

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

RELEASED STANDARD DRAWING

TYPE DESIGNATION	CAP. uuf	CHARACTERISTICS AVAILABLE AT				COLOR CODE		
		±2% (G)	±5% (J)	±10% (K)	±20% (M)	UPPER CENTER DOT	UPPER RIGHT DOT	LOWER RIGHT DOT
CM20050-03	5							
CM20-100-03	10							
CM20-120-03	12							
CM20-150-03	15							
CM20-180-03	18							
CM20-200-03	20							
CM20-220-03	22							
CM20-240-03	24							
CM20-270-03	27							
CM20-300-03	30							
CM20-330-03	33							
CM20-360-03	36							
CM20-390-03	39							
CM20-420-03	42							
CM20-470-03	47							
CM20-510-03	51							
CM20-560-03	56							
CM20-620-03	62							
CM20-680-03	68							
CM20-750-03	75							
CM20-820-03	82							
CM20-910-03	91							
CM20-101-03	100							
CM20-111-03	110							
CM20-121-03	120							
CM20-131-03	130							
CM20-151-03	150							
CM20-161-03	160							
CM20-181-03	180							
CM20-201-03	200							
CM20-221-03	210							
CM20-241-03	240							
CM20-271-03	270							
CM20-301-03	300							
CM20-331-03	330							
CM20-361-03	360							
CM20-391-03	390							
CM20-431-03	430							
CM20-471-03	470							
CM20-511-03	510							
CM20-561-03	560	DF	BDF	BD		GREEN	BLUE	BROWN
CM20-621-03	620	DF	BDF	B		BLUE	RED	db
CM20-681-03	680	DF	BDF	BD		db	GREEN	db
CM20-751-03	750	DF	BDF	B		VIOLET	GREEN	db
CM20-821-03	820	DF	BDF	BD		GREY	RED	db
CM20-911-03	910	DF	BDF	B		WHITE	BROWN	db
CM20-102-03	1000	DF	BDF	BD		BROWN	BLACK	EEB
CM20-112-03	1100				CM100-15			
CM20-122-03	1200				CM100-12			
CM20-132-03	1300				CM100-9			
CM20-152-03	1500				CM100-10			
CM20-162-03	1600				CM100-11			
CM20-182-03	1800				CM100-13			
CM20-202-03	2000				CM100-14			

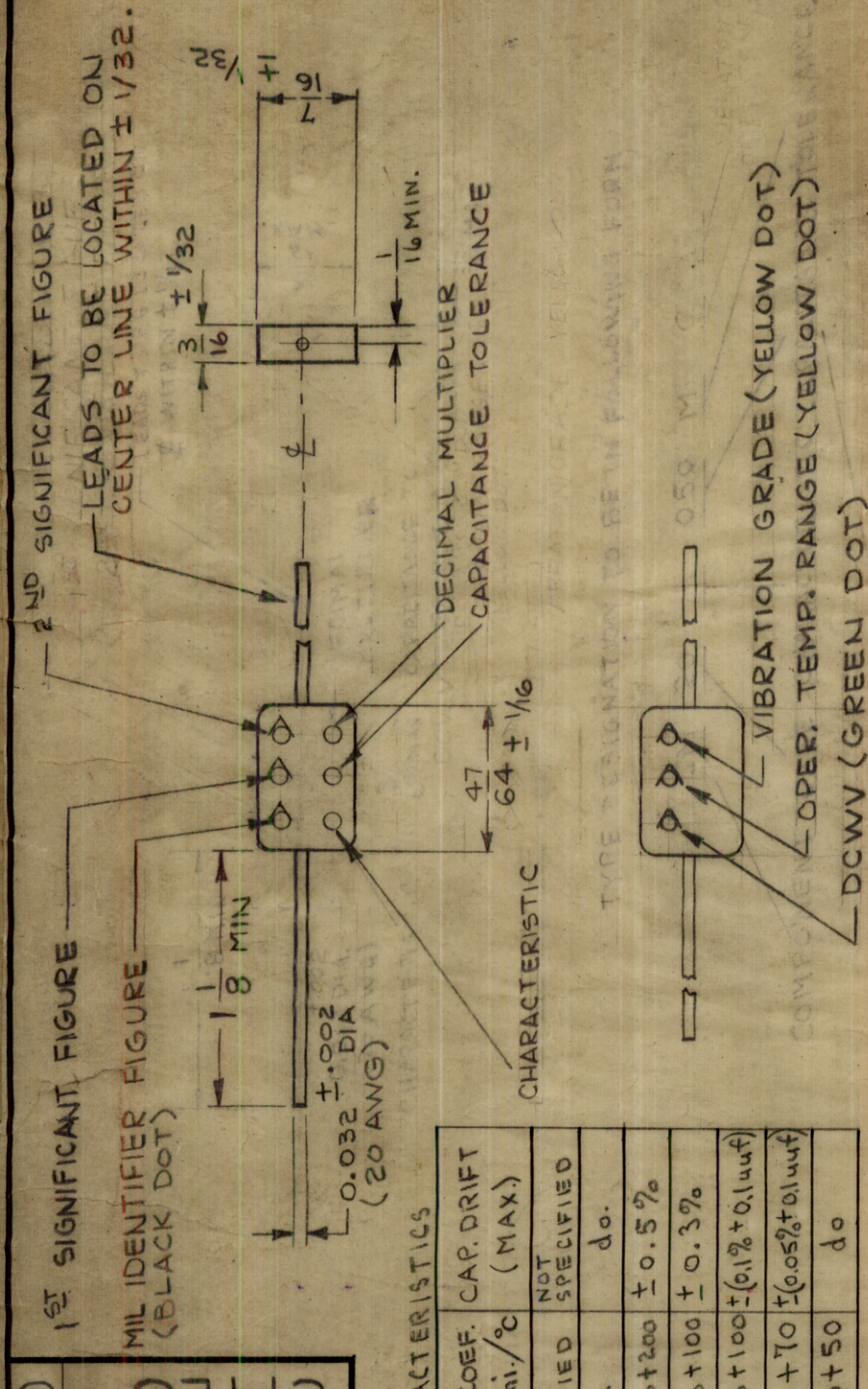
VALUES IN STYLE CM20 SHALL BE REPLACED BY THE APPROPRIATE VALUES IN STYLE CM15 (REF: S-805)

NOTE

"FOR SPECIAL VOLTAGES SEE TMC CM100"

DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

FORM - 109



CHARACTERISTICS

TEMP. COEF. parts/mi.°C	CAP. DRIFT (MAX.)
A	NOT SPECIFIED
B	do.
C	-200 to +200 ± 0.5%
D	-100 to +100 ± 0.3%
E	-20 to +100 ± (0.1% + 0.1uuf)
F	0 to +70 ± (0.05% + 0.1uuf)
G	0 to +50 do

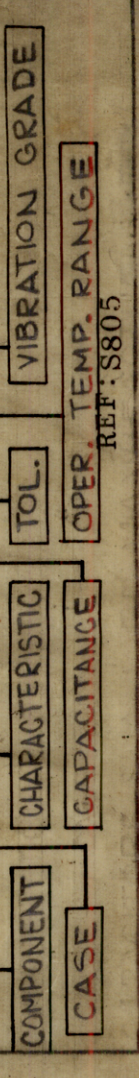
COLOR CODE

CAPACITANCE SIG. FIGURE	DEC. MULT.	TOLERANCE %	CHARACTERISTIC
0	1	20(M)	A
1	10	—	B
2	100	2(G)	C
3	1000	—	D
4	—	—	E
5	—	5(J)	F
6	—	—	G
7	—	—	—
8	—	—	—
9	—	—	—
—	0.1	—	—
—	.01	10(K)	—

SPECIFICATIONS
 OPER. TEMP. RANGE ± 55 TO $+125^{\circ}\text{C}$ (0)
 VIBRATION GRADE -10 TO 2000 CPS (3)
 INSULATION RESISTANCE -25°C 50K Ω MIN.
 APPROX. WEIGHT -0.10 OUNCES
 MOISTURE RESISTANCE -3% OR 1.0 uuf CAP. CHANGE, MAX.

TYPE DESIGNATION TO BE IN THE FOLLOWING FORM:

CM 20 A 050 M 0 3



REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
		THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
		CAPACITOR, FIXED, MICA DIELECTRIC	
		STOCK SIZE	
		MATERIAL	
		WEIGHT PER PC.	
		TYPE & TEMPER.	
		HEAT TREAT. SPEC.	
		FINISH & SPEC. NO.	

