

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

ltc1663es5#trmpbf

(Engineering Calculation)

TSOT-23

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**TOTAL MASS (g) : 0.012655**

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	0.000709	1000000	56024.2460938		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	0.004485	975000	354398.78125		
		Iron (Fe)	7439-89-6	0.000110	24000	8692.0546875		
		Phosphorus (P)	7723-14-0	0.000001	300	79.0186843872		
		Zinc (Zn)	7440-66-6	0.000003	700	237.056060791		
		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	0.000000	0	0		
<b>Lead Frame Total:</b>				<b>0.004599</b>	<b>1000000</b>	<b>363406.9375</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.000635	1000000	50195.4882812		
		<b>External Plating Total:</b>				<b>0.000635</b>	<b>1000000</b>	<b>50195.4882812</b>
		Inter. Plating Ni	7440-02-0	0.000000	0	0		
		Inter. Plating Ag	7440-22-4	0.000080	1000000	6321.49462891		
<b>Internal Plating Total:</b>				<b>0.000080</b>	<b>1000000</b>	<b>6321.49462891</b>		
Die Attach	ELECTRICALLY CONDUCTIVE ADHESIVE	Silver (Ag)	7440-22-4	0.000461	750000	36427.6132812		
		Tin (Sn)	7440-31-5	0.000000	0	0		
		Lead (Pb)	7439-92-1	0.000000	0	0		
		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)		0.000154	250000	12168.8769531		
<b>Die Attach Total:</b>				<b>0.000615</b>	<b>1000000</b>	<b>48596.4921875</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.000775	130000	61239.4804688		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.004947	830000	390905.4375		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000209	35000	16514.9042969		
		Carbon Black (C)	1333-86-4	0.000030	5000	2370.56054688		
		<b>Encapsulation Total:</b>				<b>0.005961</b>	<b>1000000</b>	<b>471030.375</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000056	1000000	4425.04638672		
					<b>TOTAL MASS (g) :</b>	<b>0.012655</b>		