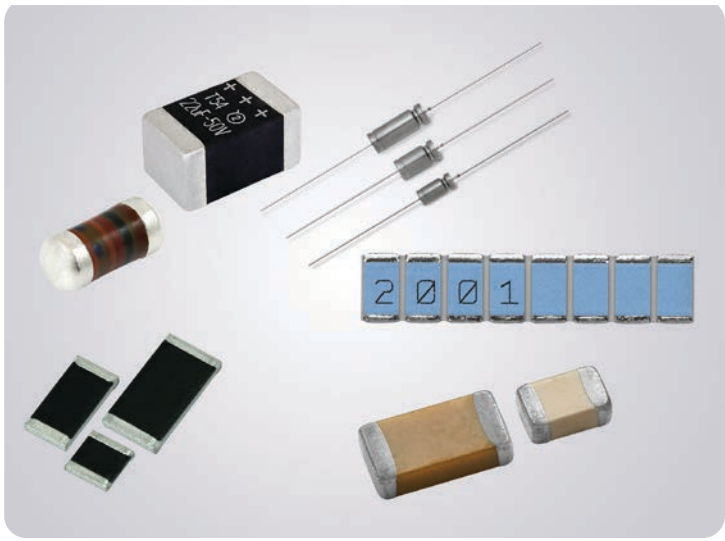
VISHAY
The DNA of tech.®

MILITARY AND AEROSPACE

Applications

Military- and Space-Qualified Passive Components Selector Guide



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Introduction

Vishay's line of high reliability products reflects a long term commitment to our military and aerospace customers. As one of the largest suppliers of military components, we continually strive to meet the changing application requirements of the defense market by developing new products and manufacturing technologies on an ongoing basis.

Vishay has one of the broadest lines of military-qualified resistors, capacitors, and inductors in the industry, and our high reliability devices can be found in nearly every existing military and aerospace program, including aircraft, satellites, missiles, weapons, ground vehicles, and ships. Our precision potentiometers have been used for over 20 years in three different missile programs and are also used in passenger jets.

Able to meet the most demanding application specifications, our high reliability products are qualified to the relevant CECC, EN, ESCC, or MIL specifications. Our high reliability resistive components are qualified to ESCC 4001, MIL-PRF-39007, MIL-PRF-39009, MIL-PRF-39017, MIL-PRF 55182, MIL-PRF-55342, MIL-PRF-83401, and many other high reliability specifications. Our high reliability capacitors are qualified to MIL-PRF-39003, MIL-PRF-39006, MIL-PRF-55365, MIL-PRF-123, and MIL-PRF-55681.

In addition to standard military-grade products, Vishay is equipped to design and produce custom components to meet any design and reliability demands. Our MLCC capacitors group offers products to source-controlled specifications with customer-specific requirements, such as capacitance tolerances. Our custom magnetic group produces many custom inductors and transformers for applications as diverse as missile systems and ground-based communications systems. And our resistor groups produce many resistive products designed to meet various military source-controlled drawings.

Every component Vishay provides to the military and aerospace markets is backed by the comprehensive testing and failure analysis capabilities of our own technical staff, who are experts in understanding and meeting the requirements of the military environment. Our technical expertise, knowledge of the military and aerospace industries, broad product offering, and ability to work long term are all part of Vishay's ongoing commitment to meeting the changing requirements of our most reliability-conscious customers, today and in the future.

Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Thin Film Precision Resistors	M55342 QPL	• Chip resistor established reliability • Low TCR (25 ppm/°C) • Tight tolerance: (0.1 %)	M 55342/1 through /12 D55342/7	10 Ω to 3 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	10 mW to 1 W
	PTN	• DSCC-listed • Moisture-resistant wrap-around chip resistors • Low TCR (25 ppm/°C) • Tight tolerance: (0.1 %)	94012, 94013, 94014, 94015, 94016, 94017, 94018, 94019, 94025, 94026, 04008, 04009	10 Ω to 3 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	10 mW to 1 W
	L1206	• DSCC-listed • Low ohmic values • Power rating: 250 mW at +70 °C	02008	1 Ω to 10 Ω	200 ppm/°C and 300 ppm/°C	250 mW
	M1206	• DSCC-listed • Ohmic values: 10 Ω – 10 MΩ • Power rating: 250 mW at +70 °C	02008	10 Ω to 10 MΩ	200 ppm/°C and 400 ppm/°C	250 mW
	PFRR	• R failure rate chip resistor • 0402 / 0603 / 0805 / 1206 / 2010 • Very low TCR: 10 ppm/°C, 25 ppm/°C • Tight tolerances: 0.05 % and 0.1 % • ESA-qualified	ESCC 4001/023 Variants 09 to 12	100 Ω to 6 MΩ depending on size	10 ppm/°C and 25 ppm/°C	50 mW to 500 mW
	PHR	• High reliability chip resistor • 0402 / 0603 / 0805 / 1206 / 2010 • Very low TCR: 5 ppm/°C, 10 ppm/°C, 25 ppm/°C • Very tight tolerance: 0.01 % to 0.1 % • ESA-qualified	ESCC 4001/023 Variants 01 to 08	100 Ω to 1 MΩ depending on size	5 ppm/°C, 10 ppm/°C, and 25 ppm/°C	100 mW to 500 mW
	PRAHR	• High reliability chip arrays • Very low TCR: 10 ppm/°C absolute / 3 ppm/°C ratio • Tight tolerance: 0.1 % absolute / 0.05 % ratio • 3 sizes: 100 / 135 / 182 • 2 to 8 resistors • ESA-qualified • Custom network qualified (CNW)	ESCC 4001/025 Variants 01 to 32	100 Ω to 1 MΩ depending on size	10 ppm/°C absolute; 3 ppm/°C ratio	100 mW per resistor
	RV	• In-lot tracking to 5 ppm/°C • Tolerance: 0.1 % to 5 % • 0603 / 0805 / 1206 • Stability 0.05 % at Pn 1000 hours	According to EN 140401-804.	100 Ω to 1 MΩ depending on size	10 ppm/°C and 25 ppm/°C	125 mW to 330 mW