DRAWN: G.T.O. 8/2/52
 CHECKED: ANDR
 ELEC. DES. APP.
 MECH. DES. APP.
 FINAL APPROVAL: CM20 6

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TYPE DESIGNATION	CAP. $\mu\mu\text{f.}$	CHARACTERISTICS AVAILABLE AT	COLOR CODE
		$\pm 2\%$ (G) $\pm 5\%$ (J)	UPPER CENTER DOT UPPER RIGHT DOT LOWER RIGHT DOT
CM 25-050-03	5		
CM 25-100-03	10		
CM 25-120-03	12		
CM 25-150-03	15		
CM 25-180-03	18		
CM 25-200-03	20		
CM 25-240-03	24		
CM 25-270-03	27		
CM 25-300-03	30		
CM 25-330-03	33		
CM 25-360-03	36		
CM 25-390-03	39		
CM 25-430-03	43		
CM 25-470-03	47		
CM 25-510-03	51	E	GREEN
CM 25-560-03	56	do	do
CM 25-620-03	62	do	do
CM 25-680-03	68	do	do
CM 25-750-03	75	do	do
CM 25-820-03	82	F	GREY
CM 25-910-03	91		
CM 25-101-03	100		
CM 25-111-03	110		
CM 25-121-03	120		
CM 25-131-03	130		
CM 25-151-03	150		
CM 25-161-03	160		
CM 25-181-03	180		
CM 25-201-03	200		
CM 25-221-03	220		
CM 25-241-03	240		
CM 25-271-03	270		
CM 25-301-03	300		
CM 25-331-03	330		
CM 25-361-03	360		
CM 25-391-03	390		
CM 25-431-03	430		
CM 25-471-03	470		
CM 25-511-03	510		
CM 25-561-03	560	do	BLUE
CM 25-621-03	620	do	do
CM 25-681-03	680	do	do
CM 25-751-03	750	do	do
CM 25-821-03	820	do	do
CM 25-911-03	910	do	do
CM 25-102-03	1000	do	do
CM 25-112-03	1100		CM100-15
CM 25-122-03	1200		CM100-14
CM 25-132-03	1300		CM100-9
CM 25-152-03	1500		CM100-10
CM 25-162-03	1600		CM100-11
CM 25-182-03	1800		CM100-13
CM 25-202-03	2000		CM100-14

NOTE:

DELETED Y MIL-C-5 REF NOTE 13068 18749

CHANGED FROM: DATE: 1/30/68 18749

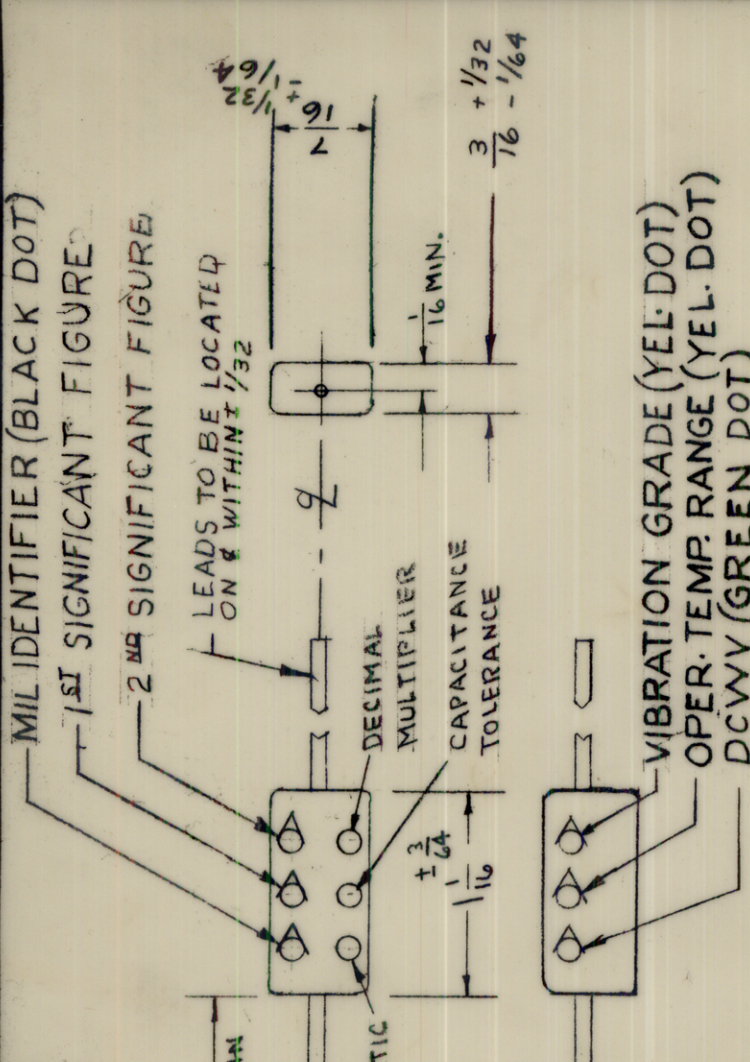
ISSUE ITEM: CHANGED FROM: DATE: 1/30/68 18749

SCALE: 1/1

TOLERANCES: DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

DEC. DIM. \pm
 FRAC. DIM. \pm
 ANGULAR DIM. \pm

STANDARD DRAWING



CHARACTERISTICS

TEMP. COEF. parts/mi/°C	CAP. DRIFT (MAX.)
NOT SPECIFIED	NOT SPECIFIED
B	NOT SPECIFIED
E	-20 to +100 \pm (0.1% \pm 0.1 μmf)
F	0 to +70 \pm (0.05% \pm 0.1 μmf)

COLOR CODE

COLOR	CAPACITANCE SIG. FIGURE	DEC. MULT.	TOLERANCE %	CHARACTERISTIC
BLACK	0	1	—	—
BROWN	1	10	—	B
RED	2	100	2(G)	—
ORANGE	3	1000	—	—
YELLOW	4	—	—	E
GREEN	5	—	5(J)	F
BLUE	6	—	—	—
VIOLET	7	—	—	—
GREY	8	—	—	—
WHITE	9	—	—	—
GOLD	—	—	0.1	—
SILVER	—	—	0.01	—

SPECIFICATIONS

INSULATION RESISTANCE - (25°C) 50K Ω MINIMUM.
 (125°C) 10K Ω MINIMUM.

MOISTURE RESISTANCE - 3% OR 1.0 μf CAPACITOR CHANGE MAXIMUM.

VIBRATION GRADE - 10 TO 2,000 CPS (3)

OPER. TEMP. RANGE - -55 TO +125°C (0)

WEIGHT - APPROXIMATELY 0.12 OUNCE

TYPE DESIGNATION TO BE IN THE FOLLOWING FORM:

CM 25 A 471 G 03

COMPONENT CHARACTERISTIC TOL. VIBRATION GRADE

CASE CAPACITANCE OPER. TEMP. RANGE

REQ. ITEM: PART NO. STOCK SIZE

DESCRIPTION: THE TECHNICAL MATERIAL CORP. MAMARONECK, NEW YORK

REF: S805

SYMBOL: CAPACITOR, FIXED, MICA DIELECTRIC

DRAWN: C.O.D. 8-20-54

ELEC. DES. APP. MECH. DES. APP.

CHECKED: FINAL APPROVAL

FINISH & SPEC. NO. CM25 16

"FOR SPECIAL VOLTAGES SEE TMC CM100"

STANDARD DRAWING

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MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

TYPE DESIGNATION	CAP. μ Wg.	D.C. Wkg. V.	CHARACTERISTICS AVAILABLE AT			COLOR CODE		
			$\pm 2\%$ (G)	$\pm 5\%$ (J)	$\pm 10\%$ (K)	UPPER CENTER DOT	UPPER RIGHT DOT	LOWER RIGHT DOT
CM35-471-03	470							
-511-03	510							
-561-03	560							
-621-03	620							
-681-03	680							
-751-03	750							
-821-03	820							
-911-03	910							
-102-03	1,000							
-112-03	1,100							
-122-03	1,200							
-132-03	1,300							
-152-03	1,500							
-162-03	1,600							
-182-03	1,800							
-202-03	2,000							
-222-03	2,200							
-242-03	2,400							
-272-03	2,700							
-302-03	3,000							
-332-03	3,300							
-362-03	3,600							
-392-03	3,900							
-432-03	4,300							
-472-03	4,700							
-512-03	5,100							
-562-03	5,600							
-622-03	6,200							
-682-03	6,800							
-752-03	7,500							
-822-03	8,200							
-912-03	9,100							
-103-03	10,000							

REPLACED BY THE APPROPRIATE VALUE IN STYLE CM15

FORMERLY INCLUDED IN STYLE CM 35
SHALL BE REPLACED BY THE APPROPRIATE CAPACITANCE VALUE IN STYLE CM 35
CM 30. REF: S-805

NOTE:

- FOR SPECIAL VOLT-AGES SEE TMC CM100.
- SEE TMC CM100 FOR MORE USING SUFFIX.

