

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

TO-220

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**TOTAL MASS (g) : 2.022016**

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	0.005011	1000000	2478.21948242		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	1.457910	998500	721017.875		
		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	0.002190	1500	1083.07727051		
<b>Lead Frame Total:</b>				<b>1.460100</b>	<b>1000000</b>	<b>722101.0625</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.012534	1000000	6198.91552734		
		<b>External Plating Total:</b>				<b>0.012534</b>	<b>1000000</b>	<b>6198.91552734</b>
		Inter. Plating Ni	7440-02-0	0.017000	893796	8407.45019531		
		Inter. Plating Ag	7440-22-4	0.002020	106203.992188	999.002807617		
		<b>Internal Plating Total:</b>				<b>0.019020</b>	<b>1000000</b>	<b>9406.453125</b>
Die Attach	95Pb / 5 Sn	Silver (Ag)	7440-22-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000116	50000	57.3684806824		
		Lead (Pb)	7439-92-1	0.002205	950000	1090.49572754		
		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>0.002321</b>	<b>1000000</b>	<b>1147.86413574</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.053828	103000	26620.953125		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.467727	895000	231317.125		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000000	0	0		
		Carbon Black (C)	1333-86-4	0.001045	2000	516.810913086		
		<b>Encapsulation Total:</b>				<b>0.522600</b>	<b>1000000</b>	<b>258454.890625</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000430	1000000	212.659011841		
					<b>TOTAL MASS (g) :</b>	<b>2.022016</b>		