

Space, Avionics & Defense

Components



YAGEO GROUP

High Reliability MLCC Capacitors



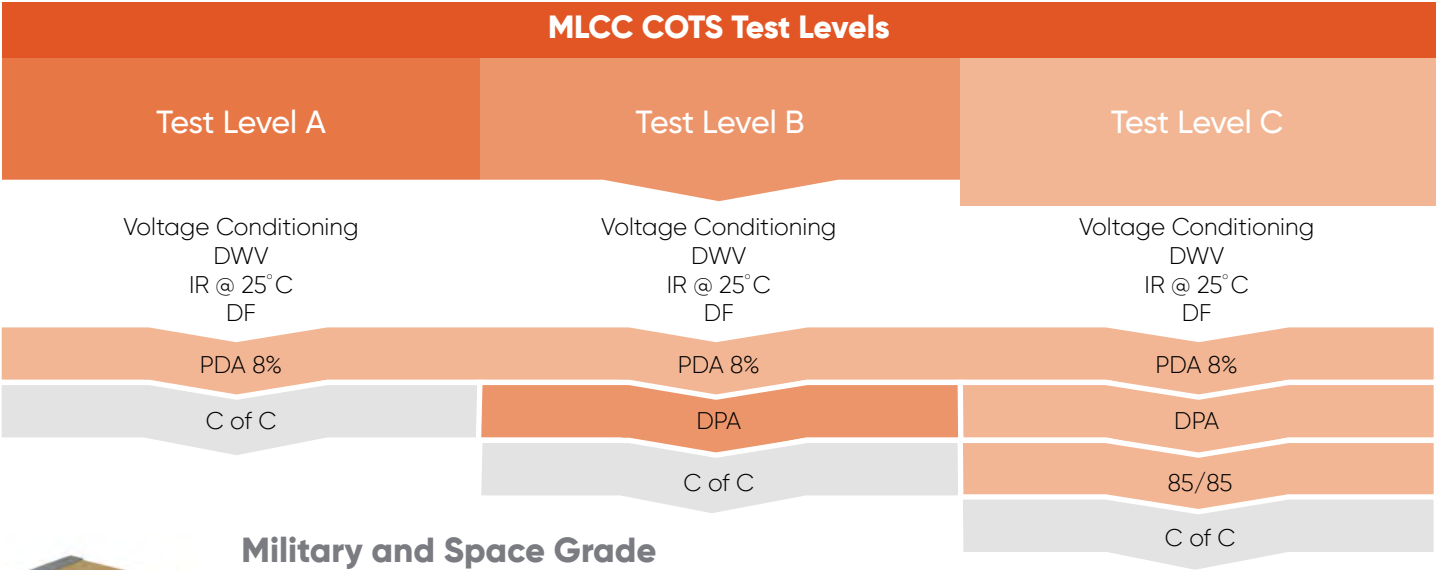
High Reliability Alternative (HRA)

High Reliability Alternative (HRA) series is designed, tested, and screened to meet the demands of higher reliability applications that require capacitance values not available in traditional MIL-SPEC products. By utilizing KEMET’s patented base metal electrode (BME) technology, the X-Level HRA series provides up to five times the capacitance values as compared to what’s available in MIL-PRF-32535 allowing for reduced board space and continuing the trend for miniaturization.



COTS

Benefit from advances in commercial grade with tests and screening designed to identify suitable parts for High Reliability Applications.



Military and Space Grade

- MIL-PRF-123**
Intensive screening and testing protocols with numerous termination options.
- GR-900**
KEMET’s non-QPL high- reliability capacitors for aerospace applications.
- MIL-PRF-32535**
MIL-PRF-32535 X7R, COG, and BP surface mount capacitors are designed, tested, and screened to meet demanding high-reliability, defense, and aerospace application requirements. The MIL-PRF-32535 capacitors are based on Base Metal Electrode (BME) technology. These series are qualified under specification MIL-PRF-32535 and are QPL listed. They also meet or exceed the requirements outlined by DLA and are currently available in M (standard reliability) and T (high reliability) product levels.



KPS MIL Stacked Capacitors

- MIL-PRF-49470**
T-Level Reliability available Higher capacitance in the same footprint Robust termination system.