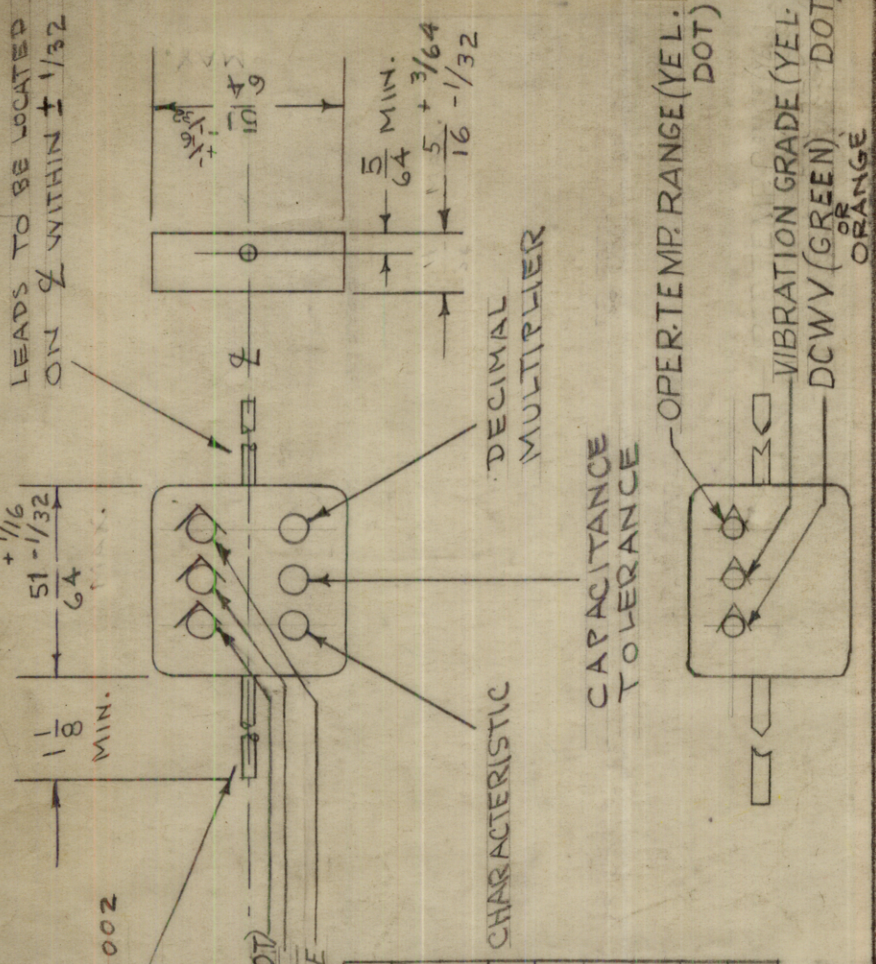
SPECIFICATIONS
OPERATING TEMPERATURE RANGE -50 TO +125°C (0)
VIBRATION GRADE - 10 TO 2,000 CPS (3)
WEIGHT - APPROXIMATELY 0.25 OUNCE
INSULATION RESISTANCE - (25°C) 50K Ω MINIMUM.
(125°C) 3K Ω MINIMUM.
MOISTURE RESISTANCE - 3% OR 1.0 μ f CAP. CHG. MAX.

ISSUE ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
G	DELE "Y" & MIL-C-5 REF NOTE	1.30.68	18749			
F	BRN TOL WAS #	(NONE)	11.14.66	17246	WHD	

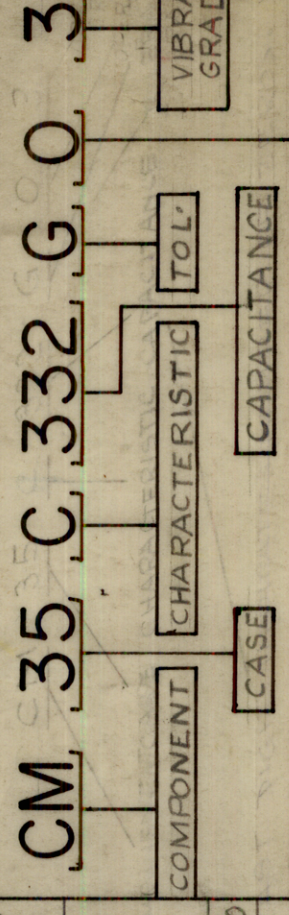
SCALE: #

DRILL, PUNCH, COMMERCIAL, STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

DEC. DIM. \pm
FRAC. DIM. \pm
ANGULAR DIM. \pm



TYPE DESIGNATION TO BE IN THE FOLLOWING FORM.



COLOR	COLOR CODE		CHARACTERISTIC	DCW TOLERANCE
	TEMP. COEF. parts/mi/°C	CAP. DRIFT (MAX.)		
A	+	+		
B	NOT SPECIFIED	NOT SPECIFIED		
C	-200 TO +200	$\pm 0.5\%$		
D	-100 TO +100	$\pm 0.3\%$		
E	-20 TO +100	$\pm (0.1\% \pm 0.1 \mu f)$		
F	0 TO +70	$\pm (0.05\% \pm 0.1 \mu f)$		

COLOR	SIG. FIGURE	DEC. MULT.	TOLERANCE %	CHARACTERISTIC	DCW TOLERANCE
BLACK	0	1	—	A	
BROWN	1	10	1(F)	B	
RED	2	100	2(G)	C	
ORANGE	3	1000	—	D	300
YELLOW	4	—	—	E	
GREEN	5	—	5(J)	F	500
BLUE	6	—	—		
VIOLET	7	—	—		
GREY	8	—	—		
WHITE	9	—	—		
GOLD	—	0.1	—		
SILVER	—	.01	—		

REQ. ITEM PART NO. REF. S805

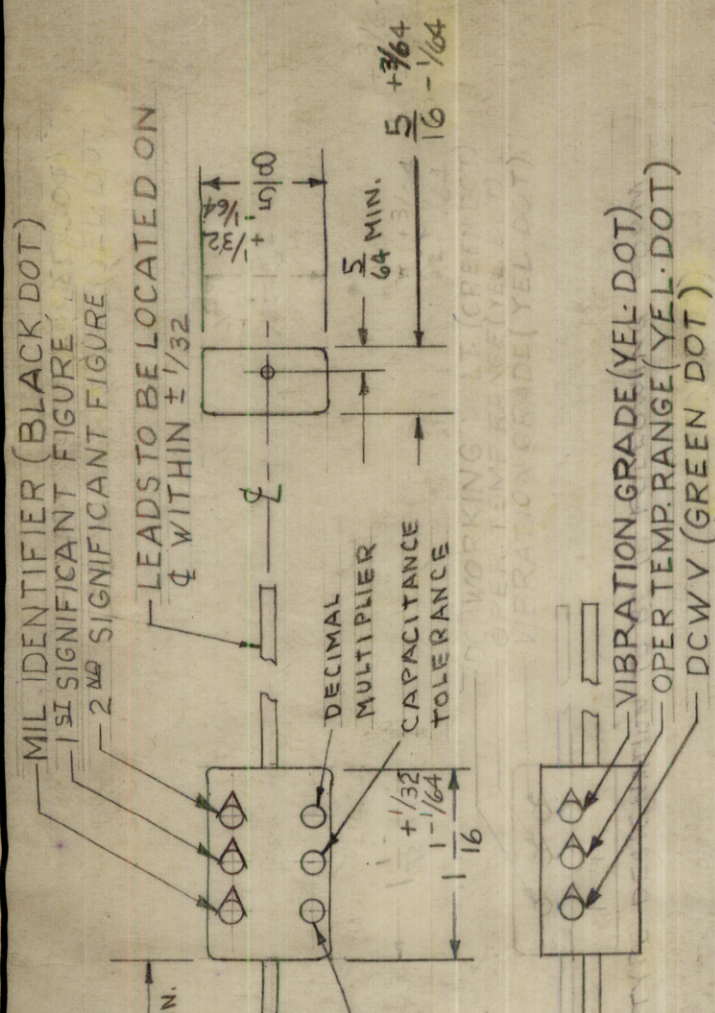
REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
#	#	THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
MATERIAL	WEIGHT PER PC.	CAPACITOR, FIXED	
TYPE & TEMPER		MICA DIELECTRIC	
HEAT TREAT. SPEC.		CM 35	
FINISH & SPEC. NO.			

