

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

TO-220

(printed on: 2020-07-11 17:46:03)

**TOTAL MASS (g) : 1.896691**

COMPONENT MATERIAL	VENDOR/ INDUSTRY NAMES	CONSTITUENT NAME	CAS NUMBER	CONSTITUENT MASS (g)	CONSTITUENT (PPM) OF MATERIAL	CONSTITUENT (PPM) OF TOTAL PKG.		
Active Device	Linear Technology	Silicon (Si)	7440-21-3	0.004895	1000000	2580.81054688		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	1.327316	998500	699806.1875		
		Iron (Fe)	7439-89-6	0.000000	0	0		
		Phosphorus (P)	7723-14-0	0.000000	0	0		
		Zinc (Zn)	7440-66-6	0.000000	0	0		
		Nickel (Ni)	7440-02-0	0.000000	0	0		
		Silicon (Si)	7440-21-3	0.000000	0	0		
		Magnesium (Mg)	7439-95-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.001994	1500	1051.3046875		
<b>Lead Frame Total:</b>				<b>1.329310</b>	<b>1000000</b>	<b>700857.5</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.010641	1000000	5610.24902344		
		<b>External Plating Total:</b>				<b>0.010641</b>	<b>1000000</b>	<b>5610.24902344</b>
		Inter. Plating Ni	7440-02-0	0.009000	826446.25	4745.10644531		
		Inter. Plating Ag	7440-22-4	0.001890	173553.71875	996.472290039		
		<b>Internal Plating Total:</b>				<b>0.010890</b>	<b>1000000</b>	<b>5741.57861328</b>
Die Attach	95Pb / 5 Sn	Silver (Ag)	7440-22-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000112	50000	59.0502128601		
		Lead (Pb)	7439-92-1	0.002131	950000	1123.53564453		
		Silica (SiO2)	60676-86-0	0.000000	0	0		
		Indium (In)	7440-74-6	0.000000	0	0		
		Metal Oxide		0.000000	0	0		
		Antimony (Sb)	7440-36-0	0.000000	0	0		
		Resin (EP)		0.000000	0	0		
<b>Die Attach Total:</b>				<b>0.002243</b>	<b>1000000</b>	<b>1182.58605957</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.055248	103000	29128.6269531		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.480069	895000	253108.734375		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000000	0	0		
		Carbon Black (C)	1333-86-4	0.001073	2000	565.722167969		
		<b>Encapsulation Total:</b>				<b>0.536390</b>	<b>1000000</b>	<b>282803.09375</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000328	1000000	172.932769775		
					<b>TOTAL MASS (g) :</b>	<b>1.896691</b>		