High Reliability Tantalum Capacitors



MIL-PRF-32700 Polymer

- MIL & Space Grade**
KEMET’s T580 (single anode) and T581 (multianode) series polymer electrolytic capacitors are in support of the newly released MIL-PRF-32700.



T540 & T541 Polymer

- DLA Drawing 04051/2**
This series is currently the only polymer electrolytic capacitors available today with Reliability Assessment testing criteria, which allows for a Failure Rate grading. F-Tech and SBDS are also available upon request using a customer source control drawing (SCD).

F-Tech Advantage

KEMET’s optional F-Tech eliminates hidden defects in the tantalum dielectric. This unique manufacturing process minimizes oxygen and carbon content in the anode, provides a stronger mechanical connection between anode and lead wire and significantly enhances capacitor robustness.

F-Tech is available on select KEMET tantalum capacitor families and can be combined with SBDS.

Simulated Breakdown Screening (SBDS)

Breakdown voltage (BDV) is the ultimate test of a capacitor’s robustness but is a destructive test. To simulate the results of a breakdown screening, KEMET developed a patented Simulated Breakdown Screening (SBDS). This nondestructive testing technique simulates the BDV of a capacitor without damage to its dielectric. This 100% population screening identifies hidden defects in the dielectric, providing the highest level of dielectric testing. SBDS is available on select KEMET tantalum capacitor families and can be combined with F-Tech.



Tantalum Stacked

Polymer (TSP) / MnO₂ (TSM)

- KEMET’s Tantalum Stack Polymer (TSP) Electrolytic Capacitor is designed to provide the highest CV (capacitance/voltage) ratings in a surface mount configuration.
- Upcoming Leadless Stacked Tantalum in 2024



Polymer Hermetic Seal T550/1

- DLA Drawing 13030, T-Level Reliability**
High capacitance, low ESR, lightweight alternative to wet tantalum axial capacitors. Based on polymer cathode technology.



MIL-PRF-55365 MnO₂

MIL & Space Grade

- Numerous custom testing/screening options and termination finishes available.

Custom Magnetics

The Forest Electric Company (FELCO)



Products



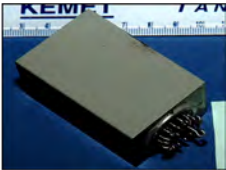
- Transformers up to 106 KVA
- Small, general purpose transformers
- Inductors and chokes
- Specialize in 3-phase power applications
- Specialize in custom applications and assemblies
- U.L. listed line of "STANDARD TRANSFORMERS"

Capabilities



Production Capacity

- Winding equipment
 - Auto-winding allowing "multi-up" coil production
 - Toroidal winding, micro to large power types
 - Lathe winding for larger 3-phase
 - Linear winding for smaller custom coils
- Vacuum impregnation
- Custom encapsulation
- Test equipment
 - Voltech AT-3600 Windows-based test equipment
 - Chroma programmable power supplies
 - Agilent DMMs and oscilloscopes



Certifications

- AS9100 Rev D
- ISO 9001:2015 quality registrations
- ASQR01 – Hamilton Sundstrand QMS
- ITAR registered
- UL recognized insulation systems – Class A thru R
- Dodd-Frank Conflict Minerals Act compliance
- RoHS and REACH compliance

About FELCO

The Forest Electric Company (FELCO) designs and manufactures electrical transformers, inductors, chokes, and reactors with value-added assembly. We customize products that are utilized in several industries including defense and aerospace, industrial controls, medical, and power distribution. Because every decision in the manufacturing process determines the ultimate quality of the finished product, each transformer is made one at a time with the best materials and sound, experienced workmanship.



