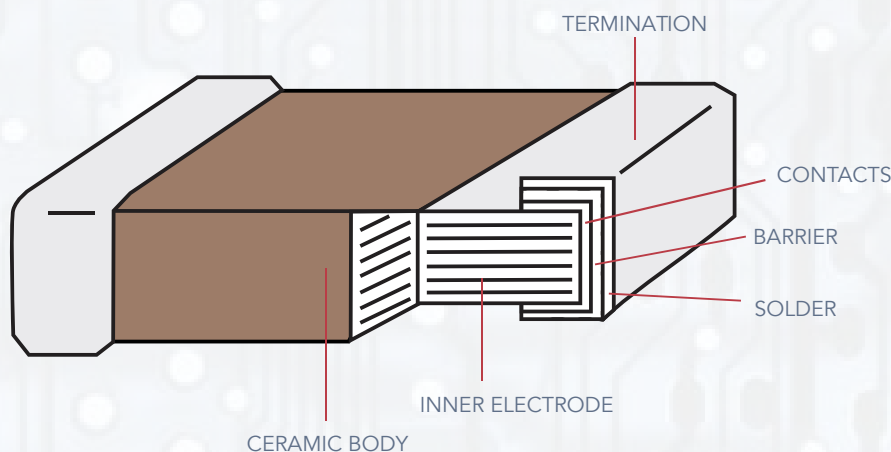


## PRODUCT IDENTIFICATION

- PRODUCT NAME                      Capacitor (MLCC)
- SERIES                                GMC55
- SIZE                                    2220
- DIALECTRIC                         C0G
- WEIGHT                                241.8 (max)
- MANUFACTURE NAME            Cal-Chip Electronics Inc.
- ADDRESS                             59 Steamwhistle Drive Ivyland, PA 18974
- RESPONSIBLE PERSON NAME    Frank Salamone
- TELEPHONE                         215.942.8900

## GENERAL COMPOSITION



PART	MATERIAL		WEIGHT (mg)	% OF PART	% OF COMPONENT	CAS NO.
Body	Inner Electrode	Ni	10.97	4.56	4.54	7440-02-0
	Dielectric	Calcium Magnesium Titanate	229.60	95.44	94.96	12032-30-3 7439-95-4 12049-50-2
SUBTOTAL			240.58	100.00	99.49	
Termination	Contact with Ceramic	Cu	0.897	73.356	0.371	7440-50-8
	Barrier Layer	Ni	0.059	4.831	0.024	7440-02-0
	Solder Platin	Sn	0.267	21.813	0.110	7440-31-5
SUBTOTAL			1.22	100.00	0.51	
ALL PARTS TOTAL			241.800		100.00	

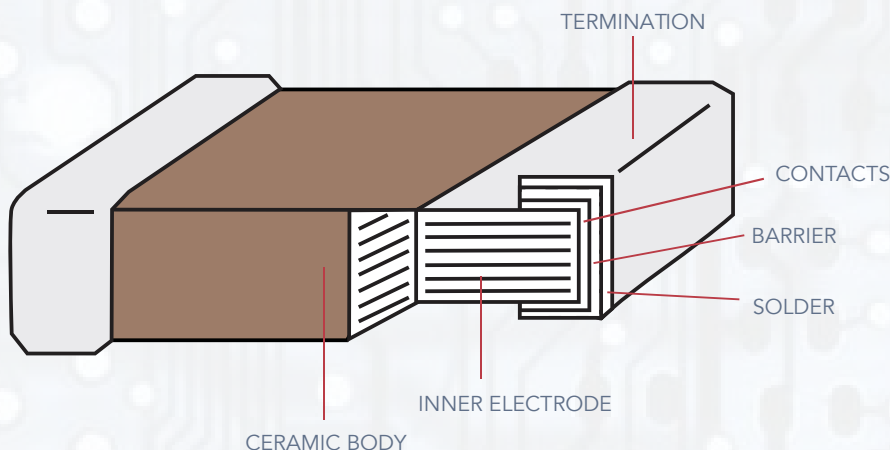
# MATERIAL DECLARATION

GMC55-X7R

## PRODUCT IDENTIFICATION

- PRODUCT NAME                      Capacitor (MLCC)
- SERIES                                GMC55
- SIZE                                    2220
- DIALECTRIC                         X7R
- WEIGHT                                395.8 (max)
- MANUFACTURE NAME            Cal-Chip Electronics Inc.
- ADDRESS                             59 Steamwhistle Drive Ivyland, PA 18974
- RESPONSIBLE PERSON NAME    Frank Salamone
- TELEPHONE                         215.942.8900