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Resistors

Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Axial-Leaded Thin Film Resistors	MBA/SMA 0204 VG06 Professional Precision	• Axial-leaded thin film resistors • 50 ppm/K / ± 1 %: E96 values; 15 ppm/K / ± 0.1 %: E192 values • Assessment level EZ, Version E: Established reliability, failure rate level E7 • Approval registered at IECQ • Series include zero-ohm jumper	CECC 40101-806	1.0 Ω to 5.11 MΩ; 100 Ω to 221 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %; —	0.4 W; 3.0 A
	MBB/SMA 0207 VG06 Professional Precision			1.0 Ω to 10.0 MΩ; 100 Ω to 499 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %; —	0.6 W; 5.0 A
	MBE/SMA 0414 VG06 Professional Precision			1.0 Ω to 21.5 MΩ; 100 Ω to 470 kΩ	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %	1.0 W
	MBA/SMA 0204	• Axial-leaded thin film resistors • Tolerances: 0.1 %, 0.25 %, 0.5 %, 1 %, and 5 % • Professional and precision specifications • Series include zero-ohm jumpers • Assessment level EZ, Version A • Approval registered at IECQ	CECC 40101-806	0.22 Ω to 10.0 MΩ; 0 Ω	15 ppm/K, 25 ppm/K, and 50 ppm/K; —	0.4 W; 3.0 A
	MBB/SMA 0207			0.22 Ω to 22.0 MΩ; 0 Ω	15 ppm/K, 25 ppm/K, and 50 ppm/K; —	0.6 W; 5.0 A
	MBE/SMA 0414			0.22 Ω to 22.0 MΩ	15 ppm/K, 25 ppm/K, and 50 ppm/K	1.0 W
Thin Film MELF Resistors	MS1 ESCC	• Thin film MELF resistors • Tolerances: 0.1 %, 0.5 %, and 1 % • Approval listed in the ESCC QPL • Product listed in the EPPL	ESCC 4001/022	2.21 Ω to 5.11 MΩ	15 ppm/K, 25 ppm/K, and 50 ppm/K	0.25 W
	MMU 0102 VG03	• Thin film MELF resistors • 50 ppm/K / ± 1 %: E96 values; 15 ppm/K / ± 0.1 %: E192 values • Series include zero-ohm jumpers • Assessment level EZ, Version E: established reliability, failure rate level E6 • Approval registered at IECQ	CECC / EN 140401- 803	100 Ω to 2.21 MΩ; 100 Ω to 100 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 % —	0.2 W; 2.0 A
	MMA 0204 VG03			1.0 Ω to 5.11 MΩ; 75.0 Ω to 100 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 % —	0.25 W; 3.0 A
	MMB 0207 VG03			1.0 Ω to 10.0 MΩ; 75.0 Ω to 499 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 % —	0.4 W; 5.0 A
	MS1.... EN803 E8	• Thin film MELF resistors • 50 ppm/K / ± 1 %: E96 values; 15 ppm/K / ± 0.1 %: E192 values • Lead-bearing with SnPb termination plating • Assessment level EZ, Version E: established reliability, failure rate level E8 • Approval registered at IECQ	CECC / EN 140401-803	1.0 Ω to 2.21 MΩ; 75.0 Ω to 100 kΩ	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %	0.25 W
	SMM0204 EN803 E8	• Thin film MELF resistors • 50 ppm/K / ± 1 %: E96 values; 15 ppm/K / ± 0.1 %: E192 values • Lead-free and RoHS-compliant • Assessment level EZ, Version E: established reliability, failure rate level E8 • Approval registered at IECQ	CECC / EN 140401-803	1.0 Ω to 2.21 MΩ; 75.0 Ω to 100 kΩ	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %	0.25 W

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Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Thin Film MELF Resistors	MMU 0102 Professional Precision	• Thin film MELF resistors • Tolerances: 0.1 %, 0.25 %, 0.5 %, and 1 % • Professional and precision specifications • Series include zero-ohm jumpers • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-803	0.22 Ω to 2.21 MΩ; 0 Ω	15 ppm/K, 25 ppm/K, and 50 ppm/K; —	0.2 W; 2.0 A
	MMA 0204 Professional Precision			0.22 Ω to 10.0 MΩ; 0 Ω	15 ppm/K, 25 ppm/K, and 50 ppm/K; —	0.25 W; 3.0 A
	MMB 0207 Professional Precision			0.22 Ω to 15.0 MΩ; 0 Ω	15 ppm/K, 25 ppm/K, and 50 ppm/K; —	0.4 W; 5.0 A
	MMA 0204 HT	• Thin film MELF resistors • Tolerances: 0.5 % and 1 % • Extended temperature range • Professional specifications • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-803	47 Ω to 100 kΩ	25 ppm/K and 50 ppm/K	0.5 W
	UMA 0204	• Thin film MELF resistors • Tolerances: 0.1 % and 0.25 % • High precision specifications • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-803	22.0 Ω to 332 kΩ	10 ppm/K	0.25 W
	SMM0204 EN803 E0	• Thin film MELF resistors • Tolerances: 0.1 %, 0.25 %, 0.5 %, and 1 % • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-803	1.0 Ω to 2.21 MΩ	15 ppm/K, 25 ppm/K, and 50 ppm/K	0.25 W
	OMM0204 EN803 E0	• MELF zero-ohm jumper • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-803	0 Ω	—	2.0 A
Thin Film Chip Resistors	TNPS 0603 ESCC	• Thin film chip resistors • Tolerances: 0.1 %, 0.5 %, and 1 % • Product listed in the EPPL • Approval listed in the ESCC QPL	ESCC 4001/029	10.0 Ω to 221 kΩ	15 ppm/K, 25 ppm/K, and 50 ppm/K	0.1 W
	TNPS 0805 ESCC			10.0 Ω to 422 kΩ	15 ppm/K, 25 ppm/K, and 50 ppm/K	0.125 W
	TNPS 1206 ESCC			10.0 Ω to 10.0 MΩ	15 ppm/K, 25 ppm/K, and 50 ppm/K	0.25 W
	MCS 0402 VG01	• Thin film chip resistors • Tolerances: 0.1 % and 1 % • 50 ppm/K / ± 1 %: E96 values; 15 ppm/K / ± 0.1 %: E192 values • Series include zero-ohm jumpers • Assessment level EZ, Version E: established reliability, failure rate level E6 • Approval registered at IECQ	CECC / EN 140401-801	10 Ω to 100 kΩ; 100 Ω to 33.2 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %; —	0.063 W; 0.63 A
	MCT 0603 VG01			1.0 MΩ to 1.0 MΩ; 100 Ω to 47.5 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %; —	0.1 W; 1.0 A
	MCU 0805 VG01			1.0 Ω to 1.0 MΩ; 100 Ω to 100 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %; —	0.125 W; 1.5 A
	MCA 1206 VG01			1.0 Ω to 1 MΩ; 43 Ω to 332 kΩ; 0 Ω	50 ppm/K / ± 1 %; 15 ppm/K / ± 0.1 %; —	0.25 W; 2.0 A