MLCC Reliability Grades

Key Attributes	Commercial	Automotive	COTS	HRA	MIL-PRF-32535
Design	Commercial	Automotive	Commercial/Automotive	More Robust than COTS, Similar to MIL-PRF-32535	Conservative
Manufacturing Process	Cost Optimized	-	-	Optimized Manufacturing Processes	Optimized Manufacturing Processes
Manufacturing Location	Mexico/Taiwan/China	Mexico/Taiwan/China	Mexico	Mexico	Mexico
Production Electrical Testing	100 % Cap / DF / IR / DWV	100 % Cap / DF / IR / DWV	100 % Cap / DF / IR / DWV	100 % Cap / DF / IR / DWV	100 % Cap / DF / IR / DWV ⁶
Production Physical Inspection	100% (Sample)	AOI 100% (≥ 1812 Manual 100%)	AOI 100% (≥ 1812 Manual 100%)	AOI 100% (≥ 1812 Manual 100%)	AOI 100% (≥ 1812 Manual 100%)
Voltage Conditioning 2X 125C 96hrs, with Percent Defective Allowance (PDA)	No	No	Yes	Yes	Yes ⁴
			8% PDA	5% PDA	5% PDA
Humidity (85oC/85%) - Lot Release Testing	No ⁷	No ⁷	Test Level C ²	Yes ⁵	Yes ⁴
Destructive Physical Analysis (DPA)	No	No	Test Level B and C Only ²	Yes ⁵	Yes ⁴
Design Change Control	No - Process Change Notification Only; Notification only if the datasheet changes	Yes	Yes	Yes	Yes
Certificate of Compliance	Generic	Generic	Yes	Yes	Yes
Lot Traceability	No	No	* Optional with SCD ¹	Yes	Yes
Single Lot Date Code per Unit Container ³	No	No	* Optional with SCD ¹	Yes	Yes
Single Lot Date Code per Shipment ⁴	No	No	Upon Request	Upon Request	Upon Request
Data Package	No	No	Upon Request	Yes	Yes
Branding	None	AEC-Q200	None	None	JAN Branded
Qualification	Per Datasheet	AEC-Q200	Based on AEC-Q200 ²	Based on AEC-Q200 and MIL-PRF-32535 ⁵	MIL-PRF-32535

1 – SCD – Source Control Drawing
2 – See COTS, HRA, or MIL-PRF-32535 Datasheet for Details
3 – Each Reel or Waffle tray contains a single manufacturing lot
4 – Each shipment is fulfilled with a single manufacturing lot

5 – Per MIL-PRF-32535
6 – See next slide for Group testing details for MIL-PRF-32535
7 – Included in qualification

