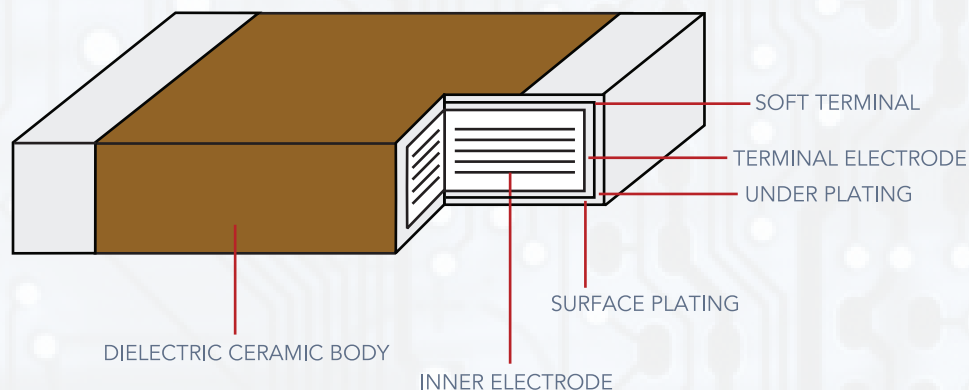


MATERIAL DECLARATION

PRODUCT IDENTIFICATION

- PRODUCT NAME	Capacitor (MLCC)
- SERIES	GMC45
- SIZE	NPO
- DIELECTRIC	1825
- WEIGHT	180 mg
- MANUFACTURE NAME	Cal-Chip Electronics Inc.
- ADDRESS	59 Steamwhistle Drive, Ivyland, PA 18974

GENERAL COMPOSITION



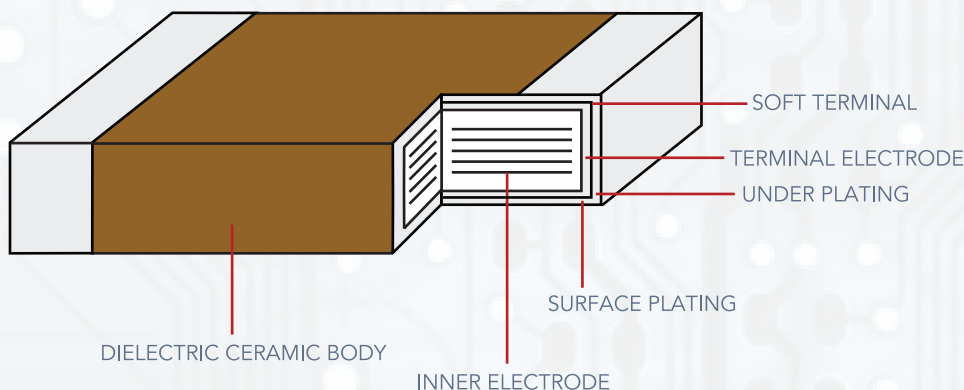
COMPOSITION OF PARTS		COMPOSITION OF MATERIALS					CLASSIFICATION	TYPICAL WEIGHT			P/N
MATERIAL NAME	TYPICAL WT % IN PRODUCT	SUBSTANCE NAME	TYPICAL WT % IN MATERIAL	SUBSTANCE NAME	TYPICAL WT % IN PRODUCT	CAS NO.	USE / PURPOSE OF MATERIAL	SUBSTANCE WEIGHT (MG)	MATERIAL WEIGHT (MG)	PRODUCT WEIGHT (MG)	PRODUCT
Dielectric Ceramic Body	90.6	Strontium Oxide	13	Strontium Oxide	11.7780	1314-11-0	Ceramic	21.2	163.08	180	NPO 1825 SERIES
		Calcium Oxide	15	Calcium Oxide	13.5900	1305-78-8		24.46			
		Zirconium Dioxide	50	Zirconium Dioxide	45.3000	1314-23-4		81.55			
		Titanium Dioxide	2	Titanium Dioxide	1.8120	13463-67-7		3.26			
		Silica	15	Silica	13.5900	14808-60-7		24.46			
		Manganese Tetroxide	5	Manganese Tetroxide	4.5300	1317-35-7		8.15			
Inner Electrode	3	Nickel	80	Nickel	2.4000	7440-02-0	Ni paste	4.32	5.4	180	NPO 1825 SERIES
		Barium Titanate	20	Barium Titanate (IV)	0.6000	12047-27-7		1.08			
Terminal Electrode	6	Copper	88	Copper	5.2800	7440-50-8	Cu paste	9.5	10.8	180	NPO 1825 SERIES
		Lead Free Glass	12	Lead Free Glass Frit	0.7200	65997-18-4		1.3			
Under Plating	0.2	Ni	100	Ni	0.2000	7440-02-0	Ni plating	0.36	0.36	180	NPO 1825 SERIES
Surface Plating	0.2	Matte Sn	100	Matte Sn	0.2000	7440-31-5	Sn plating	0.36	0.36	180	NPO 1825 SERIES

MATERIAL DECLARATION

PRODUCT IDENTIFICATION

- PRODUCT NAME Capacitor (MLCC)
- SERIES GMC45
- SIZE X7R
- DIELECTRIC 1825
- WEIGHT 180 mg
- MANUFACTURE NAME Cal-Chip Electronics Inc.
- ADDRESS 59 Steamwhistle Drive, Ivyland, PA 18974

GENERAL COMPOSITION



COMPOSITION OF PARTS		COMPOSITION OF MATERIALS					CLASSIFICATION	TYPICAL WEIGHT			P/N
MATERIAL NAME	TYPICAL WT % IN PRODUCT	SUBSTANCE NAME	TYPICAL WT % IN MATERIAL	SUBSTANCE NAME	TYPICAL WT % IN PRODUCT	CAS NO.	USE / PURPOSE OF MATERIAL	SUBSTANCE WEIGHT (MG)	MATERIAL WEIGHT (MG)	PRODUCT WEIGHT (MG)	PRODUCT
Dielectric Ceramic Body	90.6	Barium Titanate	98	Barium Titanate (IV)	88.7880	12047-27-7	Ceramic	159.818	163.08	180	X7R 1825 SERIES
		Yttrium Oxide	2	Yttrium Oxide	1.8120	1314-36-9		3.262			
Inner Electrode	3	Nickel	80	Nickel	2.4000	7440-02-0	Ni paste	4.32	5.4		
		Barium Titanate	20	Barium Titanate (IV)	0.6000	12047-27-7		1.08			
Terminal Electrode	6	Copper	88	Copper	5.2800	7440-50-8	Cu paste	9.504	10.8		
		Lead Free Glass	12	Lead Free Glass Frit	0.7200	65997-18-4		1.296			
Under Plating	0.2	Ni	100	Ni	0.2000	7440-02-0	Ni plating	0.36	0.36		
Surface Plating	0.2	Matte Sn	100	Matte Sn	0.2000	7440-31-5	Sn plating	0.36	0.36		