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Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Thin Film Chip Resistors	MCS 0402 Professional Precision	• Thin film chip resistors • Tolerances: 0.1 %, 0.25 %, 0.5 %, and 1 % • Professional and precision specifications • Series include zero-ohm jumpers • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-801	10 Ω to 1.0 MΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K —	0.063 W; 0.63 A
	MCT 0603 Professional Precision			1.0 Ω to 1.0 MΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K —	0.1 W; 1.0 A
	MCU 0805 Professional Precision			1.0 Ω to 1.0 MΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K —	0.125 W; 1.5 A
	MCA 1206 Professional Precision			1 Ω to 1 MΩ	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K —	0.25 W; 2.0 A
	MCS 0402 AT	• Thin film chip resistors • Tolerances: 0.1 %, 0.5 %, and 1 % • Extended temperature range • Series include zero-ohm jumpers • Assessment level EZ, Version A • Approval registered at IECQ	CECC / EN 140401-801	10 Ω to 221 kΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K	0.063 W; 0.63 A
	MCT 0603 AT			1 Ω to 511 kΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K	0.1 W; 1 A
	MCU 0805 AT			1 Ω to 1 MΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K	0.125 W; 1.5 A
	MCA 1206 AT			1 Ω to 1 MΩ; 0 Ω	10 ppm/K, 15 ppm/K, 25 ppm/K, and 50 ppm/K	0.25 W; 2 A
	SFM	• Chip resistor, 0202 case size, wirebondable, low TCR (25 ppm), tight tolerance (0.1 %)	MIL-H-38534	1 Ω to 1 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	250 mW
	BCR	• Chip resistor, 0202 case size, wirebondable, back contact, low TCR (25 ppm/°C), tight tolerance (0.1 %)	MIL-H-38534	10 Ω to 1 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	250 mW
	CTR	• Voltage divider, 0303 case size, wirebondable, low TCR (25 ppm/°C), tight tolerance (0.1 %)	MIL-H-38534	10 Ω to 1MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	250 mW
	MTR	• Multi-tap array, 0303 case size, wirebondable	MIL-H-38534	100 Ω to 240 KΩ	100 ppm/°C, 250 ppm/°C, 0/-250 ppm/°C	250 mW
Thick Film Chip Resistors	CHPHR	• Thick film chip resistor • From 0603 to 2512 • Tolerances: 1 % / 2 % / 5 % • ESA-qualified	ESCC 4001/026	1 Ω to 10 MΩ	100 ppm/°C, 200 ppm/°C	100 mW to 800 mW
	CHPFR	• R failure rate thick film chip resistor • From 0603 to 2512 • Tolerances: 1 % / 2 % / 5 % • ESA-qualified	ESCC4001/026	10 Ω to 10 MΩ	100 ppm/°C and 200 ppm/°C	100 mW to 800 mW
	CRHV1206 – 03025	• High voltage (up to 3 kV) surface-mount, thick film chip, broad resistance range (2 mΩ to 50 GΩ) • 1206, 2010, and 2512 case sizes • Eliminates multiple components; reduces board area • Group A and Group B Testing		2 MΩ to 8 GΩ	100 ppm	0.30 W
	CRHV2010 – 03026			4 MΩ to 10 GΩ	100 ppm	0.45 W

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Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Thick Film Chip Resistors	CRHV2512 – 03027	• High voltage (up to 3 kV) surface-mount, thick film chip, broad resistance range (2 mΩ to 50 GΩ) • 1206, 2010, and 2512 case sizes • Eliminates multiple components; reduces board area • Group A and Group B Testing		10 MΩ to 50 GΩ	100 ppm	1.0 W
Fixed Linear Resistors	CMF07 (Military type RL07)	• Axial film resistor • Military-qualified • Multiple body sizes • Monthly acceptance testing • 100 % screen tested • Traceability of materials and processes • Low noise • Excellent high frequency characteristics	MIL-PRF-22684/1	51 Ω to 150 kΩ	200 ppm/°C	0.25 W
	CMF20 (Military type RL20)		MIL-PRF-22684/2	4.3 Ω to 470 kΩ	200 ppm/°C	0.50 W
	CMF50 (Military type RN50)		MIL-R-10509/8	10 Ω to 100 kΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	0.05 W
	CMF55 (Military type RN55)		MIL-R-10509/7	10 Ω to 301 kΩ		0.10 W to 0.125 W
	CMF60 (Military type RN60)		MIL-R-10509/1	10 Ω to 1 MΩ		0.125 W to 0.25 W
	CMF65 (Military type RN65)		MIL-R-10509/2	10 Ω to 2 MΩ		0.25 W to 0.50 W
	CMF70 (Military type RN70)		MIL-R-10509/3	10 Ω to 2.49 MΩ		0.50 W to 1 W
	DFM14 (Military type RZ030)	• Thick film flat pack resistor networks • Military-qualified • Multiple schematics and pin counts • Monthly acceptance testing • 100 % screen tested per Group A • Traceability of materials and processes	MIL-PRF-83401/03	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.015 W/element to 0.050 W/element
	ERC50 (Military type RNC50, RNR50)	• Axial film resistor • Established reliability, military-qualified (verified failure rates) • Multiple body sizes • Monthly acceptance testing • 100 % tested per Group A • Traceability of materials and processes • Low noise • Excellent high frequency characteristics • Customs available, per source control drawings	MIL-PRF-55182/7	10 Ω to 796 kΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	0.05 W to 0.10 W
	ERC55 (Military type RNC55, RNR55)		MIL-PRF-55182/1	10 Ω to 2 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	0.10 W to 0.125 W
	ERC60 (Military type RNC60, RNR60)		MIL-PRF-55182/3	10 Ω to 2 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	0.125 W to 0.25 W
	ERC65 (Military type RNC65, RNR65)		MIL-PRF-55182/5	10 Ω to 3.01 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	0.25 W to 0.50 W
	ERC70 (Military type RNC70, RNR70)		MIL-PRF-55182/6	10 Ω to 3.01 MΩ	25 ppm/°C, 50 ppm/°C, and 100 ppm/°C	0.50 W to 0.75 W