Polymer Tantalum Reliability Grades

Key Attributes	T52 ¹ / T530	T597 / T598 125°C	T543	T540 / T541	T580 / T581
	Standard commercial	T599 150°C	High Reliability Alternative (HRA)	High Reliability Alternative (HRA)	MIL-PRF-32700
		AEC-Q200	Upscreened (T52 ¹ / T530)	DLA 04051 / 04052 Approved Rev.B	
Manufacturing Location	Suzhou, Thailand, USA	Suzhou, Thailand	ICT US	ICT US	ICT US
Manufacturing Process	Cost Optimized	-	-	Optimized Manufacturing Processes	Optimized Manufacturing Processes
Anode Design	Cost Optimized	-	-	Fixed and conservative designs; robustness driven	Fixed and conservative designs; robustness driven
Design Change Control	No – Process Change Notification Only; Notification only if the data-sheet changes	Yes	Yes	Yes	Yes
Standard Aging	yes	Yes	yes	Yes	Yes
Surge Current Test (RBI)	4 cycles @ Vr	4 cycles @ Vr	4 cycles @ Vr	4 cycles @ Vr	4 cycles @ Vr
	(Charge 0.5S, discharge 0.5S)	(Charge 0.5S, discharge 0.5S)	(Charge 0.5S, discharge 0.5S)	(Charge 0.5S, discharge 0.5S)	(Charge 0.5S, discharge 0.5S)
	0.5 Ohm resistance @ 25°C	0.5 Ohm resistance @ 25°C	0.5 Ohm resistance @ 25°C	0.5 Ohm resistance @ 25°C	0.5 Ohm resistance @ 25°C
Additional Voltage Aging	NO	NO	NO	100% @ 85°C, Vr, 24 hours (minimum)	100% @ 85°C, Vr, 40 hours
			Yes	Yes	Yes
Extra Testing	NO	NO	(Several options available, surge,etc, with C-SPEC)	(Several options available, surge,etc, with C-SPEC)	(Several options available, surge,etc)
Reflow Conditioning	Yes	Yes	Yes	Yes	Yes
100% Electrical Screening	•Capacitance	•Capacitance	•Capacitance	•Capacitance	•Capacitance
	•Dissipation factor	•Dissipation factor	•Dissipation factor	•Dissipation factor	•Dissipation factor
	•Leakage Current	•Leakage Current	•Leakage Current	•Leakage Current	•Leakage Current
	•ESR	•ESR	•ESR	•ESR	•ESR
Visual/Mechanical	Yes, 100%	Yes, 100%	Yes, 100%	Yes, 100%	Yes (sampling)
Additional standard screening tests	•Surge Current Test (100%) @ 100% @ Vr (Z(*) < 0.5 Ohms)	•Surge Current Test (100%) @ 100% @ Vr (Z(*) < 0.5 Ohms)	• Surge current options	•3 Sigma screening (DCL and ESR)	•Voltage Aging
			• 4 cycles at 25°C ±5°C (Standard)	•Voltage Aging	•Thermal Shock (100%)
			• SMT Sample Test (2 Reflow Passes)	• Thermal Shock (100%)	•Solderability and Temp. Stability by sampling
			•Up- Screened option for additional Surge current test (S = 10 cycles 25°C) and H termination	• Solderability and Temp. Stability by sampling	•Surge current
			• 10 cycles at -55°C +0°C/-5°C and +85°C ±5°C	•Surge current options	•Option A (after voltage aging): +25°C ±5°C
			• Discharge Surge testing	• 4 cycles at 25°C ±5°C (1)	•Option B (after voltage aging): -55°C -5°C, +0°C and +85°C ±5°C
				• 10 cycles at 25°C±5° (2)	•Option C (before voltage aging): -55°C -5°C, +0°C and +85°C ±5°C
				• 10 cycles at -55°C +0°C/-5°C and +85°C ±5°C(2)	•Reliability assessment
				•T541 – XRay 100% (Top View)	
				•T540 – Xray 100% (Side View)	
F-Tech & SBDS (Simulated Break-down Screening)	NO	NO	NO	Contact Product Management for Availability	Contact Product Management for Availability
Group C	NO	NO	NO	Optional (C-Spec), Per MIL-PRF 55365	See detailed description in MIL-PRF-32700