DATE 4/28/58
4/11/58

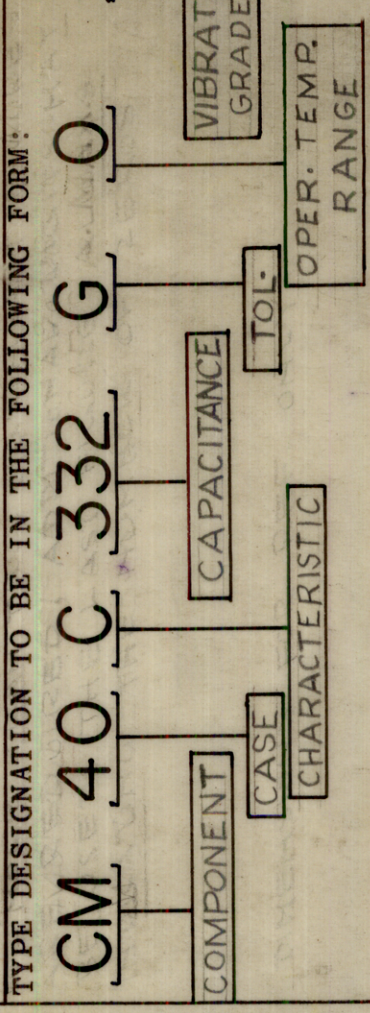
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STANDARD DRAWING

TYPE DESIGNATION	CAP. μ mf.	CHARACTERISTICS AVAILABLE AT				COLOR CODE		
		$\pm 2\%$ (G)	$\pm 5\%$ (J)	$\pm 10\%$ (K)	$\pm 20\%$ (M)	UPPER CENTER DOT	UPPER RIGHT DOT	LOWER RIGHT DOT
CM40-332-03	3,300							
CM40-362-03	3,600							
CM40-392-03	3,900							
CM40-432-03	4,300							
CM40-472-03	4,700							
CM40-512-03	5,100							
CM40-562-03	5,600							
CM40-622-03	6,200							
CM40-68203	6,800	500	8DEF	ABDE	ABDE	BLUE	GREY	RED
CM40-752-03	7,500	do	CDEF	BCDEF	BCDEF	VIOLET	GREEN	RED
CM40-82203	8,200	do	CDEF	BCDEF	BCDEF	GREY	RED	RED
CM40-912-03	9,100	do	CDE	ABCDE	ABCDE	WHITE	BROWN	RED
CM40-103-03	10,000	do	CDE	ABCDE	ABCDE	BROWN	BLACK	ORANGE



SPECIFICATIONS
 INSULATION RESISTANCE - (25°C) 50K Ω MINIMUM.
 (125°C) 4K Ω MINIMUM.
 MOISTURE RESISTANCE - 3% OR 1.0 μ mf CAP. CHG. MAX.
 VIBRATION GRADE - 10 TO 2,000 CPS (3)
 WEIGHT - APPROX. 0.28 OUNCE



TYPE DESIGNATION TO BE IN THE FOLLOWING FORM:
CM 40 C 332 G 0 3

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
II		THE TECHNICAL MATERIEL CORP.	
	STOCK SIZE	MAMARONECK, NEW YORK	
II	WEIGHT PER PC.	CAPACITOR, FIXED,	
II	TYPE & TEMPER	MICA DIELECTRIC	
II	HEAT TREAT. SPEC.		
II	FINISH & SPEC. NO.		

COLOR	CAPACITANCE SIG. FIGURE	DEC. MULT.	TOLERANCE %	CHARACTERISTIC
BLACK	0	1	20(M)	A
BROWN	1	10	-	B
RED	2	100	2(G)	C
ORANGE	3	1000	-	D
YELLOW	4	-	-	E
GREEN	5	-	5(J)	F
BLUE	6	-	-	-
VIOLET	7	-	-	-
GREY	8	-	-	-
WHITE	9	-	-	-
GOLD	-	0.1	-	-
SILVER	-	.01	10(K)	-

REPLACED BY THE APPROPRIATE VALUE IN STYLE CM 30 REF: S-805

NOTE: "FOR SPECIAL VOLTAGES SEE TMC CM100"

NOTE: CAPACITANCE VALUES FROM 3,600 TO 6,200 μ mf FORMERLY INCLUDED IN STYLE CM40 SHALL BE REPLACED BY APPROPRIATE VALUE IN STYLE CM35. (REF: S-805.)

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 MAMARONECK, NEW YORK

ISSUE ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
D	DELETED MIL-C-5 REF NOTE	1/30/48	18749			

ALL OTHERS	DEC. DIM. \pm	FRAC. DIM. \pm	ANGULAR DIM. \pm

MODEL	PROJECT NO.	ASSY. NO.	DATE

TOLERANCES
 DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

USED ON
 CM 40 D

STANDARD DRAWING

TOLERANCE	LETTER	GRADE
G		±2
J		±5

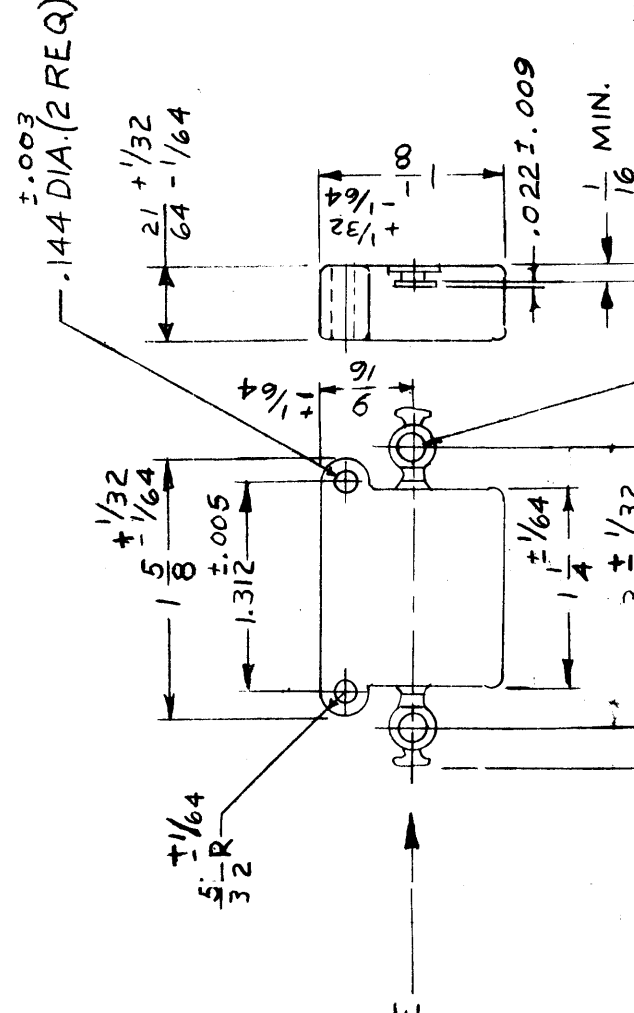
CAP. μmf	WORK VOLTS DC	CHARACTER AVAILABLE		CAP. μmf	WORK VOLTS DC	CHARACTER AVAILABLE	
		±2% (G)	±5% (J)			±2% (G)	±5% (J)
47	2500	B	B	910	2500	B	B
51				1000			
56				1,100			
62				1,200			
68				1,300			
75				1,500			
82				1,600			
91				1,800	2500	B	B
100				2,000			
110				2,200			
120				2,400			
130				2,700			
150				3,000			
160				3,300			
180				3,600			
200				3,900			
220				4,300			
240				4,700			
276				5,100			
300				5,600			
330				6,200			
360				6,800			
390				7,500			
430				8,200			
470				9,100			
510				10,000			
560							
620							
680							
750							
820	2500	B	B				

CAPACITANCE VALUES FROM 2,000 TO 10,000 μmf FORMERLY INCLUDED IN STYLE CM45 SHALL BE REPLACED BY THE APPROPRIATE CAPACITANCE VALUE IN STYLE CM50. REF: S-805

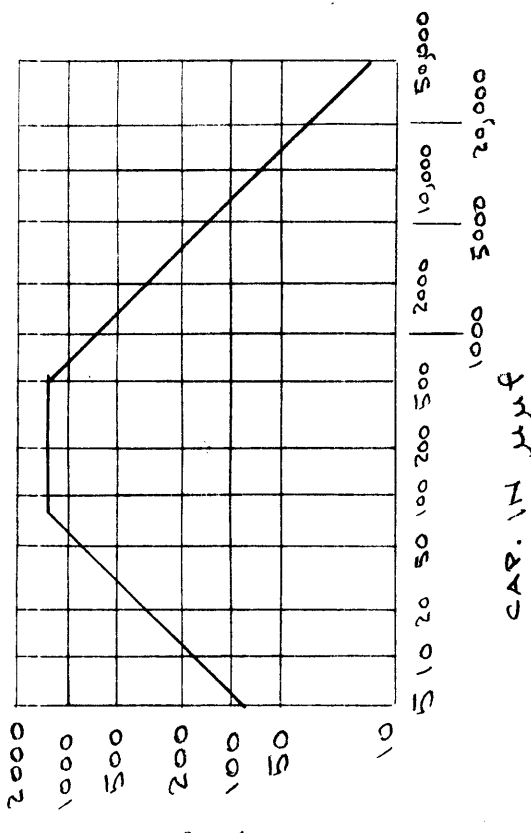
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Property of:
THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, NEW YORK



NOTE:
1. ADD "YY" TO PART NO. WHEN CHAR., VALUE, OR TOL. IS NON-MILITARY.
2. "FOR SPECIAL VOLTAGES SEE TMC CM100"



MINIMUM "Q" REQUIREMENTS AT 1 MEGACYCLE PER SECOND

SPECIFICATIONS
APPROX. WEIGHT - 0.62 OUNCE
TEMP. COEF. - NOT SPECIFIED
TEMP. RANGE - 55 TO +125°C (0)
VIBRATION GRADE - 10 TO 2,000 CPS (3)
INSULATION RESISTANCE - (25°C) 10,000 M Ω MIN.
(85°C) 4,000 M Ω MIN.
(125°C) 1,500 M Ω MIN.