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Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Fixed Linear Resistors	ERH (Military type RER60, RER65, RER70, RER75)	• Chassis-mounted • Wirewound • Precision • Established reliability • Power resistor	MIL-PRF-39009/1	0.1 Ω to 39.2 kΩ	± 100 ppm/°C for 0.1 Ω to 0.99 Ω; ± 50 ppm/°C for 1 Ω to 19.9 Ω; ± 20 ppm/°C for 20 Ω and above	5 W, 10 W, 20 W, and 30 W
	ENH (Military type RER40, RER45, RER50, RER55)		MIL-PRF-39009/2	1.0 Ω to 6.04 kΩ	± 50 ppm/°C for 1 Ω to 19.9 Ω; ± 20 ppm/°C for 20 Ω and above	5 W, 10 W, 20 W, and 30 W
	ERL05 (Military type RLR05)	• Axial film resistor • Established reliability, military-qualified (verified failure rates) • Multiple body sizes • Monthly acceptance testing • 100 % tested per Group A • Traceability of materials and processes • Low noise • Excellent high frequency characteristics • Customs available, per source control drawings	MIL-PRF-39017/5	4.7 Ω to 1 MΩ	100 ppm/°C	0.125 W
	ERL07 (Military type RLR07)		MIL-PRF-39017/1	1 Ω to 10 MΩ	100 ppm/°C	0.25 W
	ERL20 (Military type RLR20)		MIL-PRF-39017/2	4.3 Ω to 3.01 MΩ	100 ppm/°C	0.50 W
	ERL32 (Military type RLR32)		MIL-PRF-39017/3	1 Ω to 2.7 MΩ	100 ppm/°C	1 W
	ERL (DSCC Drawings)	• Axial film resistor • Multiple body sizes • Low noise • Excellent high frequency characteristics	97004	10 Ω to 22 MΩ	100 ppm/°C and 200 ppm/°C	2 W
			98020	1.1 MΩ to 22 MΩ	200 ppm/°C	0.125 W
			98021	3.3 MΩ to 22 MΩ	200 ppm/°C	0.5 W
			98022	3 MΩ to 22 MΩ	200 ppm/°C	1 W
			99011	11 MΩ to 22 MΩ	200 ppm/°C	0.25 W
	ESS / ESN (Military type RWR71)	• Axial-leaded • Wirewound • Precision • Established reliability • Power resistor	MIL-PRF-39007/5	0.1 Ω to 12.1 kΩ	± 650 ppm/°C for 0.1 Ω to 0.499 Ω; ± 400 ppm/°C for 0.505 Ω to 1 Ω; ± 50 ppm/°C for 1.1 Ω to 10 Ω; ± 20 ppm/°C for 10 Ω and above	2 W
	ESS / ESN (Military type RWR74)		MIL-PRF-39007/6	0.1 Ω to 12.1 kΩ		5 W
	ESS / ESN (Military type RWR78)		MIL-PRF-39007/7	0.1 Ω to 39.2 kΩ		10 W
	EGS / EGN (Military type RWR80)		MIL-PRF-39007/8	0.1 Ω to 3.16 kΩ		2 W
	EGS / EGN (Military type RWR81)	• Axial-leaded • Wirewound • Precision • Established reliability • Power resistor	MIL-PRF-39007/9	0.1 Ω to 1 kΩ	± 650 ppm/°C for 0.1 Ω to 0.499 Ω; ± 400 ppm/°C for 0.505 Ω to 1 Ω; ± 50 ppm/°C for 1.1 Ω to 10 Ω; ± 20 ppm/°C for 10 Ω and above	1 W
	EGS / EGN (Military type RWR84)		MIL-PRF-39007/10	0.1 Ω to 12.4 kΩ		7 W
	ESS / ESN (Military type RWR89)		MIL-PRF-39007/11	0.1 Ω to 4.12 kΩ		3 W
	EGS / EGN (Military type RWR82)		MIL-PRF-39007/12	0.1 Ω to 1.3 kΩ		1.5 W

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Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Fixed Linear Resistors	FRJ50	• Axial film resistor • Zero-ohm jumper	87010	0 Ω	N/A	N/A
	LVR03 (Military type RLV30)	• Axial-leaded • Low ohmic value • Power resistor	MIL-PRF-49465/6	0.01 Ω to 0.2 Ω	± 350 ppm/°C for 0.01 Ω to 0.0249 Ω; ± 200 ppm/°C for 0.025 Ω to 0.0499 Ω; ± 125 ppm/°C for 0.05 Ω to 0.0749 Ω; ± 75 ppm/°C for 0.075 Ω to 0.099 Ω; ± 50 ppm/°C for 0.1 Ω and above	3 W
	LVR05 (Military type RLV31)		MIL-PRF-49465/7	0.01 Ω to 0.3 Ω	± 250 ppm/°C for 0.01 Ω to 0.0249 Ω; ± 150 ppm/°C for 0.025 Ω to 0.0499 Ω; ± 100 ppm/°C for 0.05 Ω to 0.0749 Ω; ± 75 ppm/°C for 0.075 W to 0.099 Ω; ± 50 ppm/°C for 0.1 Ω and above	5 W
	MDM14 (Military type RZ010)	• Thick film DIP resistor networks • Military-qualified • Multiple schematics and pin counts • Monthly acceptance testing • 100 % screen tested per Group A • Traceability of materials and processes • Rugged molded body	MIL-PRF-83401/01	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.05 W/element to 0.20 W/element
	MDM16 (Military type RZ020)		MIL-PRF-83401/02	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.05 W/element to 0.20 W/element
	MSM06C (Military type RZ040)	• Thick film SIP resistor networks • Military-qualified • Multiple schematics and pin counts • Monthly acceptance testing • 100 % screen tested per Group A • Traceability of materials and processes • Rugged molded body	MIL-PRF-83401/04	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.10 W/element to 0.20 W/element
	MSM08C (Military type RZ050)		MIL-PRF-83401/05	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.10 W/element to 0.20 W/element
	MSM10C (Military type RZ060)		MIL-PRF-83401/06	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.10 W/element to 0.20 W/element
	MSM06A (Military type RZ070)		MIL-PRF-83401/07	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.07 W/element to 0.12 W/element
	MSM08A (Military type RZ080)		MIL-PRF-83401/08	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.07 W/element to 0.12 W/element