(*) Max Impedance of surge equipment

Tantalum Space, Avionics & Defense Capacitors 

Tantalum Space, Avionics & Defense Capacitors 

QPL (Qualified Product Listing)		Style	MIL-PRF/DLA/ESA/KEMET Specification	KEMET Series		Space Grade	Thermal Shock	Surge Current	Capacitance/DF	DC Leakage	ESR	3 Sigma Screening	Seal Test	Voltage Aging	Weibull Grading		X-Ray	Reflow Conditioning	DPA	Lead Pull Strength	Visual/Mechanical	Surge Voltage	PDA	Temperature Stability	Solderability	F-Tech	Stimulated Breakdown Screening (SBDS)	Step Stress Surge Test (SSST)	Polymer Reliability Assessment Method	Group C	Group B	LAT		
Through Hole	N/A	N/A	GR500	T210/T220/T240		★	●	●	●	●	●		●		●		2																	
	QPL 39003	CSS13/33	MIL-PRF-39003/10	T216/T256		★	●	●	●	●	●		●		●		2								●									
	QPL 39003	CSR13	MIL-PRF-39003/01	T212/T215			●	○	●	●			●		●		1								●	●								
	QPL 39003	CSR09	MIL-PRF-39003/02	T222/T225			●	○	●	●			●		●		1								●	●								
	QPL 39003	CSR23	MIL-PRF-39003/03	T242/T245			●	○	●	●			●		●		1								●	●								
	QPL 39003	CSR91	MIL-PRF-39003/04	T213			●	○	●	●					●										●	●								
	QPL 39003	CSR33	MIL-PRF-39003/06	T252/T255			●	○	●	●			●		●		1								●	●								
	QPL 39003	CSR21	MIL-PRF-39003/09	T262			●	●	●	●	●		●		●		1								●	●								
	QPL 49137	CX01, CX05	MIL-PRF-49137/1/5	T323			●															●		●	●									
	QPL 49137	CX02, CX12	MIL-PRF-49137/2	T363, T369			●															●		●	●									
QPL 49137	CX06	MIL-PRF-49137/6	T378			●															●		●	●										
Surface Mount and Through Hole	N/A	N/A	Polymer Hermetic Seal DLA 13030 T Level	T550		★	●	●	●	●	●		●	●			2					●			●	●	●	●				●		
	N/A	N/A	Polymer Hermetic Seal DLA 13030 B Level	T550			●	●	●	●	●		●	●			2					●			●	●	●	●						
	N/A	N/A	Polymer Hermetic Seal 105°C	T550/T555			○	●	●	●	●		●	●			2					●			○	○	●	●						
	N/A	N/A	Polymer Hermetic Seal 125°C	T551/T556			○	●	●	●	●		●	●			2					●			○	○	●	●						
	N/A	N/A	Polymer Hermetic Seal Modules	M550/M551*			○	●	●	●	●		●	●			2					●			○	○	●	●						
Surface Mount	QPL 55365	CWR11	MIL-PRF-55365/8	T492			●	○	●	●	●		●		●				●			●			●	●								
	QPL 55365	CWR09/19/29	MIL-PRF-55365/4/11	T409/T419/T429			●	○	●	●	●		●		●				●			●			●	●								
	QPL 55365¹	CWR09/11/19/29	MIL-PRF-55365/4/8/11	T492/T409/T419/T429		★	●	●	●	●	●	●		●	●		1		●	●		●	●	●	●	●					●			
	N/A	N/A	DLA 04053	T496			●	●	●	●	●	○		○	○				●			●	○	●	○	○					○			
	N/A	N/A	DLA 95158	T495			○	○	●	●	●	○		○					●			●	○	●	○	○	○**	○				○		
	N/A	N/A	DLA 07016	T493			○	●	●	●	●	○		○	●				●			●									○			
	N/A	N/A	MnO₂ HRA	T493/T497/T513/T496			●	○	●	●	●	○		○	●				●			●			●		○**	○	○			○		
	N/A	N/A	KEMET Space Grade	T493/T496/T497/T510		★	●	●	●	●	●	●			○	●		○		●	●				●	●	○	○		○		●	●	
	N/A	N/A	HVE	T428			●	○	●	●	●					○				●			●											
	N/A	N/A					●	●	●	●	●	●							●	○		●	○	○	●	●	○**	○			○	○		
Surface Mount	N/A	N/A	DLA 04051	T540			●	●	●	●	●	●		●			1 (2P opt.)		●	○		●	○	○	●	●	○**	○			○	○		
	N/A	N/A	DLA 04052	T541			●	●	●	●	●	●		●			2		●	○		●	○	○	●	●	○**	○			○	○		
	N/A	N/A	MIL-PRF-32700	T580			●	●	●	●	●	●		●			1 (2P opt.)		●	○		●	●	●	●	●	○**	●			●	●	●	
	N/A	N/A	MIL-PRF-32700	T581			●	●	●	●	●	●		●			2		●	○		●	●	●	●	●	○**	●			●	●		
	N/A	N/A	KO-CAP® (Polymer) HRA	T543				○	●	●	●								●			●				○**								
Stacked	N/A	N/A	Ta MnO₂ Stacks	TSM			◆	◇	◇	◇				◆							●	●												
	N/A	N/A	KO-CAP® (Polymer) Stacks	TSP			◆	◇	◇	◇				◆						●	●													
KEY		● Standard ○ Optional	1 1 Plane 2 2 Plane	◆ Indicated per PIN ◇ Sample on PIN, stacks 100%			T Weibull / "T" Level PT Polymer "T" Lev								★ ≥25V Space Grade		* Applies to discrete components; modules receive 100% Cap/DF/ESR/Lkg ** Available for part types ≥25V Space Grade																	