TYPE DESIGNATIONS TO BE IN THE FOLLOWING FORM:
CM 45 B 471 G 0 3

MICA DIELECTRIC
CASE
CAP.
TOL.
VIBRATION GRADE
OPER. TEMP. RANGE

CAPACITORS SHALL BE MANUFACTURED TO REQUIREMENTS OF MIL-C-5/7E & AMEND. REF: S805

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
		THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
		CAPACITOR, FIXED	
		MICA DIELECTRIC	
		CHAR. VALUE	
		CASE	
		TOL.	
		VIBRATION GRADE	
		OPER. TEMP. RANGE	
		REF: S805	

DEC. DIM. ±	FRAC. DIM. ±	ANGULAR DIM. ±	REQ. PER UNIT	MODEL	PROJECT NO.	ASSY. NO.	DATE

TOLERANCES
MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND ANY DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

STANDARD DRAWING

CM-106

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

TMC NO	CAP. μ f	TOL \pm μ f	PURCHASED JAN TYPE
CM-106-1	595	± 3.0	CM20E591G
CM-106-2	900	± 4.5	CM20E901G
CM-106-3	1190	± 6.0	CM30E122G
CM-106-4	1400	± 7.0	CM30E142G
CM-106-5	1700	± 8.5	CM30E172G
CM-106-6	2000	± 10.0	CM30E202G
CM-106-7	2250	± 11.0	CM30E222G
CM-106-8	2550	± 12.5	CM30E252G
CM-106-9	2800	± 14.0	CM30E282G
CM-106-10	3100	± 15.5	CM30E312G
CM-106-11	3360	± 17.0	CM30E332G
CM-106-12	3650	± 18.5	CM30E362G
CM-106-13	3950	± 20.0	CM30E392G
CM-106-14	4250	± 21.0	CM30E422G
CM-106-15	4500	± 22.0	CM30E452G

Capacitance values are obtained by bridging measurement of Jan type.

Padding of Jan type values may be necessary where indicated.

EXAMPLE: CM30E172G measures 1666 - 2% on low side; by adding a 33 μ fd condenser will bring the combination to required capacitance.

EXAMPLE: CM30E252G measures 2500 exactly, however, to obtain desired value 2550 add 51 μ fd to CM30E252G.

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THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, NEW YORK

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
TOLERANCES							
SCALE: C							
DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.							
ALL OTHERS	DEC. DIM. \pm		FRAC. DIM. \pm		ANGULAR DIM. \pm		

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
		THE TECHNICAL MATERIEL CORP.	
		MAMARONECK, NEW YORK	
		CAPACITOR FIXED MICA	
		SPECIAL.	
		9-17-53	G.T.O
		WOL	MECH. DES. APP.
		510	G.T.O
			FINAL APPROVAL
			CM-106

MODEL	PROJECT NO.	ASSY. NO.	DATE

STANDARD DRAWING

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

CHART "A"

IN ACCORDANCE WITH MIL-C-5A CH30 LISTINGS. CAP. RANGE: 560 TO 3300 μ fd. TEMP. " " : -55°C TO +130°C

CAT. No.	CAP. μ fd.	CHARACTERISTICS AT CAP. TOL. *			
		$\pm 2\%$ G	$\pm 5\%$ J	$\pm 10\%$ K	$\pm 20\%$ M
1A5T56	560	CDE BCDE	BCDE	BCDE	BCDE
1A5T62	620				
1A5T68	680		BCDE	BCDE	BCDE
1A5T75	750				
1A5T82	820		BCDE	BCDE	BCDE
1A5T91	910				
1A5 D1	1000		BCDE	BCDE	BCDE
1A5 D11	1100				
1A5 D12	1200		BCDE	BCDE	BCDE
1A5 D13	1300				
1A5 D15	1500		BCDE	BCDE	BCDE
1A5 D16	1600				
1A5 D18	1800		BCDE	BCDE	BCDE
1A5 D2	2000				
1A5 D22	2200		BCDE	BCDE	BCDE
1A5 D24	2400				
1A5 D27	2700		BCDE	BCDE	BCDE
1A5 D3	3000				
1A5 D33	3300		BCDE	BCDE	BCDE

CHART "B"

CD EXTENDED RATINGS BEYOND MIL-C-5A CM30 LISTINGS. CAP. RANGE: 3600 TO 20,000 μ fd. TEMP. " " : -55°C TO +130°C

CAT. No.	CAP. μ fd.	VDCW	CHARACTERISTICS AT CAP. TOLERANCE *			
			$\pm 2\%$ G	$\pm 5\%$ J	$\pm 10\%$ K	$\pm 20\%$ M
1A5D36	3600	500	BCDEF BCDEF			
1A5D39	3900				BCDEF	
1A5D43	4300					
1A5D47	4700				BCDEF BCDEF	
1A5D51	5100					
1A5D56	5600					
1A5D62	6200					
1A5D68	6800				BCDEF BCDEF	
1A5D75	7500					
1A5D82	8200				BCDEF	
1A5D91	9100					
1A5S1	10,000				BCDEF BCDEF	
1A5S11	11,000					
1A5S12	12,000				BCDEF	
1A5S13	13,000					
1A5S15	15,000				BCDEF BCDEF	
1A5S16	16,000	300				
1A5S18	18,000				BCDEF	
1A3S2	20,000					

* 1-STANDARD TOL. $\pm 5\%$. (TOL. OF $\pm 1/2$ OF 1% AVAILABLE ON REQUEST)
 2- CHAR. "F" AVAILABLE IN 5% OR CLOSER TOL'S (APPLIES TO CHART "A" ONLY)

WARNING

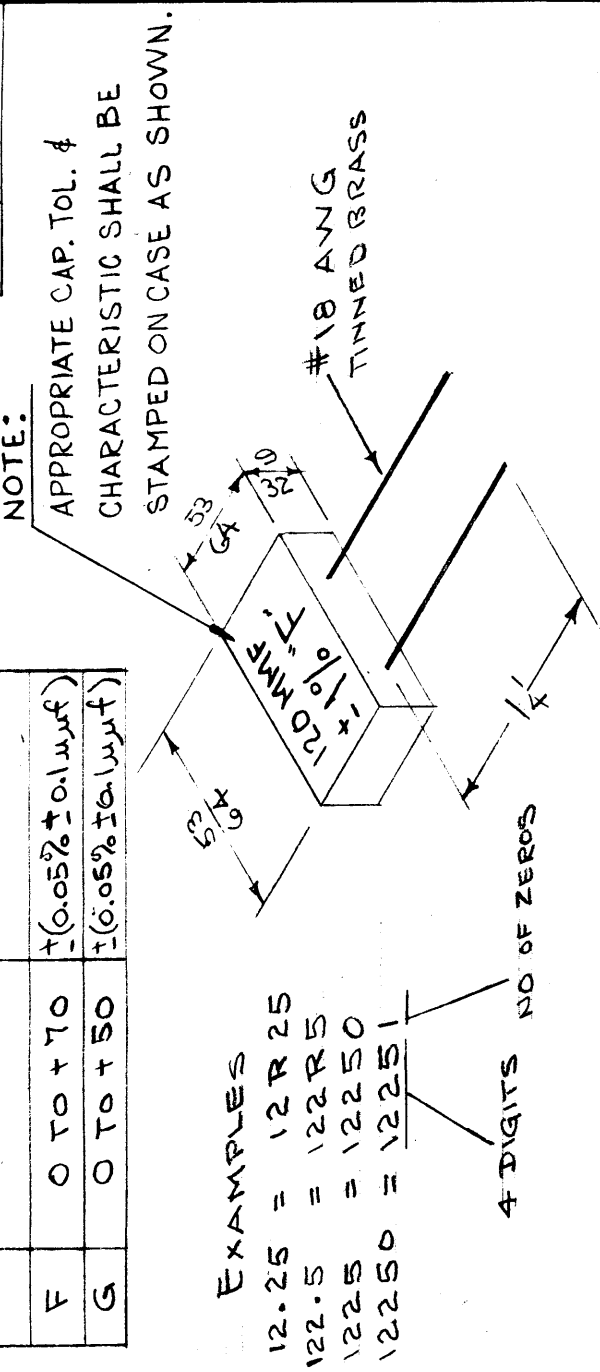
THIS CAP. IS MANUFACTURED IN CHAR. B THROUGH E & TOL. M THRU G. HOWEVER, IN ORDER TO AVOID DUPLICATION AND GOY. ACCEPTANCE DIFFICULTIES, CONVENTIONAL MICA CAPACITORS SHOULD BE USED IN THESE RANGES

