

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

TO-220

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**TOTAL MASS (g) : 2.021007**

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	0.004033	1000000	1995.53979492		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	1.457910	998500	721377.875		
		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	1083.61804199		
<b>Lead Frame Total:</b>				<b>1.460100</b>	<b>1000000</b>	<b>722461.5</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.012534	1000000	6202.01025391		
		<b>External Plating Total:</b>				<b>0.012534</b>	<b>1000000</b>	<b>6202.01025391</b>
		Inter. Plating Ni	7440-02-0	0.017000	893796	8411.64746094		
		Inter. Plating Ag	7440-22-4	0.002020	106203.992188	999.501586914		
		<b>Internal Plating Total:</b>				<b>0.019020</b>	<b>1000000</b>	<b>9411.1484375</b>
Die Attach	95Pb / 5 Sn	Silver (Ag)	7440-22-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000098	50000	48.4906692505		
		Lead (Pb)	7439-92-1	0.001857	950000	918.848815918		
		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>0.001955</b>	<b>1000000</b>	<b>967.339355469</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.053828	103000	26634.2441406		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.467727	895000	231432.609375		
		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	517.068908691		
		<b>Encapsulation Total:</b>				<b>0.522600</b>	<b>1000000</b>	<b>258583.9375</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000765	1000000	378.524139404		
					<b>TOTAL MASS (g) :</b>	<b>2.021007</b>		