

INCH-POUND  
MIL-PRF-55514/8G  
30 May 2002  
SUPERSEDING  
MIL-PRF-55514/8F  
9 October 1997

PERFORMANCE SPECIFICATION SHEET

CAPACITORS, FIXED, METALLIZED PLASTIC DIELECTRIC,  
DC, IN NONMETAL CASES, ESTABLISHED RELIABILITY,  
STYLE CFR12 AND CFR16

This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein  
shall consist of this specification and MIL-PRF-55514.

Style CFR12

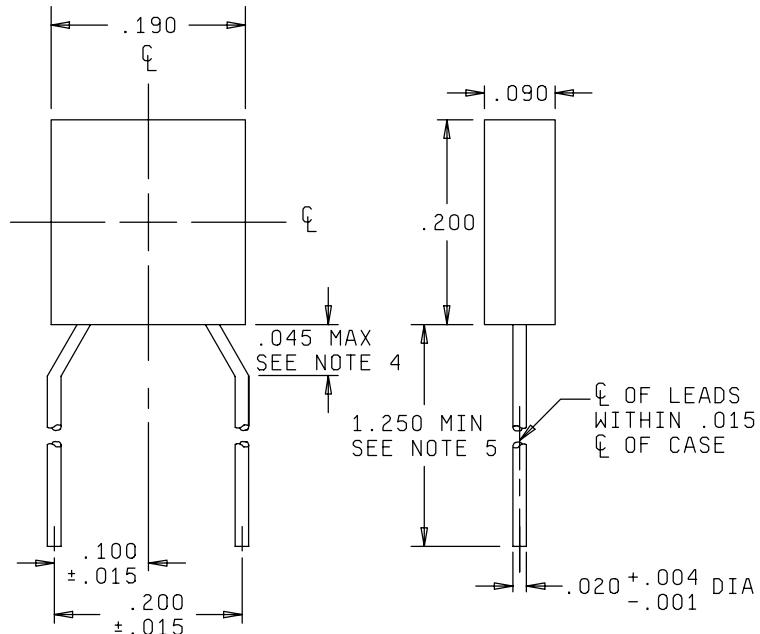
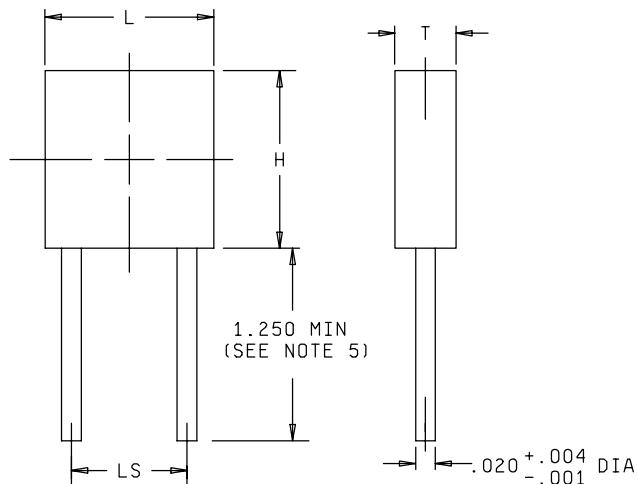


FIGURE 1. Dimensions and configuration.

Style CFR16

Inches	mm	Inches	mm
.001	0.03	.090	2.29
.004	0.10	.100	2.54
.015	0.38	.190	4.83
.020	0.51	.200	5.08
.025	0.64	.250	31.75
.045	1.14		

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information.
3. Unless otherwise specified, tolerance is  $\pm .010$  inch (0.25 mm).
4. For flush mounting .078 inch (1.98 mm) printed-circuit hole diameter is required to clear shoulder.
5. Lead length may be a minimum of one inch (25.4 mm) long for use in tape and reel packaging, when specified in the ordering data.

FIGURE 1. Configuration and dimensions - Continued.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figure 1 and table I.

Case type: Molded or preformed.

Capacitance tolerance: See table I.

\* Operating temperature range: -55°C to +85°C. Will operate to +125°C when properly derated to 50 percent of +85°C rated voltage.

\* Characteristic: R or U.

Voltage rating: See table I.

Dissipation factor: Not more than 0.3 percent.

Preconditioning: Not applicable.