ISSUE ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
D 1	NOTE ADDED	8-8-62	7041	ES	YOB	
C 2	Examples Clarified	2/9/50	3	HNB		
B 1	Notes Clarified	6-23-50	2	005		
A 1	EXAMPLES ADDED	3/29/51	1	0-33	KZ	HJJ

SCALE:
 TOLERANCES:
 DEC. DIM. \pm
 FRAC. DIM. \pm
 ANGULAR DIM. \pm
 DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

CHARACTERISTICS		CAP. DRIFT (MAX.)
TEMP. COEM PARTS/MI./°C		
F	0 TO +70	$\pm(0.05\% \pm 0.1 \mu\text{mf})$
G	0 TO +50	$\pm(0.05\% \pm 0.1 \mu\text{mf})$

TOLERANCE	
E	$\pm 0.5\%$
F	$\pm 1\%$
G	$\pm 2\%$
J	$\pm 5\%$
K	$\pm 10\%$
M	$\pm 20\%$



EXAMPLES
 12.25 = 12R25
 122.5 = 122R5
 1225 = 12250
 12250 = 12251
 4 DIGITS NO OF ZEROS

TYPE DESIGNATION SHALL BE IN FOLLOWING FORM. 5TH DIGIT INDICATES # ZEROS

CM-108 - F - 12251 - E

COMPONENT CHARACTERISTIC CAP. IN TOLERANCE μmf (SEE NOTE)

- 1- CAPACITANCE TO BE SPECIFIED TO 4 DIGITS.
- 2- 5TH DIGIT IS ADDED TO INDICATE NO OF ZEROS.
- 3- WHERE DECIMAL POINT IS INCLUDED (BYR) 5TH DIGIT OMITTED
- 4- SEE EXAMPLES ABOVE.

REF: CORNELL DUBILIER (SUPER MICA DOM)

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
#		THE TECHNICAL MATERIEL CORP.	
		MAMARONECK, NEW YORK	
		CAPACITOR, MICA-FIXED	
		PRECISION	
		CAP. 5-18-54	KZ
		DRAWN	MECH. DES. APP.
		CHECKED	FINAL APPROVAL
			CM-1081D

STANDARD DRAWING

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.
 MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

IN ACC. WITH MIL-C-5A CM20 LISTINGS.
 CAP. RANGE: 5 TO 1000 μ fd.
 TEMP. RANGE: -55°C TO +130°C.

CHART "C"

CAT. NO.	CAP. μ fd.	VDCW	CHARACTERISTICS AT CAP. TOLERANCE
SASV5	5	500	J
SASV1	10		B
SASV12	12		B
SASV15	15		B
SASV18	18		B
SASV20	20		BC
SASV22	22		BC
SASV24	24		BC
SASV27	27		BC
SASV30	30		BC
SASV33	33		BC
SASV36	36		BC
SASV39	39		BC
SASV43	43		BC
SASV47	47		BC
SASV51	51		BC
SASV56	56		BC
SASV63	63		BC
SASV69	69		BC
SASV75	75		BC
SASV82	82		BC
SASV91	91		BC
SAST1	100		BCD
SAST11	110		BCD
SAST12	120		BCD
SAST13	130		BCD
SAST15	150		BCD
SAST16	160		BCD
SAST18	180		BCD
SAST20	200		BCDE
SAST22	220		BCDE
SAST24	240		BCDE
SAST27	270		BCDE
SAST30	300		BCDE
SAST33	330		BCDE
SAST36	360		BCDE
SAST39	390		BCDE
SAST43	430		BCDE
SAST47	470		BCDE
SAST51	510		BCDE
SAST56	560		BCDE
SAST63	630		BCDE
SAST69	690		BCDE
SAST75	750		BCDE
SAST82	820		BCDE
SAST91	910		BCDE
SA3D1	1000		BCDE

CHART "D"

C-D EXTENDED RATINGS BEYOND CM20 LISTINGS.
 CAPACITANCE RANGE: 1100 TO 5100 μ fd.
 TEMP. RANGE: -55°C TO +130°C.

CAT. NO.	CAP. μ fd.	VDCW	CHARACTERISTICS AT CAP. TOLERANCE
SASD11	1100	500	BCDEF
SASD12	1200		BCDEF
SASD13	1300		BCDEF
SASD15	1500		BCDEF
SASD16	1600		BCDEF
SASD18	1800		BCDEF
SASD20	2000		BCDEF
SASD22	2200		BCDEF
SASD24	2400		BCDEF
SASD27	2700		BCDEF
SASD30	3000		BCDEF
SASD33	3300		BCDEF
SASD36	3600		BCDEF
SASD39	3900	300	BCDEF
SA3DA3	4300		BCDEF
SA3DAT	4700		BCDEF
SA3D51	5100		BCDEF

EXAMPLES
 12.25 = 12R25
 122.5 = 122R5
 1225 = 12250
 12250 = 12251
 122500 = 12252

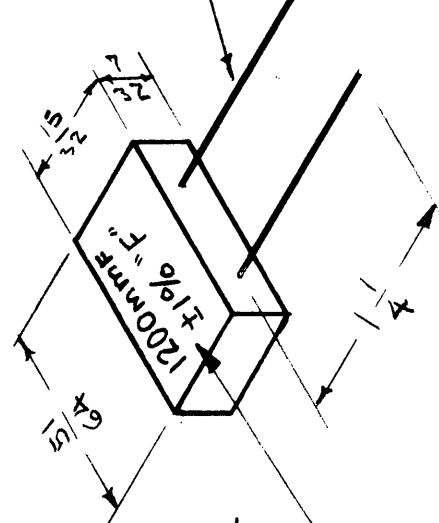
4 DIGITS NO OF ZEROS

CHARACTERISTICS

TEMP. COEF PARTS/M.I./°C	CAP. DRIFT (MAX)
F	0 TO +70
G	0 TO +50

TOLERANCE

E	$\pm 0.5\%$
F	$\pm 1\%$
G	$\pm 2\%$
I	$\pm 5\%$
K	$\pm 10\%$
M	$\pm 20\%$



APPROPRIATE CAP, TOL. AND CHARACTERISTIC SHALL BE STAMPED ON CASE AS SHOWN

TYPE DESIGNATION SHALL BE IN FOLLOWING FORM
 5TH DIGIT INDICATES # ZEROS.

CM-109 - F - 12000 - E

COMPONENT CHARACTERISTIC CAP. IN TOLERANCE μ mf (SEE NOTE)

- NOTE
- CAPACITANCE TO BE SPECIFIED TO 4 DIGITS;
 - 5TH DIGIT IS ADDED TO INDICATE NO OF ZEROS.
 - WHERE DECIMAL POINT IS INCLUDED (BY R) 5TH DIGIT IS OMITTED
 - SEE EXAMPLES ABOVE.

REF: CORNELL-DUBILIER (SUPER-MICADON)

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
		THE TECHNICAL MATERIEL CORP.	
		MAMARONECK, NEW YORK	
		CAPACITOR, MICA FIXED	
		PRECISION	
		CDP 5-18-54	KZ
		DRAWN	WJS
		ELEC. DES. APP.	
		MECH. DES. APP.	
		CHECKED	APJ
		FINAL APPROVAL	
		FINISH & SPEC. NO.	CM-109 D

