

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

TO-220

(printed on: 2020-07-11 18:40:58)

**TOTAL MASS (g) : 2.022421**

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	0.005059	1000000	2501.45703125		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	1.457910	998500	720873.5		
		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	1082.86035156		
<b>Lead Frame Total:</b>				<b>1.460100</b>	<b>1000000</b>	<b>721956.4375</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.012534	1000000	6197.67431641		
		<b>External Plating Total:</b>				<b>0.012534</b>	<b>1000000</b>	<b>6197.67431641</b>
		Inter. Plating Ni	7440-02-0	0.017000	893796	8405.76660156		
		Inter. Plating Ag	7440-22-4	0.002020	106203.992188	998.802734375		
<b>Internal Plating Total:</b>				<b>0.019020</b>	<b>1000000</b>	<b>9404.56933594</b>		
Die Attach	95Pb / 5 Sn	Silver (Ag)	7440-22-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000117	50000	57.8514480591		
		Lead (Pb)	7439-92-1	0.002226	950000	1100.6607666		
		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>0.002343</b>	<b>1000000</b>	<b>1158.51220703</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.053828	103000	26615.6210938		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.467727	895000	231270.8125		
		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	516.707397461		
		<b>Encapsulation Total:</b>				<b>0.522600</b>	<b>1000000</b>	<b>258403.125</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000765	1000000	378.259460449		
					<b>TOTAL MASS (g) :</b>	<b>2.022421</b>		