

Military Glass-K Capacitors



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MIL-PRF-39014/21
CKR31, 32

APPLICATIONS

These miniature multilayer ceramic capacitors, style CKR31 and CKR32, are qualified to Established Reliability specification MIL-PRF-39014/21. High volumetric efficiency and reliable performance result from the special GLASS-K dielectric, which is fused into a compact monolithic structure. These capacitors are available in three different stability characteristics.

PERFORMANCE CHARACTERISTICS

Tolerance: $\pm 20\%$ and $\pm 10\%$ in characteristics "U" and "V", and $\pm 10\%$ and $\pm 5\%$ in characteristic "T".

Stability Characteristics: Available as follows:

BT-TC: $+2, -10\%$; TVC: $+2, -10\%$
BU-TC: $+2, -15\%$; TVC: $+2, -15\%$
BV-TC: $+20, -45\%$; TVC: $+20, -50\%$

Dissipation Factor:

BT: $\leq 1.0\%$
BU: $\leq 1.5\%$
BV: $\leq 3.0\%$

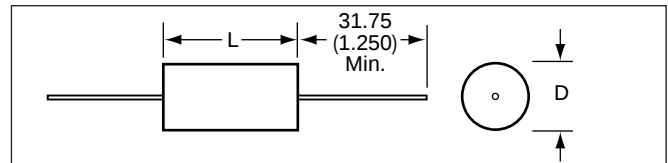
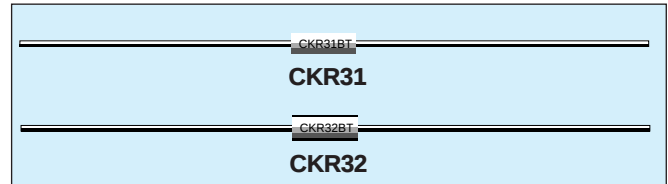
Life: Meets or exceeds requirements of MIL-PRF-39014. At 200% of rated voltage, 125°C , at 4,000 hours, the capacitance change for each stability characteristic is as follows:

BT: $\pm 5\%$
BU: $\pm 10\%$
BV: $\pm 20\%$

Insulation Resistance: At 25°C , 100,000 megohms or 1,000 megohm-microfarads. At 125°C , 10,000 megohms or 100 megohm-microfarads.

Voltage/Temperature Rating: Rated voltage is 50 Vdc. The operating temperature range is -55°C to $+125^{\circ}\text{C}$.

Moisture Resistance: Meets or exceeds requirements of MIL-PRF-39014 and MIL-STD-202, Method 106. The capacitance change is less than 2% for stability characteristics T and U, and less than 5% for characteristic V.



DIMENSIONS:

millimeters (inches)

Case Size	L $\pm .254$ (0.010)	D $\pm .254$ (0.010)	Lead Dia. $+0.1(+0.004)$ $-0.03(\pm 0.001)$	Weight (Grams) (Typ.)
CKR31	6.09 (0.240)	2.29 (0.090)	.41 (0.016)	.2
CKR32	6.09 (0.240)	3.30 (0.130)	.41 (0.016)	.3

Note: Leads are gold-plated, solderable and weldable per MIL-STD-1276, Type D.

QUICK SELECTION GUIDE

Capacitance - pF	Style CKR	Stability Char.
270 - 10,000	31	BT
12,000 - 20,000	31 32	BU BT
22,000 - 39,000	31 32	BV BU
47,000 - 51,000	31	BV
56,000 - 100,000	32	BV



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MIL-PRF-39014/21

CKR31, 32

MARKING

JCK31 103KM 9826B AVX	J = JAN Trademark
	CK = Style
	31 = Case Size
	103 = Capacitance, Coded in pF
	K = Tolerance
	M = Failure Rate Level
	9826 = Date Code
	B = Lot Code
	AVX = Vendor

Part Number Explanation

Part numbers are formed by adding a dash number from the part number table to the basic mil spec number – M39014/21 – (add dash number)

M39014/21 – Example: M39014/21-0040

CKR31 10,000pF ±10% 50V

M Failure Rate

(BT Characteristic)

CROSS REFERENCE

MIL-PRF-39014/21 Style	MIL-PRF-11015/25 Style
CKR31	CK31
CKR32	CK32

M39014/21 (Dash Number) Failure Rate Level (%/1,000 hours) 1.0 (M)	Capacitance Value (pF)	Capacitance Tolerance ± Percent	DC Rated Voltage
CKR31 (BT)			
0001	270	5	50
0002	270	10	50
0003	330	5	50
0004	330	10	50
0005	390	5	50
0006	390	10	50
0007	470	5	50
0008	470	10	50
0009	560	5	50
0010	560	10	50
0011	680	5	50
0012	680	10	50
0013	820	5	50
0014	820	10	50
0015	1,000	5	50
0016	1,000	10	50
0017	1,200	5	50
0018	1,200	10	50
0019	1,500	5	50
0020	1,500	10	50
0021	1,800	5	50
0022	1,800	10	50
0023	2,200	5	50
0024	2,200	10	50
0025	2,700	5	50
0026	2,700	10	50
0027	3,300	5	50
0028	3,300	10	50
0029	3,900	5	50
0030	3,900	10	50
0031	4,700	5	50
0032	4,700	10	50
0033	5,600	5	50
0034	5,600	10	50
0035	6,800	5	50
0036	6,800	10	50
0037	8,200	5	50
0038	8,200	10	50
0039	10,000	5	50
0040	10,000	10	50
CKR31 (BU)			
0041	12,000	10	50
0042	12,000	20	50
0043	15,000	10	50
0044	15,000	20	50
0045	18,000	10	50
0046	18,000	20	50
0047	20,000	10	50
0048	20,000	20	50

M39014/21 (Dash Number) Failure Rate Level (%/1,000 hours) 1.0 (M)	Capacitance Value (pF)	Capacitance Tolerance ± Percent	DC Rated Voltage
CKR31 (BV)			
0049	22,000	10	50
0050	22,000	20	50
0051	27,000	10	50
0052	27,000	20	50
0053	33,000	10	50
0054	33,000	20	50
0055	39,000	10	50
0056	39,000	20	50
0057	47,000	10	50
0058	47,000	20	50
0059	51,000	10	50
0060	51,000	20	50
CKR32 (BT)			
0061	12,000	5	50
0062	12,000	10	50
0063	15,000	5	50
0064	15,000	10	50
0065	18,000	5	50
0066	18,000	10	50
0067	20,000	5	50
0068	20,000	10	50
CKR32 (BU)			
0069	22,000	10	50
0070	22,000	20	50
0071	27,000	10	50
0072	27,000	20	50
0073	33,000	10	50
0074	33,000	20	50
0075	39,000	10	50
0076	39,000	20	50
CKR32 (BV)			
0077	56,000	10	50
0078	56,000	20	50
0079	62,000	10	50
0080	62,000	20	50
0081	68,000	10	50
0082	68,000	20	50
0083	75,000	10	50
0084	75,000	20	50
0085	82,000	10	50
0086	82,000	20	50
0087	91,000	10	50
0088	91,000	20	50
0089	100,000	10	50
0090	100,000	20	50