Terminology Guide

- | | | | |
|---|---|---|---|
| <ul style="list-style-type: none"> • C-SAM: C-Mode Scanning Acoustic Microscopy (ceramic only) • DPA: Destructive Physical Analysis • DWV: Dielectric Withstanding Voltage (ceramic only) | <ul style="list-style-type: none"> • ESR: Equivalent Series Resistance (ESR) is the preferred high-frequency statement of the resistance unavoidably appearing in these capacitors. ESR is not a pure resistance, and it decreases with increasing frequency. • F-Tech: KEMET's optional manufacturing process to eliminate hidden defects in the tantalum dielectric (tantalum only). For more information, please see page 7. | <ul style="list-style-type: none"> • PDA: Percent Defective Allowed • Polymer Reliability Assessment Method: Sample test under accelerated conditions to demonstrate long-term device reliability (polymer only). Please contact KEMET for details. | <ul style="list-style-type: none"> • SBDS: KEMET's patented nondestructive testing technique which simulates the breakdown voltage of a capacitor without damage to its dielectric (tantalum only). For more information, please see page 7. • Thermal Shock: Parts are temperature cycled. • Voltage Conditioning: Parts receive a voltage conditioning at X rated voltage and X°C for a minimum and maximum amount of hours (ceramic only). |
|---|---|---|---|