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MILITARY AND AEROSPACE

Resistors

Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Fixed Linear Resistors	MSM10A (Military type RZ090)	• Thick film SIP resistor networks • Military-qualified • Multiple schematics and pin counts • Monthly acceptance testing • 100 % screen tested per Group A • Traceability of materials and processes • Rugged molded body	MIL-PRF-83401/09	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.07 W/element to 0.12 W/element
	MSM06A-S1 and S2 (Military type RZ180)		MIL-PRF-83401/18	Per slash sheet	100 ppm/°C and 300 ppm/°C	0.10 W/element
	MSM08A-S1 through S12 (Military type RZ190)		MIL-PRF-83401/19	Per slash sheet	100 ppm/°C and 300 ppm/°C	0.10 W/element
	MSM10A-S2, -S3 and -S4 (Military type RZ240)		MIL-PRF-83401/24	10 Ω to 1 MΩ	100 ppm/°C and 300 ppm/°C	0.07 W/element to 0.12 W/element
	PTF56 (DSCC drawing)	• Axial film resistor • Ultra precision • Multiple body sizes • 100 % screen tested • Traceability of materials and processes • Very low noise • Excellent high frequency characteristics • Ultra high stability • Extremely low TCR and resistance tolerance	89088	10 Ω to 500 kΩ	5 ppm/°C	0.1 W
	RCWPM0502 (Military type RM0502)	• Thick film chip resistor • Established reliability, military-qualified (verified failure rates) • Multiple case sizes • Monthly acceptance testing • 100 % screen tested per Group A • Traceability of materials and processes	MIL-PRF-55342/01	1 Ω to 22 mΩ	100 ppm/C°, 200 ppm/C°, and 300 ppm/C°	0.05 W
	RCWPM0550 (Military type RM0505)		MIL-PRF-55342/02	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.055 W
	RCWPM5100 (Military type RM1005)		MIL-PRF-55342/03	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.10 W
	RCWPM5150 (Military type RM1505)		MIL-PRF-55342/04	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.15 W
	RCWPM7225 (Military type RM2208)		MIL-PRF-55342/05	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.225 W
	RCWPM0575 (Military type RM0705)		MIL-PRF-55342/06	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.10 W
	RCWPM1206 (Military type RM1206)		MIL-PRF-55342/07	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.25 W
	RCWPM2010 (Military type RM2010)		MIL-PRF-55342/08	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.80 W
	RCWPM2512 (Military type RM2512)		MIL-PRF-55342/09	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	1 W

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Resistors

Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Fixed Linear Resistors	RCWPM1100 (Military type RM1010)	• Thick film chip resistor • Established reliability, military-qualified (verified failure rates) • Multiple case sizes • Monthly acceptance testing • 100 % screen tested per Group A • Traceability of materials and processes	MIL-PRF-55342/10	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.50 W
	RCWPM0402 (Military type RM0402)		MIL-PRF-55342/11	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.04 W
	RCWPM0603 (Military type RM0603)		MIL-PRF-55342/12	1 Ω to 22 MΩ	100 ppm/°C and 300 ppm/°C	0.07 W
	RCWPM0302 (Military type RM0302)		MIL-PRF-55342/13	1 Ω to 22 mΩ	100 ppm/C°, 200 ppm/C°, and 300 ppm/C°	0.04 W
	RCWPM (DSCC drawings)	• Thick film chip resistor • Zero-ohm jumper • Multiple case sizes	03002, 03013, 03014, 03015, 03016, 07009, 87011, 90047, 90048, 90049, 90092, 94011	0 Ω	N/A	N/A
	RH / NH (Military type RE60, RE65, RE70, RE75)	• Chassis-mounted • Wirewound precision • Power resistor	MIL-PRF-18546/1	0.1 Ω to 39.2 kΩ	± 100 ppm/°C for 0.1 Ω to 0.99 Ω; ± 50 ppm/°C for 1 Ω to 19.9 Ω; ± 20 ppm/°C for 10 Ω and above	5 W, 10 W, 20 W, and 30 W
	RH / NH (Military type RE60, RE65, RE70, RE75)		MIL-PRF-18546/2	0.1 Ω to 35.7 kΩ	± 100 ppm/°C for 0.1 Ω to 0.99 Ω; ± 50 ppm/°C for 1 Ω to 19.9 Ω; ± 20 ppm/°C for 10 Ω and above	75 W and 120 W
	HDN55 (Military Type RNR55, RNN55)	• Axial film resistor • Established reliability, military-qualified (verified failure rates) • Multiple body sizes • Monthly acceptance testing • 100 % tested per Group A • Traceability of materials and processes • Low noise • Hermetic glass enclosure is impervious to harmful environments	MIL-PRF-55182/1	10 Ω to 1.21 MΩ	25 ppm/°C and 50 ppm/°C	0.10 W to 1.25 W
	HDN57 (Military Type RNR57, RNN57)		MIL-PRF-55182/2	49.9 Ω to 200 kΩ	25 ppm/°C and 50 ppm/°C	0.125 W to 0.25 W
	HDN60 (Military Type RNR60, RNN60)		MIL-PRF-55182/3	10 Ω to 2.49 MΩ	25 ppm/°C and 50 ppm/°C	0.125 W to 0.25 W
	HDN65 (Military Type RNR65, RNN65)		MIL-PRF-55182/5	24.9 Ω to 4.99 MΩ	25 ppm/°C and 50 ppm/°C	0.25 W to 0.50 W
	HDN70 (Military Type RNR70, RNN70)		MIL-PRF-55182/6	24.9 Ω to 4.99 MΩ	25 ppm/°C and 50 ppm/°C	0.50 W to 0.75 W
	HDN75 (Military Type RNR70, RNN75)		MIL-PRF-55182/10	49.9 Ω to 1.21 MΩ	25 ppm/°C	1 W to 2 W

