</u>
<u>TBME157K016LRSB0000</u>	<u>TBME336M035LRLZ0H00</u>	<u>TBME337K010CBSB0845</u>	<u>TBME477K006LRSZ0000</u>
<u>TBME108K004LRLB0024</u>	<u>TBME157M016LRSZ0700</u>	<u>TBME686M025CBSZ0000</u>	<u>TBME477K010LRLC0045</u>
<u>TBME476K025LBSB0823</u>	<u>TBME157K016LBLC0845</u>	<u>TBME227K016LRSB0H00</u>	<u>TBME337K010LBSZ0H00</u>
<u>TBME336K035LRLC0045</u>	<u>TBME337M010LBSB0823</u>	<u>TBME157K016LRLB0045</u>	<u>TBME686K025LBSZ0800</u>
<u>TBME337K010LRLB0024</u>	<u>TBME686K025LBSZ0700</u>	<u>TBME337M010LBSB0800</u>	<u>TBME107K020LRSZ0923</u>
<u>TBME227K016LWLC0024</u>	<u>TBMD337K006LBSZ0H00</u>	<u>TBME686K025LRSB0023</u>	<u>TBME107K020LRSB0800</u>
<u>TBME476K035LBSB0800</u>	<u>TBME476K035LRSZ0000</u>	<u>TBME107M020LRSZ0H00</u>	<u>TBME108M004LRSB0000</u>
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<u>TBME687K006LBSB0824</u>	<u>TBME227M016LRSB0800</u>	<u>TBME227M016LBSB0823</u>	<u>TBME337K010LBSZ0800</u>
<u>TBME477M006LBSB0H00</u>	<u>TBME107K020LWSB0H24</u>	<u>TBME107K020LRSB0745</u>	<u>TBME108M004LBSC0845</u>