MATERIAL DECLARATION

CN22

PRODUCTION INENTIFICATION

- PRODUCT NAME: Thick Film Arrays - CN22
- TOTAL WT. MG: 1.276
- 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 STRUCTURE	SUBPART WT. MG AND % TOTAL	MATERIAL	MATERIAL %	MATERIAL WT MG
Ceramic Substrate	1.07337 / 84.12%	A12O3	96%	1.033044
		SiO2	4%	.04293
Conductor Layer (bottom)	0.002616 / 0.205%	Ag	95%	0.002485
		Glass	5%	0.0001308
Condutor Layer (top)	0.0134 / 1.05%	Ag	79%	0.010586
		Pb	1%	0.000134
		Glass	20%	0.00268
Resistive Element	0.00694 / 0.544%	RuO2	25%	0.001735
		Ag	40%	0.002776
		Pb	15%	0.001041
		Glass	20%	0.001388
Over-Coating	0.0178 / 1.41%	Epoxy	100%	0.0178
Marking	0.00065 / 0.051%	Epoxy	100%	0.00065
End Terminal	0.04059 / 3.181%	Ni	80%	0.032472
		Cr	20%	0.008118
Ni Plating	0.06615 / 5.184%	Ni	100%	0.06615
Sn Plating	0.05424 / 4.251%	Sn	100%	0.05424

MATERIAL DECLARATION

PRODUCTION INENTIFICATION

- PRODUCT NAME: Thick Film Arrays - CN24
- TOTAL WT. MG: 2.499
- 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 STRUCTURE	SUBPART WT. MG AND % TOTAL	MATERIAL	MATERIAL %	MATERIAL WT MG
Ceramic Substrate	2.10216 / 84.12%	Al2O3	96%	2.01807
		SiO2	4%	0.0840864
Conductor Layer (bottom)	0.005123 / 0.205%	Ag	95%	0.0048668
		Glass	5%	0.0002561
Condutor Layer (top)	0.02624 / 1.05%	Ag	79%	0.0207296
		Pb	1%	0.0002624
		Glass	20%	0.005248
Resistive Element	0.013595 / 0.544%	RuO2	25%	0.003399
		Ag	40%	0.005438
		Pb	15%	0.0020392
		Glass	20%	0.002719
Over-Coating	0.035236 / 1.41%	Epoxy	100%	0.035236
Marking	0.0012744 / 0.051%	Epoxy	100%	0.0012744
End Terminal	0.079493 / 3.181%	Ni	80%	0.063594
		Cr	20%	0.015899
Ni Plating	0.12959 / 5.184%	Ni	100%	0.12959
Sn Plating	0.106232 / 4.251%	Sn	100%	0.106232

RoHS

MATERIAL DECLARATION

PRODUCTION INENTIFICATION

- PRODUCT NAME: Thick Film Arrays - CN34
- TOTAL WT. MG: 8.6914
- 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 STRUCTURE	SUBPART WT. MG AND % TOTAL	MATERIAL	MATERIAL %	MATERIAL WT MG
Ceramic Substrate	7.3115 / 84.12%	A12O3	96%	7.01904
		SiO2	4%	0.29246
Conductor Layer (bottom)	0.0178 / 0.205%	Ag	95%	0.01691
		Glass	5%	0.00089
Condutor Layer (top)	0.0912 / 1.05%	Ag	79%	0.072048
		Pb	1%	0.000912
		Glass	20%	0.01824
Resistive Element	0.0473 / 0.544%	RuO2	25%	0.011825
		Ag	40%	0.01892
		Pb	15%	0.007095
		Glass	20%	0.00946
Over-Coating	0.1226 / 1.41%	Epoxy	100%	0.1226
Marking	0.0044 / 0.051%	Epoxy	100%	0.0044
End Terminal	0.27645 / 3.181%	Ni	80%	0.22116
		Cr	20%	0.05529
Ni Plating	0.4506 / 5.184%	Ni	100%	0.4506
Sn Plating	0.3695 / 4.251%	Sn	100%	0.3695