## GENERAL COMPOSITION



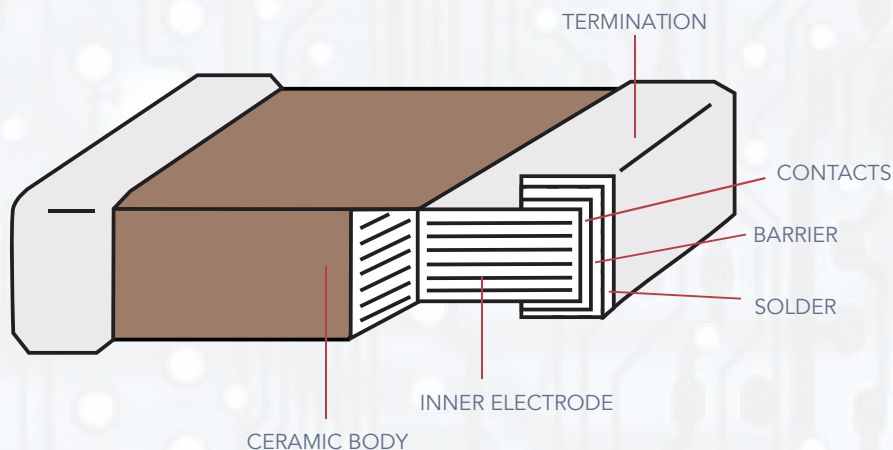
PART	MATERIAL		WEIGHT (mg)	% OF PART	% OF COMPONENT	CAS NO.
Body	Inner Electrode	Ni	130.39	33.06	32.94	7440-02-0
	Dielectric	BaTiO <sub>3</sub>	263.97	66.94	66.69	12047-27-7
SUBTOTAL			394.37	100	99.64	
Termination	Contact with Ceramic	Cu	0.897	62.61	0.23	7440-50-8
	Barrier Layer	Ni	0.069	4.81	0.02	7440-02-0
	Solder Platin	Sn	0.467	32.58	0.12	7440-31-5
SUBTOTAL			1.43	100	0.36	
ALL PARTS TOTAL			395.8		100	



## PRODUCT IDENTIFICATION

- PRODUCT NAME	Capacitor (MLCC)
- SERIES	GMC55
- SIZE	2220
- DIALECTRIC	X7S
- WEIGHT	395.8 (max)
- MANUFACTURE NAME	Cal-Chip Electronics Inc.
- ADDRESS	59 Steamwhistle Drive Ivyland, PA 18974
- RESPONSIBLE PERSON NAME	Frank Salamone
- TELEPHONE	215.942.8900

## GENERAL COMPOSITION



PART	MATERIAL		WEIGHT (mg)	% OF PART	% OF COMPONENT	CAS NO.
Body	Inner Electrode	Ni	130.39	33.06	32.94	7440-02-0
	Dielectric	BaTiO <sub>3</sub>	263.97	66.94	66.69	12047-27-7
SUBTOTAL			394.37	100	99.64	
Termination	Contact with Ceramic	Cu	0.897	62.61	0.23	7440-50-8
	Barrier Layer	Ni	0.069	4.81	0.02	7440-02-0
	Solder Platin	Sn	0.467	32.58	0.12	7440-31-5
SUBTOTAL			1.43	100	0.36	
ALL PARTS TOTAL			395.8		100	