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Resistors

Component	Series / Part Number	Features / Benefits	Qualification	Qualified Value Range	TCR	Power Rating
Fixed Linear Resistors	RS (Military type RW67, RW68, RW69)	• Axial-leaded • Wirewound • Precision • Power resistor	MIL-PRF-26/4	0.1 Ω to 20 kΩ	± 650 ppm/°C for 0.1 Ω to 0.498 Ω; ± 400 ppm/°C for 0.499 Ω to 0.999 Ω; ± 50 ppm/°C for 1 Ω to 9.9 Ω; ± 30 ppm/°C for 10 Ω to 19.9 Ω; ± 20 ppm/°C for 20 Ω and above	3 W, 6.5 W, and 11 W
	RS / G (Military type RW70, RW74, RW78, RW79)		MIL-PRF-26/5	0.1 Ω to 71.5 kΩ		1 W to 3 W, 5 W, and 10 W
	RS / G (Military type RW80, RW81)		MIL-PRF-26/6	0.1 Ω to 2.74 kΩ		1 W and 2 W
	SOMC (DSCC drawings)	• Thick film SMD DIP resistor networks • Multiple schematics and pin counts • Rugged molded body	87012, 87013	10 Ω to 2.2 MΩ	100 ppm/°C and 300 ppm/°C	0.08 W/element to 0.16 W/element
	SPR1005 (Military type RLV10)	• Axial-leaded • Low-ohmic value • Power resistor	MIL-PRF-49465/1	0.01 Ω to 0.5 Ω	± 150 ppm/°C for 0.01 Ω to 0.0249 Ω; ± 125 ppm/°C for 0.025 Ω to 0.0499 Ω; ± 100 ppm/°C for 0.05 Ω to 0.0749 Ω; ± 50 ppm/°C for 0.075 Ω to 0.099 Ω; ± 50 ppm/°C for 0.1 Ω and above	5 W
	WSC0001 - 15 (93706)	• Surface-mount, 1 W, power resistor	93076	0.1 Ω to 2.77 kΩ	± 90 ppm/°C for 0.1 Ω to 0.99 Ω; ± 50 ppm/°C for 1.0 Ω to 9.9 Ω; ± 20 ppm/°C for 10.0 Ω and above	1 W
	WSC0002 - 15 (93077)	• Surface-mount, 2 W, power resistor	93077	0.1 Ω to 10.4 kΩ		2 W
	WSC01/2 - 15 (93075)	• Surface-mount, 1/2 W, power resistor	93075	0.1 Ω to 4.99 Ω		0.5 W
	WSL2512 (Military type VLV2512)	• Metal strip • Low-ohmic value • Power surface-mount resistor	A-A-55534/08	0.005 Ω to 0.1 Ω	400 ppm/°C	1 W
	WSL2010 (Military type VLV2010)		A-A-55534/07	0.007 Ω to 0.5 Ω		0.5 W
	WSL1206 (Military type VLV1206)		A-A-55534/02	0.007 Ω to 0.5 Ω		0.25 W
	WSR2 (Military type VLV2)		A-A-55534/09	0.005 Ω to 1.0 Ω	110 ppm/°C	2 W

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
MLCC Specialty Product Line	M123A10	• 0805 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	1 pF to 18 000 pF	50 V to 100 V
	M123A11	• 1210 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	300 pF to 100 000 pF	50 V to 100 V
	M123A12	• 1808 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	300 pF to 100 000 pF	50 V to 100 V
	M123A13	• 2225 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	1100 pF to 470 000 pF	50 V to 100 V
	M123A21	• 1206 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	1 pF to 39 000 pF	50 V to 100 V
	M123A22	• 1812 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	1200 pF to 56 000 pF	50 V to 100 V
	M123A23	• 1825 case size • Space-level reliability • Proven BP and BX dielectrics in NME construction • Multiple termination finishes available	MIL-PRF-123	3600 pF to 470 000 pF	50 V to 100 V
	CDR01	• Standard capacitance • 0805 case size • Established reliability • Tin / lead “Z” code and solder coat, “U” code terminations available	MIL-PRF-55681/1	10 pF to 4700 pF	50 V to 100 V
	CDR02	• Standard capacitance • 1805 case size • Established reliability • Tin / lead “Z” code and solder coat, “U” code terminations available	MIL-PRF-55681/1	220 pF to 22 000 pF	50 V to 100 V
	CDR03	• Standard capacitance • 1808 case size • Established reliability • Tin / lead “Z” code and solder coat, “U” code terminations available	MIL-PRF-55681/1	330 pF to 68 000 pF	50 V to 100 V
	CDR04	• Standard capacitance • 1812 case size • Established reliability • Tin / lead “Z” code and solder coat, “U” code terminations available	MIL-PRF-55681/1	1200 pF to 180 000 pF	50 V to 100 V