Burn-in: DC: 48 hours at 125°C, at 1.4 times the derated 125°C voltage rating. The current to each capacitor shall be limited to 1 ampere maximum by a series resistor.

AC: Not applicable.

Dielectric withstanding voltage: 200 percent of rated voltage for 10 seconds to 60 seconds. The surge current shall be limited to 1 ampere, maximum.

Resistance to soldering heat: In accordance with MIL-PRF-55514 except that spacers or standoffs of .25 inch (6.4 mm) are required.

Application note: These capacitors are heat sensitive. Vapor phase soldering is not recommended. For applications that require wave soldering that exceeds a 5 second duration, it is recommended that a spacer or standoff be used.

Marking: In accordance with MIL-PRF-55514 except that minimum marking as shown in the following example will be permitted. Location of manufacturer's code or symbol is optional. Full marking shall be included on the package.

	<u>Front</u>	<u>Reverse side</u>	
Type designation	CFR12 RRA 333 FM	J-- 0211	J = JAN, and two digit manufacturer's code or symbol. Date code in accordance with MIL-PRF-55514.

\*

TABLE I. Styles CFR12 and CFR16 capacitor characteristics.

Style CFR12 1/							
Type designation 2/	Capacitance ( $\mu$ F)	Rated voltage at +85°C (volts)	Capacitance tolerance				
CFR12R-A333--	.033	50	F, G, J, K				
CFR12R-A393--	.039	50	F, G, J, K				
CFR12R-A473--	.047	50	F, G, J, K				
CFR12R-A563--	.056	50	F, G, J, K				
CFR12R-G223--	.022	75	F, G, J, K				
CFR12R-G273--	.027	75	F, G, J, K				
CFR12R-B103--	.010	100	F, G, J, K				
CFR12R-B123--	.012	100	F, G, J, K				
CFR12R-B153--	.015	100	F, G, J, K				
CFR12R-B183--	.018	100	F, G, J, K				
CFR12R-H682--	.0068	150	F, G, J, K				
CFR12R-H822--	.0082	150	F, G, J, K				
CFR12R-C392--	.0039	200	F, G, J, K				
CFR12R-C472--	.0047	200	F, G, J, K				
CFR12R-C562--	.0056	200	F, G, J, K				
CFR12R-K102--	.0010	250	F, G, J, K				
CFR12R-K122--	.0012	250	F, G, J, K				
CFR12R-K152--	.0015	250	F, G, J, K				
CFR12R-K182--	.0018	250	F, G, J, K				
CFR12R-K222--	.0022	250	F, G, J, K				
CFR12R-K272--	.0027	250	F, G, J, K				
CFR12R-K332--	.0033	250	F, G, J, K				

Style CFR16							
Type designation 2/	Capacitance ( $\mu$ F)	Rated voltage at +85°C (volts)	Capacitance tolerance	T $\pm .010$ (0.25)	H $\pm .020$ (0.51)	L $\pm .010$ (0.25)	L. S. $\pm .015$ (0.38)
CFR16R-A683--	.068	50	F, G, J, K	.095 (2.41)	.245 (6.22)	.295 (7.49)	.200 (5.08)
CFR16R-A823--	.082	50	F, G, J, K	.095 (2.41)	.245 (6.22)	.295 (7.49)	.200 (5.08)
CFR16R-A104--	.10	50	F, G, J, K	.095 (2.41)	.245 (6.22)	.295 (7.49)	.200 (5.08)
CFR16R-A124--	.12	50	F, G, J, K	.095 (2.41)	.295 (7.49)	.295 (7.49)	.200 (5.08)
CFR16R-A154--	.15	50	F, G, J, K	.095 (2.41)	.295 (7.49)	.295 (7.49)	.200 (5.08)
CFR16R-A184--	.18	50	F, G, J, K	.095 (2.41)	.295 (7.49)	.295 (7.49)	.200 (5.08)
CFR16R-A224--	.22	50	F, G, J, K	.095 (2.41)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A274--	.27	50	F, G, J, K	.095 (2.41)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A334--	.33	50	F, G, J, K	.095 (2.41)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A394--	.39	50	F, G, J, K	.095 (2.41)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A474--	.47	50	F, G, J, K	.145 (3.68)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A564--	.56	50	F, G, J, K	.145 (3.68)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A684--	.78	50	F, G, J, K	.195 (4.95)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A824--	.82	50	F, G, J, K	.195 (4.95)	.395 (10.03)	.395 (10.03)	.300 (7.62)
CFR16R-A105--	1.00	50	F, G, J, K	.195 (4.95)	.395 (10.03)	.395 (10.03)	.300 (7.62)