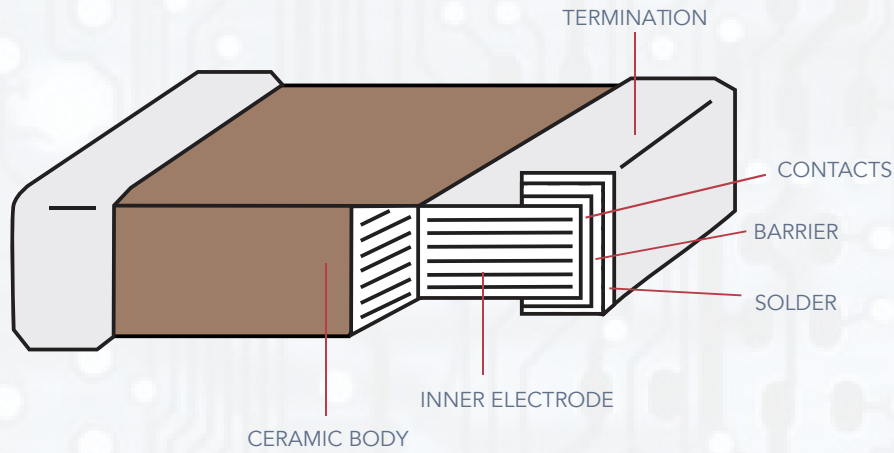
# MATERIAL DECLARATION

GMC55-Y5V

## PRODUCT IDENTIFICATION

- PRODUCT NAME                      Capacitor (MLCC)
- SERIES                                GMC55
- SIZE                                    2220
- DIALECTRIC                         Y5V
- WEIGHT                                297.9 (max)
- MANUFACTURE NAME            Cal-Chip Electronics Inc.
- ADDRESS                             59 Steamwhistle Drive Ivyland, PA 18974
- RESPONSIBLE PERSON NAME    Frank Salamone
- TELEPHONE                         215.942.8900

## GENERAL COMPOSITION



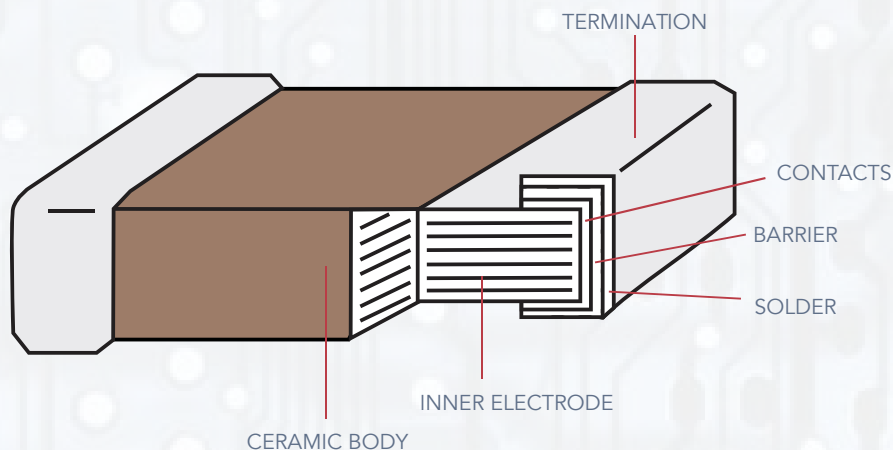
PART	MATERIAL		WEIGHT (mg)	% OF PART	% OF COMPONENT	CAS NO.
Body	Inner Electrode	Ni	28.99	9.78	9.73	7440-02-0
	Dielectric	BaTiO <sub>3</sub>	267.49	90.22	89.79	12047-27-7
SUBTOTAL			296.48	100	99.52	
Termination	Contact with Ceramic	Cu	0.897	63.05	0.30	7440-50-8
	Barrier Layer	Ni	0.059	4.14	0.02	7440-02-0
	Solder Platin	Sn	0.467	32.81	0.16	7440-31-5
SUBTOTAL			1.42	100	0.48	
ALL PARTS TOTAL			297.9		100	



## PRODUCT IDENTIFICATION

- PRODUCT NAME                      Capacitor (MLCC)
- SERIES                                GMC55
- SIZE                                    2220
- DIALECTRIC                         Z5U
- WEIGHT                                297.9 (max)
- MANUFACTURE NAME            Cal-Chip Electronics Inc.
- ADDRESS                             59 Steamwhistle Drive Ivyland, PA 18974
- RESPONSIBLE PERSON NAME    Frank Salamone
- TELEPHONE                         215.942.8900

## GENERAL COMPOSITION



PART	MATERIAL		WEIGHT (mg)	% OF PART	% OF COMPONENT	CAS NO.
Body	Inner Electrode	Ni	28.99	9.78	9.73	7440-02-0
	Dielectric	BaTiO <sub>3</sub>	267.49	90.22	89.79	12047-27-7
SUBTOTAL			296.48	100	99.52	
Termination	Contact with Ceramic	Cu	0.897	63.05	0.30	7440-50-8
	Barrier Layer	Ni	0.059	4.14	0.02	7440-02-0
	Solder Platin	Sn	0.467	32.81	0.16	7440-31-5
SUBTOTAL			1.42	100	0.48	
ALL PARTS TOTAL			297.9		100	