Specification Details: **Date: 4/29/2020**

Specification: MIL-PRF-39006
Title: Capacitor, Fixed, Electrolytic (Non-Solid Electrolyte), Tantalum
Federal Supply Class (FSC): 5910
Conventional: No
Specification contains quality assurance program: No
MIL-STD-790 Established Reliability & High Reliability: Yes
MIL-STD-690 Failure Rate Sampling Plans & Procedures: Yes
Weibull Graded: No
Specification contains space level reliability requirements: No
Specification allows test optimization: Yes

Contact Information:

Office of Primary Involvement: Passive Devices Branch, DLA Land and Maritime - VQP
Primary Qualifying Activity Contact: 614-692-0609, e-mail: vqp.do@dla.mil
Secondary Qualifying Activity Contact: 614-692-0597, e-mail: vqp.jz@dla.mil

Notes:

FAILURE RATE LEVEL "L" INACTIVE FOR NEW DESIGN AFTER 27 MAY 1976.

Contact the manufacturer or refer to the manufacturers website for a list of Authorized Distributors.

Part Configuration:

M39006/22-8001H

Military Designator	Slash Sheet	Dash Number	H when Specified
M39006	/22	-8001	H

PART LISTINGS

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR65				
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-753-03	/9	Vishay Israel, Ltd.
CLR69				
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR69				
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates L, M; case sizes T1, T2, T3, T4	138D	39006-750-03	/21	Vishay Israel, Ltd.
CLR79				
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/22	AVX Tantalum Corporation
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates M, P; char. H; case sizes T1, T2, T3, T4	CLR79	39006-4490-15; 39006-5492-19	/22	Exxelia USA Inc.

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR79				
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-751-03	/22	Vishay Israel, Ltd.
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T2, T3, T4,	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AQ	39006-238-83; 39006-989-04	/22	Vishay Tansitor Electronics, Inc.
CLR81				
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR81				
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/25	AVX Tantalum Corporation
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR81	39006-4491-15	/25	Exxelia USA Inc.
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	135D	39006-752-03	/25	Vishay Israel, Ltd.
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	AR	39006-789-85; 39006-989-04	/25	Vishay Tansitor Electronics, Inc.
CLR90				
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR90				
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3340-11	/30	AVX Tantalum Corporation
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR90	39006-4490-15	/30	Exxelia USA Inc.
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 8 uf thru 3000 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	390060751-03	/30	Vishay Israel, Ltd.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/30	Vishay Israel, Ltd.
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 30 uf thru 1200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR90				
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 25 uf thru 850 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 20 uf thru 750 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 15 uf thru 540 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 10 uf thru 350 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 8 uf thru 300 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 5 uf thru 160 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 4 uf thru 140 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 3.5 uf thru 110 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 2.5 uf thru 86 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ET	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
Cap. values 1.7 uf thru 56 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	EQ	39006-215-94; 39006-989-04	/30	Vishay Tansitor Electronics, Inc.
CLR91				
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M, P, R; case sizes T2, T3, T4,	TWC	39006-3341-11	/31	AVX Tantalum Corporation
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR91				
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	CLR91	39006-4491-15	/31	Exxelia USA Inc.
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T2, T3, T4, TI	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	136D	39006-751-03	/31	Vishay Israel, Ltd.
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 220 uf thru 2200 uf, all tols.; 6 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 180 uf thru 1800 uf, all tols.; 8 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 150 uf thru 1500 uf, all tols.; 10 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 100 uf thru 1000 uf, all tols.; 15 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-215-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 68 uf thru 680 uf, all tols.; 25 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 56 uf thru 560 uf, all tols.; 30 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 33 uf thru 330 uf, all tols.; 50 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 27 uf thru 270 uf, all tols.; 60 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ES	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 22 uf thru 220 uf, all tols.; 75 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
Cap. values 10 uf thru 120 uf, all tols.; 100 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFI-CATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
CLR91				
Cap. values 6.8 uf thru 82 uf, all tols.; 125 V; life failure rates M, P, R; char. H; case sizes T1, T2, T3, T4	ER	39006-216-94; 39006-989-04	/31	Vishay Tansitor Electronics, Inc.
CLR93				
Cap. values 1200 uf thru 1800 uf, all tols.; 25 V; life failure rates M, P; case sizes T3, T4	TWA	39006-4834-17; 39006-5564-19	/33	AVX Czech Republic s.r.o
Cap. values 1000 uf thru 1500 uf, all tols.; 30 V; life failure rates M, P; case sizes T3, T4	TWA	39006-4834-17; 39006-5564-19	/33	AVX Czech Republic s.r.o
Cap. values 680 uf thru uf, all tols.; 50 V; life failure rates M, P; case sizes T4	TWA	39006-4834-17; 39006-5564-19	/33	AVX Czech Republic s.r.o
Cap. values 560 uf thru uf, all tols.; 60 V; life failure rates M, P; case sizes T4	TWA	39006-4834-17; 39006-5564-19	/33	AVX Czech Republic s.r.o
Cap. values 470 uf thru uf, all tols.; 75 V; life failure rates M, P; case sizes T4	TWA	39006-4834-17; 39006-5564-19	/33	AVX Czech Republic s.r.o
Cap. values 68 uf thru 680 uf, all tols.; 50 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	T16	39006-4625-16; 39006-5563-19	/33	Vishay Israel, Ltd.
Cap. values 47 uf thru 560 uf, all tols.; 60 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	T16	39006-4625-16; 39006-5563-19	/33	Vishay Israel, Ltd.
Cap. values 33 uf thru 470 uf, all tols.; 75 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	T16	39006-4625-16; 39006-5563-19	/33	Vishay Israel, Ltd.
Cap. values 15 uf thru 220 uf, all tols.; 100 V; life failure rates M; char. H; case sizes T1, T2, T3, T4	T16	39006-4625-16; 39006-5563-19	/33	Vishay Israel, Ltd.

Manufacturer and Supplier Location Information

Manufacturer: AVX Czech Republic s.r.o (CAGE Code: 1154G)
Location: Dvorakova 328, 56301 Lanskroun, Czech Republic

Plants:

1. Plant: Same Address as Manufacturer

Manufacturer: AVX Tantalum Corp. (CAGE Code: 17554)
Location: 401 Hill Street, Biddeford, ME 04005, US

Manufacturer: Exxelia USA Inc. (CAGE Code: 01884)
Location: 1221 North US Highway 17-92, Longwood, FL 32750,

Plants:

1. Exxelia Tantalum, ZI de Brais B.P. 194, Saint Nazaire Cedex, 44604, ZI de Brais B.P. 194, Saint Nazaire Cedex, France 44604, France

Manufacturer: Vishay Israel, Ltd. (CAGE Code: 2800A)
Location: Vishay Israel Ltd., P.O. Box 87, New Industrial Park, Dimona 8610002, Israel

Plants:

1. Plant: Same Address as Manufacturer

Manufacturer: Vishay Tansitor Electronics, Inc. (CAGE Code: 05079)
Location: 2813 West Road, Bennington, VT 05201-9812, US

Plants:

1. Plant: Same Address as Manufacturer