

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

TO-220

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**TOTAL MASS (g) : 1.993785**

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	0.008109	1000000	4067.13793945		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	1.428754	998500	716603.75		
		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	0.002146	1500	1076.34460449		
<b>Lead Frame Total:</b>				<b>1.430900</b>	<b>1000000</b>	<b>717680.125</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.011398	1000000	5716.8984375		
		<b>External Plating Total:</b>				<b>0.011398</b>	<b>1000000</b>	<b>5716.8984375</b>
		Inter. Plating Ni	7440-02-0	0.010000	834028.375	5015.58496094		
		Inter. Plating Ag	7440-22-4	0.001990	165971.640625	998.10144043		
<b>Internal Plating Total:</b>				<b>0.011990</b>	<b>1000000</b>	<b>6013.68652344</b>		
Die Attach	95Pb / 5 Sn	Silver (Ag)	7440-22-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000163	50000	81.7540435791		
		Lead (Pb)	7439-92-1	0.003104	950000	1556.83752441		
		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>0.003267</b>	<b>1000000</b>	<b>1638.5916748</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.054270	103000	27219.5800781		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.471567	895000	236518.453125		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000000	0	0		
		Carbon Black (C)	1333-86-4	0.001054	2000	528.642700195		
		<b>Encapsulation Total:</b>				<b>0.526891</b>	<b>1000000</b>	<b>264266.65625</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.001230	1000000	616.917053223		
					<b>TOTAL MASS (g) :</b>	<b>1.993785</b>		