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
MLCC Specialty Product Line	CDR06	• Standard capacitance • 2225 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/3	390 000 pF to 470 000 pF	50 V
	CDR31	• Standard capacitance • 0805 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/7	1.0 pF to 18 000 pF	50 V to 100 V
	CDR32	• Standard capacitance • 1206 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/8	1.0 pF to 39 000 pF	
	CDR33	• Standard capacitance • 1210 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/9	1000 pF to 100 000 pF	
	CDR34	• Standard capacitance • 1812 case size • Multilayer ceramic chip capacitors • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/10	2200 pF to 180 000 pF	
	CDR35	• Standard capacitance • 1825 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/11	4700 pF to 470 000 pF	
	CDR36	• Standard capacitance • 0603 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations available	MIL-PRF-55681/12	51 pF to 100 000 pF	6.3 V to 100 V
	CDR37	• Standard capacitance • 0402 case size • Established reliability • Tin / lead "Z" code and solder coat, "U" code terminations	MIL-PRF-55681/13	100 pF to 10 000 pF	
	DSCC 03028	• Standard capacitance • Smaller case size (0603) • Screened per DSCC drawing • Tin / lead "Z" code terminations available • Custom testing and reporting available	DSCC 03028	1 pF to 100 000 pF	
	DSCC 03029	• Standard capacitance • Smaller case size (0402) • Multilayer ceramic chip capacitors • Screened per DSCC drawing • Tin / lead "Z" code terminations available • Custom testing and reporting available	DSCC 03029	1 pF to 10 000 pF	

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
MLCC Specialty Product Line	DSCC 05001	• High frequency applications • Maximum DF of 0.05 % • Case size: 0805 • Tin / lead “Z” code terminations available • Custom testing and reporting available	DSCC 05001	1 pF to 100 pF	50 V to 250 V
	DSCC 05002	• High frequency applications • Maximum DF of 0.05 % • Case size: 0603 • Tin / lead “Z” code terminations available • Custom testing and reporting available	DSCC 05002	1 pF to 100 pF	
	DSCC 05003	• High frequency applications • Maximum DF of 0.05 % • Case size: 0402 • Tin / lead “Z” code terminations available • Custom testing and reporting available	DSCC 05003	1 pF to 27 pF	50 V to 100 V
	DSCC 05006	• Extended capacitance • Standard CDR case size (0805) • Screened per DSCC drawing • Tin / lead “Z” code and solder coat, “U” code terminations available • Custom testing and reporting available	DSCC 05006	1 pF to 220 000 pF	10 V to 200 V
	DSCC 05007	• Extended capacitance • Standard CDR case size (1206) • Screened per DSCC drawing • Tin / lead “Z” code and solder coat, “U” code terminations available • Custom testing and reporting available	DSCC 05007	1 pF to 470 000 pF	16 V to 200 V
	VJ HiRel COG (NPO)	• Extended capacitance, case sizes: 0402 to 2225 • Hi-Rel screened to MIL-PRF-55681 Group A and C guidelines • Tin / lead terminations available • Custom testing and reporting available	HI-REL COTS	1 pF to 39 000 pF	10 V to 600 V
	VJ HiRel X7R / X5R	• Extended capacitance • Case sizes: 0402 to 3640 • Hi-Rel screened to MIL-PRF-55681 Group A and C guidelines • Tin / lead terminations available • Custom testing and reporting available	HI-REL COTS	100 pF to 6.8 µF	6.3 V to 500 V
Tantalum Capacitors	CWR06	• Standard capacitance range • Conformal case • Tantalum chip capacitor • Established reliability • Gold or tin / lead terminations available • Screening options, including space level	MIL-PRF-55363/4	0.10 µF to 100 µF	4 V to 50 V

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Capacitors

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
Tantalum Capacitors	CWR16	• Extended capacitance range • Conformal case • Tantalum chip capacitor • Established reliability • Gold or tin / lead terminations available • Screening options, including space level	MIL-PRF-55365/13	0.33 µF to 330 µF	4 V to 35 V
	CWR26	• Low ESR • Conformal case • Tantalum chip capacitor • Established reliability • Gold or tin / lead terminations available • Screening options, including space level	MIL-PRF-55365/13	10 µF to 100 µF	15 V to 35 V
	DSCC 02002	• Vishay 195D series • Standard capacitance range • Conformal coated • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations available	DSCC 02002	10 µF to 150 µF	10 V to 40 V
	CWR11	• Standard capacitance range • Molded case • Tantalum chip capacitor • Established reliability • Tin / lead terminations • Screening options, including space level	MIL-PRF-55365/8	0.1 µF to 100 µF	4 V to 50 V
	DSCC 95158	• Vishay 593D series • Low ESR • Standard capacitance range • Molded case • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations available	DSCC 95158	4.7 µF to 220 µF	4 V to 50 V
	T83	• Extended capacitance • Molded case • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations available	HI-REL COTS	0.10 µF to 470 µF	4 V to 63 V
	M39003/01 (CSR13)	• Standard capacitance range • Metal case • Hermetically sealed • Axial-leaded • Solid tantalum capacitor • Tin / lead terminations	MIL-PRF-39003	0.056 µF to 330 µF	6 V to 100 V
	M39003/03 (CSR23)	• Extended capacitance range • Metal case • Hermetically sealed • Axial-leaded • Solid tantalum capacitor • Tin / lead terminations	MIL-PRF-39003	1.2 µF to 1000 µF	6 V to 50 V

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
Tantalum Capacitors	M39003/09 (CSR21)	• Standard capacitance range • Low ESR • Metal case • Hermetically sealed • Axial-leaded • Solid tantalum capacitor • Tin / lead terminations	MIL-PRF-39003	5.6 µF to 330 µF	6 V to 50 V
	T95	• Extended capacitance • Conformal case • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations available	HI-REL COTS	0.15 µF to 680 µF	4 V to 50 V
	T97	• Ultra low ESR • Robust dual anode design • Extended capacitance • Conformal case • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations available	HI-REL COTS	10 µF to 2200 µF	4 V to 75 V
	DLA 14002	• DLA-approved • Conformal case • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations	DLA 14002	4.7 µF to 680 µF	4 V to 50 V
	DLA 13008	• DLA-approved • Ultra low ESR • Robust dual anode design • Extended capacitance • Conformal case • Tantalum chip capacitor • Hi-Rel screened • Tin / lead terminations	DLA 13008	10 µF to 1500 µF	4 V to 63 V
	TM8	• High reliability microchips • Low DCL for long battery life • Reliability and surge current screening options	HI-REL COTS	0.33 µF to 47 µF	2 V to 40 V
	DLA 11020	• High reliability microchips • DLA-approved • Low DCL for long battery life • Reliability and surge current screening options, including space level	DLA 11020	1 µF to 47 µF	6.3 V to 40 V
	T54	• Polymer cathode system • High reliability COTS • Ultra low ESR • Stack configuration available	HI-REL COTS	15 µF to 2800 µF	16 V to 75 V
	DLA 20021	• Polymer cathode system • High reliability processing • Ultra low ESR • Stack configuration available • DLA-approved	DLA 20021	15 µF to 2800 µF	16 V to 75 V
	T56	• Polymer cathode system • High reliability screening • Ultra low ESR • High ripple capability	HI-REL COTS	10 µF to 680 µF	2.5 V to 50 V