WARNING

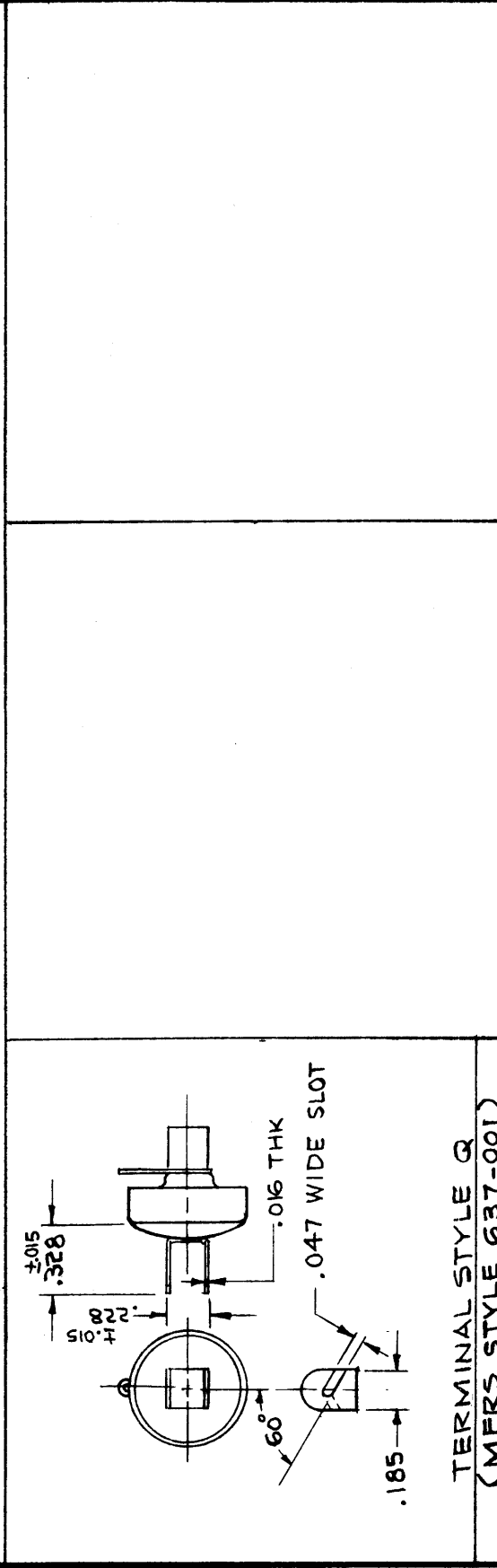
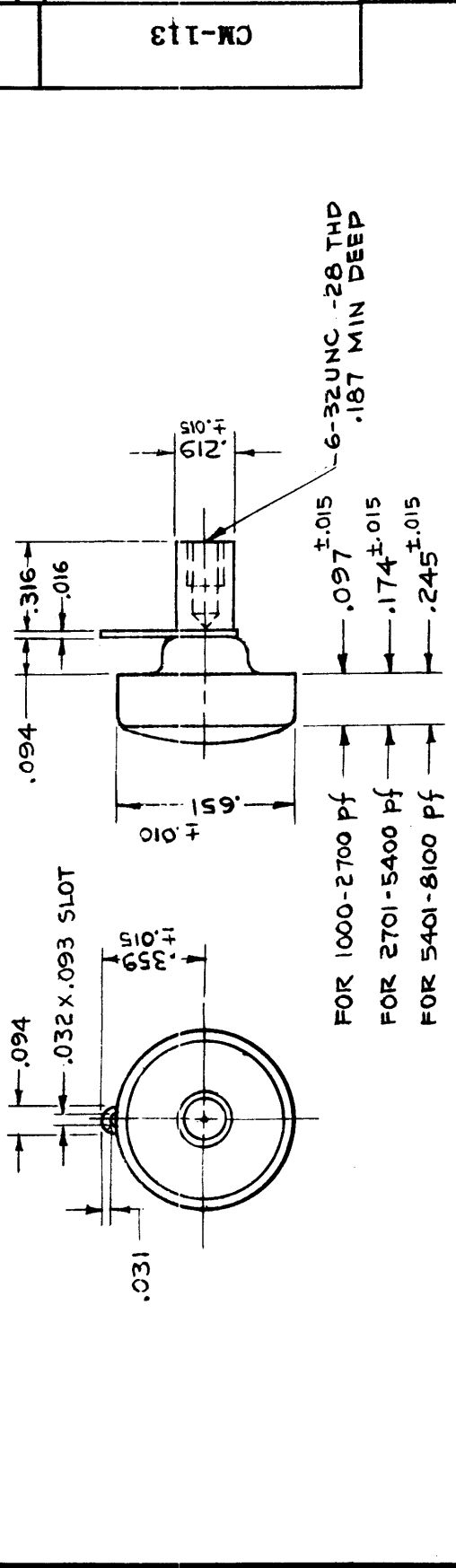
THIS CAP. IS MANUFACTURED IN CHAR. B THROUGH E & TOL. M THROUGH G. HOWEVER, IN ORDER TO AVOID DUPLICATION AND GOVERNMENT ACCEPTANCE DIFF. CONVENTIONAL MICA CAPACITORS SHOULD BE USED IN THESE RANGES

* 1-STANDARD TOL. $\pm 5\%$ (TOL. OF $\pm 1/2$ OF 1% AVAILABLE ON REQUEST)
 * 2-CHAR-"F" AVAILABLE IN 5% OR CLOSER TOL. (APPLIES TO CHART "C" ONLY).
 * MIL-C-5A RATES THESE UNITS AT 300 VDCW.

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
D	1	ADDED NOTE TO PICTORIAL	2-20-62	6811	R.Y.	WJ	
C	1	EXAMPLES & NOTES CLARIFIED	4/7/58	3	WJ	WJ	
B	1	EXAMPLES ADDED	4/17/58	2	WJ	WJ	
A	1	NOTE CHANGED	8-19-54	1	WJ	WJ	

TOLERANCES
 DEC. DIM. \pm
 FRAC. DIM. \pm
 ANGULAR DIM. \pm

SCALE:
 DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.



SPECIFICATIONS

- CASE & TERMINALS: BRASS, SILVER PLATED
- SEALING COMPOUND: RESIN OR WAX
- RATED WORKING VOLT: 500 WVDC/350 WVAC @85°C.
- FLASH OVER VOLT: 1250 VDC BETWEEN TERM. FOR AT LEAST 2 SEC. AT 50 MA MAX.
- Q(AT 1 MC): NOT LESS THAN 1000
- INSULATION RESISTANCE: 10,000 MEG. MIN. AT APPROX. 25°C. AT 100 VDC MIN. WITH SERIES RES. OF 1 MEG. MAX. FOR 1 MIN. MAX.
- OPER. TEMP. RANGE: -55°C. TO +85°C.
- UNITS SHALL MEET OR EXCEED THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF MIL-C-10950.

NOTES

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CM-113

CHART NO. 1 CHARACTERISTICS		CHART NO. 2 STANDARD CAPACITANCE RANGE	
CODE	CHAR.	COLOR CODE	
E	-20 to +100 ppm per °C.	Black	1000 uuf TO 8100 uuf
CHART NO. 3 TOLERANCE		1st & 2nd FIGURE	
CODE	TOLERANCE	COLOR CODE	MULTIPLIER
G	+2% or 1 uuf whichever is greater	Black	0
J	±5%	Brown	1
K	+10%	Red	10
		Orange	100
		Yellow	1000
		Green	
		Blue	
		Violet	
		Gray	
		White	

TMC PART NUMBER SHALL BE IN THE FOLLOWING FORM:

CM-113 Q E 202 J

Basic TMC Part No. and Style	Terminal Style Code See Pictorials	Characteristic Code See Chart No. 1	Capacitance Value in uuf	Tolerance Cod See Chart No. 3
------------------------------	------------------------------------	-------------------------------------	--------------------------	-------------------------------

First two digits are significant figures. Last digit number of zeros. See Chart No. 2

REQ'D.	ITEM	PART NUMBER	DESCRIPTION	SYMBOL
	KOHN		LIST OF MATERIAL	
MATERIAL				
THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK				
FINISH				
CAPACITOR, FIXED, MICA, BUTTON STAND-OFF				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		DRAWN	DATE	FINAL APPROVAL
		5-17-63	5-17-63	
		CHECKED	DATE	
		5/23/63	5/23/63	
DECIMALS		ELECT. DES.	DATE	
.X ± .05		R. KOHN	5/27/63	
.XX ± .01		MECH. DES.	DATE	
.XXX ± .005			DATE	
FRACTIONS				SHEET
± 1/64				CM-113
ANGLES				
± 10°				
TOLERANCES				REV. LTR.

CHARACTERISTICS AVAILABLE	
CODE	TEMP. COEF. PART/MILL °C
E	-20 to +100
F	0 to +70
G	0 to -50

TOLERANCE AVAILABLE	
CODE	TOLERANCE
E	± 0.5%
F	± 1%
G	± 2%

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 THE TECHNICAL MATERIEL CORPORATION
 MAMARONECK, NEW YORK

ISSUE ITEM	CHANGED FROM	DATE	CH. NO.	DRAFTS	CHECKER	ENG. APP.

SCALE: _____

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND ANY DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

MINIMUM CAPACITANCE AVAILABLE - 5 mmf
 MAXIMUM CAPACITANCE AVAILABLE - 3300 mmf
 ANY VALUE BETWEEN MINIMUM AND MAXIMUM CAPACITANCE SHOWN ABOVE MAY BE PURCHASED.