1/ Application note: Care must be taken during wave soldering to assure that the CFR12 type capacitors are not damaged due to overheating. During the wave soldering operation, the CFR12 type capacitor shall not be exposed to conditions in excess of the resistance to solder heat requirements of MIL-PRF-55514.

\* 2/ The complete type designation will include additional symbols to indicate characteristic (U or R), capacitance tolerance (F, G, J, or K), and product level (C, M, P, R, or S).

TABLE II. Substitutability data.

From		To	From		To
MIL-PRF-55514/8 and MIL-PRF-55514/8A	MIL-PRF-55514/8B and MIL-PRF-55514/8C	MIL-PRF-55514/8D through MIL-PRF-55514/8G	MIL-PRF-55514/8 and MIL-PRF-55514/8A	MIL-PRF-55514/8B and MIL-PRF-55514/8C	MIL-PRF-55514/8D through MIL-PRF-55514/8G
Type designation 1/	Type designation 1/	Type designation 1/	Type designation 1/	Type designation 1/	Type designation 1/
CFR12RRJ102--	CFR12RRK102--	CFR12RRK102--	CFR12RRG102--	CFR12RRK102--	CFR12RRK102--
CFR12RRJ122--	CFR12RRK122--	CFR12RRK122--	CFR12RRG122--	CFR12RRK122--	CFR12RRK122--
CFR12RRJ182--	CFR12RRK182--	CFR12RRK182--	CFR12RRG182--	CFR12RRK182--	CFR12RRK182--
CFR12RRJ222--	CFR12RRK222--	CFR12RRK222--	CFR12RRG222--	CFR12RRK222--	CFR12RRK222--
CFR12RRJ272--	CFR12RRK272--	CFR12RRK272--	CFR12RRG272--	CFR12RRK272--	CFR12RRK272--
CFR12RRJ332--	CFR12RRK332--	CFR12RRK332--	CFR12RRG332--	CFR12RRK332--	CFR12RRK332--
CFR12RRJ392--	CFR12RRC392--	CFR12RRC392--	CFR12RRG392--	CFR12RRC392--	CFR12RRC392--
CFR12RRJ472--	CFR12RRC472--	CFR12RRC472--	CFR12RRG472--	CFR12RRC472--	CFR12RRC472--
CFR12RRJ562--	CFR12RRC562--	CFR12RRC562--	CFR12RRG562--	CFR12RRC562--	CFR12RRC562--
CFR12RRJ682--	CFR12RRC682--	CFR12RRC682--	CFR12RRH682--	CFR12RRH682--	CFR12RRH682--
CFR12RRJ822--	CFR12RRH822--	CFR12RRH822--	CFR12RRG822--	CFR12RRH822--	CFR12RRH822--
CFR12RRJ103--	CFR12RRB103--	CFR12RRB103--	CFR12RRG103--	CFR12RRB103--	CFR12RRB103--
CFR12RRJ123--	CFR12RRB123--	CFR12RRB123--	CFR12RRG123--	CFR12RRB123--	CFR12RRB123--
CFR12RRJ153--	CFR12RRB153--	CFR12RRB153--	CFR12RRG153--	CFR12RRB153--	CFR12RRB153--
CFR12RRJ183--	CFR12RRB183--	CFR12RRB183--	CFR12RRG183--	CFR12RRB183--	CFR12RRB183--
CFR12RRJ223--	CFR12RRG223--	CFR12RRG223--	CFR12RRB102--	CFR12RRK102--	CFR12RRK102--
CFR12RRJ273--	CFR12RRB273--	CFR12RRB273--	CFR12RRB122--	CFR12RRK122--	CFR12RRK122--
CFR12RRJ333--	CFR12RRA333--	CFR12RRA333--	CFR12RRB182--	CFR12RRK182--	CFR12RRK182--
CFR12RRJ393--	CFR12RRA393--	CFR12RRA393--	CFR12RRB222--	CFR12RRK222--	CFR12RRK222--
CFR12RRJ473--	CFR12RRA473--	CFR12RRA473--	CFR12RRB272--	CFR12RRK272--	CFR12RRK272--