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
Tantalum Capacitors	DLA 04051	• Polymer cathode system • High reliability processing • Ultra low ESR • DLA-approved	DLA 04051	4.7 µF to 680 µF	2.5 V to 63 V
	M39006/09 (CLR65)	• Standard capacitance range • Silver case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	1.7 µF to 1200 µF	6 V to 125 V
	M39006/21 (CLR69)	• Extended capacitance range • Silver case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	6.8 µF to 2200 µF	6 V to 125 V
	M39006/22 (CLR79)	• Standard capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	1.7 µF to 1200 µF	6 V to 125 V
	M39006/25 (CLR81)	• Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	6.8 µF to 2200 µF	6 V to 125 V
	M39006/30 (CLR90)	• Low ESR • Standard capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	1.7 µF to 1200 µF	6 V to 125 V
	M39006/31 (CLR91)	• Low ESR • Standard capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	6.8 µF to 2200 µF	6 V to 125 V
	M39006/33 (CLR93)	• Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	MIL-PRF-39006	15 µF to 680 µF	50 V to 100 V
	DLA 06013	• Space-level screened, CLR79, MIL-approved • Standard capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	DLA 06013	1.7 µF to 1200 µF	6 V to 125 V

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
Tantalum Capacitors	DLA 06014	• Space-level screened, CLR81, MIL-approved • Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	DLA 06014	6.8 µF to 2200 µF	6 V to 125 V
	DLA 06015	• Space-level screened, CLR90, MIL-approved • Low ESR • Standard capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	DLA 06015	1.7 µF to 1200 µF	6 V to 125 V
	DLA 06016	• Space-level screened, CLR91, MIL-approved • Low ESR • Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Established reliability • Tin / lead terminations	DLA 06016	6.8 µF to 2200 µF	6 V to 125 V
	ST	• Ultra extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Tin / lead terminations • Surface-mount options	HI-REL COTS	10 µF to 2200 µF	25 V to 125 V
	DLA 93026	• Super extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Hi-Rel screened • Tin / lead terminations	DLA 93026	10 µF to 1800 µF	25 V to 125 V
	STA	• Ultra extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Tin / lead terminations • Surface-mount options	HI-REL COTS	150 µF to 4700 µF	6 V to 15 V
	STE	• Ultra extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Tin / lead terminations • Surface-mount options	HI-REL COTS	18 µF to 10 000 µF	10 V to 125 V
	DLA 10004	• Ultra extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Hi-Rel screened • Tin / lead terminations	DLA 10004	22 µF to 10 000 µF	10 V to 125 V

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Capacitors

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
Tantalum Capacitors	STH	• Ultra extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Enhanced performance • Improved vibration capability • Surface-mount options	HI-REL COTS	22 µF to 10 000 µF	10 V to 125 V
	DLA 04021	• MIL-DTL-3965 styles • CL55 • Metal case, hermetically sealed, solder lug configurations • Wet tantalum capacitor array • Tin / lead terminations	DLA 04021	70 µF to 2400 µF	15 V to 150 V
	T16	• Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Enhanced performance • Improved reverse voltage and vibration capability • Surface-mount options	HI-REL COTS	10 µF to 1800 µF	25 V to 125 V
	T18	• Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Enhanced performance • Improved reverse voltage and vibration capability • Surface-mount options	HI-REL COTS	22 µF to 1200 µF	50 V to 125 V
	DLA 13017	• Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Enhanced performance • Improved reverse voltage and vibration capability	DLA 13017	10 µF to 1800 µF	25 V to 125 V
	DLA 15005	• Extended capacitance range • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Enhanced performance • Improved reverse voltage and vibration capability	DLA 15005	22 µF to 1200 µF	50 V to 125 V
	DLA 20001	• Screened for space-level applications • Tantalum case, hermetically sealed, axial-leaded • Wet tantalum capacitor • Improved reverse voltage and vibration capability	DLA 20001	15 µF to 680 µF	50 V to 100 V
	T22	• Advanced SMD packaging with high volumetric efficiency, patents pending • Enhanced performance, high reliability design • Increased thermal shock capability • Designed for avionics and aerospace applications	HI-REL COTS	10 µF to 110 µF	50 V to 125 V

Component	Serial / Part Number	Features / Benefits / Qualifications	Qualification	Qualified Value Range	Voltage Range
Tantalum Capacitors	DLA 19001	• Advanced SMD packaging with high volumetric efficiency, patents pending • Enhanced performance, high reliability design • Increased thermal shock capability • Designed for avionics and aerospace applications	DLA 19001	10 µF to 68 µF	50 V to 125 V
	DLA 20012	• Enhanced performance, high reliability design • Surface-mount design • Increase thermal shock capability of 300 cycles • Designed for avionics and aerospace applications	DLA 20012	10 µF to 68 µF	50 V to 125 V
Thin Film Capacitors	NC	• MOS / MNOS chip capacitor, wirebondable, 0202 – 0606 case size, tight tolerance (2.5 %)	MIL-H-38534	0.5 pF to 1000 pF	20 V to 200 V

Component	Serial / Part Number	Features / Benefits	Qualification	Qualified Value Range	Rated DC Current
Magnetics / Inductors	SGIHLP Series	• Space-grade power inductors based on the popular IHLP power inductors series	MIL-STP-981 Class S	0.22 µF to 100 µF	2 A to 80 A
	SGTPL	• Space-grade hybrid / planar transformers up to 3000 KHz	MIL-STP-981 Class S	1500 W+	12 A+
	Custom Magnetics	• Transformers / inductors per customer specification	MIL-STD-981 Class S or custom qualification as specified	Unlimited	Per customer specification