DC WORKING VOLTAGE - 500 V

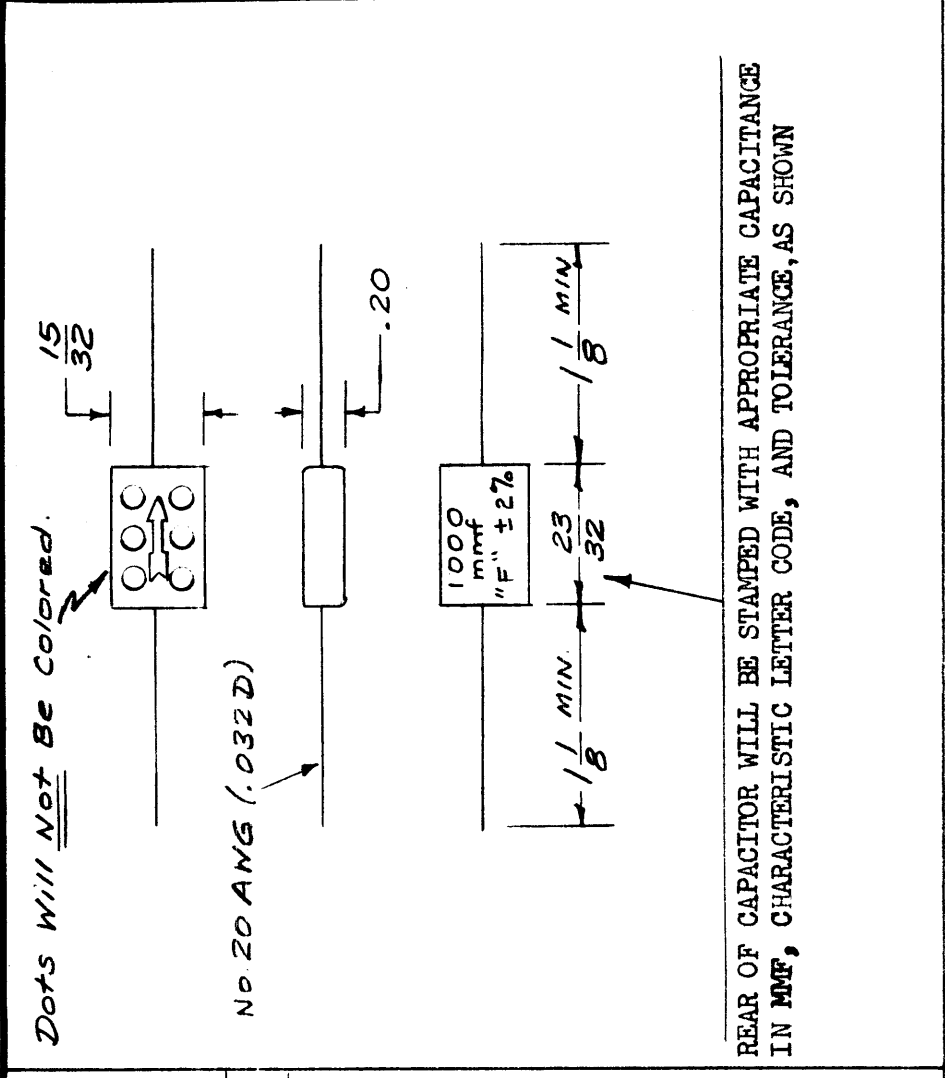
TYPE DESIGNATION TO BE IN THE FOLLOWING FORM:

CM200 F 200 F

TMC DWG. NO. CHARACTERISTIC DESIRED (see Chart)
 & CASE SIZE CAPACITANCE VALUE DESIRED IN MMF (see Chart)
 TOL. DESIRED (see Chart)

CAPACITANCE WILL BE EXPRESSED EXACTLY AS REQUIRED. EXAMPLE:
 500 mmf = 500
 2500 mmf = 2500
 10 mmf = 10
 5 mmf = 5
 10.5 mmf = 10R5

Use "R" for decimal point when required.



PURCHASING INFORMATION:

SANGAMO NUMBER TO BE AS FOLLOWS.

CR - 200 - F - 2

CASE SIZE CAPACITANCE IN MMF CHAR. TOL 2-2%
 1-17%
 0.5-0.57%

SPECIFY ALSO 1000 V TEST VOLTAGE

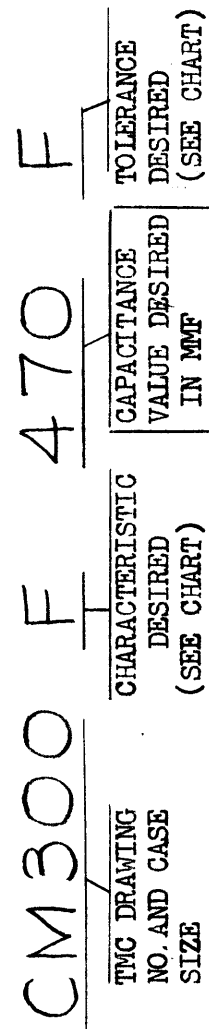
REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
CM20	CASE (Approx)	THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
STOCK SIZE			
MATERIAL			
CAPACITOR, FIXED, SILVERED MICA, PRECISION			
TYPE & TEMPER	HEAT TREAT. SPEC.	DRAWN	CHECKED
		16/19/58	Jule
FINISH & SPEC. NO.			FINAL APPROVAL
			CM200

CHARACTERISTICS AVAILABLE		CAPACITANCE DRIFT (MAXIMUM)
CODE	TEMP. COEF. PARTS/MILL./°C	
E	-20 to +100	±(0.1% + 0.1mmf)
F	0 to +70	±(0.05% + 0.1mmf)
G	0 to -50	±(0.05% + 0.1mmf)

TOLERANCE AVAILABLE	
CODE	TOLERANCE
E	± 0.5%
F	± 1%
G	± 2%

MINIMUM CAPACITANCE AVAILABLE - 470 mmf
 MAXIMUM CAPACITANCE AVAILABLE - 3300 mmf
 Any Value Between Min. & Max. Cap. Shown Above May be Purchased.
 DC WORKING VOLTS - 500 V.

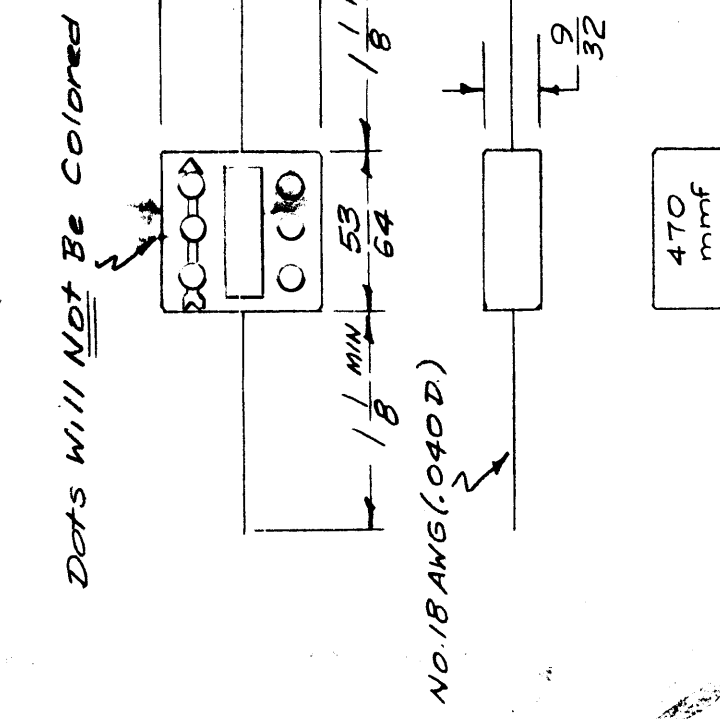
TYPE DESIGNATION TO BE IN THE FOLLOWING FORM:



CAPACITANCE WILL BE EXPRESSED EXACTLY AS REQUIRED. EXAMPLES:

- 470 mmf = 470
- 2500 mmf = 2500
- 1550 mmf = 1550

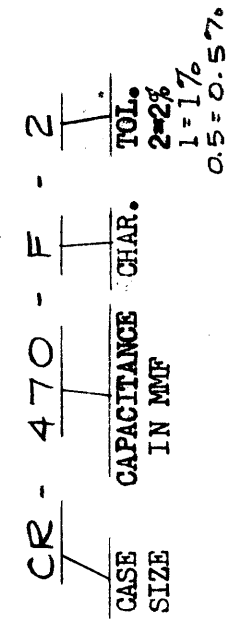
REQ. PER UNIT	MODEL	PROJECT NO.	ASSY. NO.	DATE



Rear of Capacitor will be stamped with Appropriate Cap. in mmf, Charact. Letter Code, and Tolerance, as Shown

PURCHASING INFORMATION:

SANGAMO NUMBER TO BE AS FOLLOWS:



SPECIFY ALSO 1000 V. TEST VOLTAGE

REFERENCE: SANGAMO CAPACITORS SERIES CR (UNDER 3600 MMF)

REQ. ITEM	PART NO.	DESCRIPTION	SYMBOL
CM30 CASE (Approx)		THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK	
		CAPACITOR, FIXED, SILVERED MICA, PRECISION	
		DRAWN: 6/13/58	CM300
		CHECKED: JRG	A
		FINAL APPROVAL: [Signature]	

CM300

THE TECHNICAL MATERIEL CORPORATION
 MAMARONECK, NEW YORK

Property of:
 THE TECHNICAL MATERIEL CORPORATION
 MAMARONECK, NEW YORK

ISSUE ITEM	CHANGED FROM	DATE	CH. NO.	DRAFTS	CHECKER	ENG. APP.
A	IN STOCK SIZE BLOCK CM300 WAS CM120	10/15/51	10/15/51		[Signature]	[Signature]

SCALE:
 MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND ANY DEVIATIONS WILL BE CAUSE FOR REJECTION.
 REMOVE ALL BURRS AND SHARP EDGES