CFR12RRJ563--	CFR12RRA563--	CFR12RRA563--	CFR12RRB332--	CFR12RRK332--	CFR12RRK332--
CFR12RRJ683--	CFR12RRA683--	CFR12RRA683--	CFR12RRB392--	CFR12RRC392--	CFR12RRC392--
CFR12RRJ823--	CFR12RRA823--	CFR12RRA823--	CFR12RRB472--	CFR12RRC472--	CFR12RRC472--
CFR12RRJ104--	CFR16RRA104--	CFR16RRA104--	CFR12RRB562--	CFR12RRC562--	CFR12RRC562--
CFR12RRA102--	CFR12RRK102--	CFR12RRK102--	CFR12RRB682--	CFR12RRH682--	CFR12RRH682--
CFR12RRA122--	CFR12RRK122--	CFR12RRK122--	CFR12RRB822--	CFR12RRH822--	CFR12RRH822--
CFR12RRA182--	CFR12RRK182--	CFR12RRK182--	CFR12RRH102--	CFR12RRH102--	CFR12RRK102--
CFR12RRA222--	CFR12RRK222--	CFR12RRK222--	CFR12RRH122--	CFR12RRH122--	CFR12RRK122--
CFR12RRA272--	CFR12RRK272--	CFR12RRK272--	CFR12RRH182--	CFR12RRH182--	CFR12RRK182--
CFR12RRA332--	CFR12RRK332--	CFR12RRK332--	CFR12RRH222--	CFR12RRH222--	CFR12RRK222--
CFR12RRA392--	CFR12RRC392--	CFR12RRC392--	CFR12RRH272--	CFR12RRH272--	CFR12RRK272--
CFR12RRA472--	CFR12RRC472--	CFR12RRC472--	CFR12RRH332--	CFR12RRH332--	CFR12RRK332--
CFR12RRA562--	CFR12RRC562--	CFR12RRC562--	CFR12RRH392--	CFR12RRC392--	CFR12RRC392--
CFR12RRA682--	CFR12RRH682--	CFR12RRH682--	CFR12RRH472--	CFR12RRC472--	CFR12RRC472--
CFR12RRA822--	CFR12RRH822--	CFR12RRH822--	CFR12RRH562--	CFR12RRC562--	CFR12RRC562--
CFR12RRA103--	CFR12RRB103--	CFR12RRB103--	CFR12RRC102--	CFR12RRK102--	CFR12RRK102--
CFR12RRA123--	CFR12RRB123--	CFR12RRB123--	CFR12RRC122--	CFR12RRK122--	CFR12RRK122--
CFR12RRA153--	CFR12RRB153--	CFR12RRB153--	CFR12RRC182--	CFR12RRK182--	CFR12RRK182--
CFR12RRA183--	CFR12RRB183--	CFR12RRB183--	CFR12RRC222--	CFR12RRK222--	CFR12RRK222--
CFR12RRA223--	CFR12RRG223--	CFR12RRG223--	CFR12RRC272--	CFR12RRK272--	CFR12RRK272--
CFR12RRA273--	CFR12RRG273--	CFR12RRG273--	CFR12RRC332--	CFR12RRK332--	CFR12RRK332--

1/ The complete type designation will include additional symbols to indicate capacitance tolerance (F, G, J, or K) and product level (C, M, P, R, or S).

Substitutability for capacitance tolerance shall be as follows:

Capacitor tolerance	Will replace capacitor tolerance
F	G, J, K
G	J, K
J	K
K	

Substitutability for voltage shall be as follows:

Volts dc	Will replace voltages
250	200, 150, 100, 75, 50
200	150, 100, 75, 50
150	100, 75, 50
100	75, 50
75	50
50	

The margins of this specification are marked with asterisks to indicate where changes from the previous revision were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous revision.

Custodian:

Army - CR  
Navy - EC  
Air Force - 11  
DLA - CC

Preparing activity:

Army - CR

Agent:

DLA - CC

Review activities:

Air Force - 19, 99  
Navy - AS, MC, OS

(Project 5910-2187)