QPL (Qualified Product Listing)	Style	MIL-PRF/DLA/KEMET Specification	KEMET Series			Space Qualified	CSAM	In-Process – 100% Visual Inspection	In-Process DPA	In-Process Lead Pull Strength	Thermal Shock	Voltage Conditioning	Hot IR (+125°C)	PDA	Visual/Mechanical	X-Ray	Solderability (each lot)	Group B (each lot)	Periodic Group B	Group C Lot Test per MIL-PRF-55681	Periodic Group C	Data Pack (standard w/ order)	Pb (lead) Content C of C	Humidity Steady State Low Voltage (LVH)	Final DPA	X-Ray Fluorescence (XRF) Analysis	Additional Thermal Shock Cycles (applies to Group A only)	100% Final Visual Inspection	Hot IR @+125°C (X7R, C0G), @+85°C (X5R)	Flex Termination
QPL M123/1,/2,/3	CKS05, CKS06, CKS07	MIL-PRF-123/1, /2, /3 * T Level	C052Z, C062Z, C512Z			★	●	●	●	●	●	●	●	●	●	●		●			●	●	○		●			○	●	
QPL M123/10,/11,/12,/13,/21,/22,/23	CKS51, CKS52, CKS53, CKS54	MIL-PRF-123/10, /11, /12, /13 * T Level	C0805Z, C1210Z, C1808Z, C2225Z			★	●	●	●		●	●	●	●	●	●		●			●	●	○		●	○		○	●	
QPL M123/21,/22,/23	CKS55, CKS56, CKS57	MIL-PRF-123/21, /22, /23 * T Level	C1206Z, C1812Z, C1825Z			★	●	●	●		●	●	●	●	●	●		●			●	●	○		●	○		○	●	
M32535/02/03/04/05/06/07/08	N/A	MIL-PRF-32535 T Level	K Spec - T Failure Rate			★	●	●	●		●	●	●	●	●	●		●			●	●	○		●	○		○	●	○
M32535/02/03/04/05/06/07/08	N/A	MIL-PRF-32535 M Level	K Spec - M Failure Rate				●	●	●		●	●	●	●	●	●					●	○	○		●	○		○	●	○
N/A	N/A	GR900	B Spec Through-Hole			★	○	●	●	●	●	●	●	●	●	●	●	○				●	○	○	●			○	●	
N/A	N/A	GR900	A Spec SMD			★	○	●	●		●	●	●	●	●	●		○				●	○	○	●	○		○	●	
N/A	N/A	MIL-PRF-123, In-Process, Group A Tested	Q Spec Through-Hole			★	●	●	●	●	●	●	●	●	●	●		○				●	○	○	●			○		
N/A	N/A	MIL-PRF-123, In-Process, Group A Tested	Q Spec SMD			★	●	●	●		●	●	●	●	●	●		○				●	○	○	●	○		○		
QPL 49470/1	PS01	MIL-PRF-49470/1 T Level	L1XN, L1RN, L1QN			★	●	●			●	●	●	●	●	●	●	●	●			●	○		●	○		○		
QPL 49470/1	PS01	MIL-PRF-49470/1 B Level	L1XN, L1RN, L1QN					●			●	●	●	●	●	●	●		●			●	○			○		○		
QPL 55681/1	CDR01, 02, 03, 04	MIL-PRF-55681/1 M, P, R, or S Level	C0805P, C1805P, C1808P, C1812P						○			●	●	●	●	●	●				●		○	○	○	○	○	○	○	
QPL 55681/2	CDR05	MIL-PRF-55681/2 M, P, R, or S Level	C1825P						○			●	●	●	●	●	●				●		○	○	○	○	○	○	○	
QPL 55681/3	CDR06	MIL-PRF-55681/3 M, P, R, or S Level	C2225P						○			●	●	●	●	●	●				●		○	○	○	○	○	○	○	
QPL 55681/7, 8, 9, 10, 11	CDR31, 32, 33, 34, 35	MIL-PRF-55681/7, 8, 9, 10, 11 M, P, R, or S Level	C0805N, C1206N, C1210N, C1812N, C1825N						○			●	●	●	●	●	●				●		○	○	○	○	○	○	○	
QPL 20/27, 28, 29, 30, 31	CCR/75, 76, 77, 78, 79	MIL-PRF-20/27, 28, 29, 30, 31	C114G, C124G, C192G, C202G, C222G							○	●	●	●	●	●	●	■	●		●		●		○	○	○		○	○	
QPL 20/27, 28, 29, 30, 32	CC/75, 76, 77, 78, 80	MIL-PRF-20/27, 28, 29, 30, 32	C114G, C124G, C192G, C202G, C222G (no FR)							○			●		●	■	●						○	○	○		○	○		
QPL 20/35	CCR05	MIL-PRF-20/35	C052G, C056G							○	●	●	●	●	●	■	●		●				○	○	○		○	○		
QPL 20/36	CC05	MIL-PRF-20/36	C052G, C056G (no FR)							○			●		●	■	●							○	○	○				
QPL 20/36	CCR06	MIL-PRF-20/36	C062G, C065G, C066G							○	●	●	●	●	●	■	●		●				○	○	○		○	○		
QPL 20/36	CC06	MIL-PRF-20/36	C062G, C065G, C066G (no FR)							○			●		●	■	●							○	○	○				
QPL 20/37, 28	CCR/07, 08	MIL-PRF-20/37, 38	C512G, C522G							○	●	●	●	●	●	■	●		●				○	○	○		○	○		
QPL 20/37, 38	CC/07, 08	MIL-PRF-20/37, 38	C512G, C522G (no FR)							○			●		●	■	●							○	○	○				
QPL 39014/1	CKR05	MIL-PRF-39014/1	C052T, C056T							○	●	●	●	●	●	■	●		●				○	○	○		○	○		
QPL 39014/2	CKR06	MIL-PRF-39014/2	C062T, C066T							○	●	●	●	●	●	■	●		●				○	○	○		○	○		
QPL 39014/5	CKR11, 12, 14, 15, 16	MIL-PRF-39014/5	C114T, C124T, C192T, C202T, C222T							○	●	●	●	●	●	■	●		●				○	○	○		○	○		
N/A	N/A	DLA 03028, 05006, 05007	D Spec 0603, 0805, 0402, 1206					●	○			●	●	●	●	■	●			○	○									
N/A	N/A	DLA 91019	E Spec 2220					●	○			●	●	●	●	■	●			○	○									
N/A	N/A	COTS	T Spec 0402, 0603, 0805, 1206 ***									●		●			○						○	○	○			○	○	
N/A	N/A	COTS	T Spec 1210, 1812, 1825, 2220, 2225 ***									●		●			○						○	○	○			○	○	
QPL 11015/18, /19, /20	CK05, CK06	MIL-PRF-11015/18, /19, /20	C052K, C062K, C114K, C124K, C192K, C202K, C222K							○					●		●													
N/A	N/A	HRA X Level	CHA04, CHA06, CHA08, CHA12, CHA13, CHA18, CHA21									●		●	●							●						●		●
Note: All series are tested for capacitance, dielectric withstanding voltage, insulation resistance at room temperature, and dissipation factor.																														

PRODUCT GRADES

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