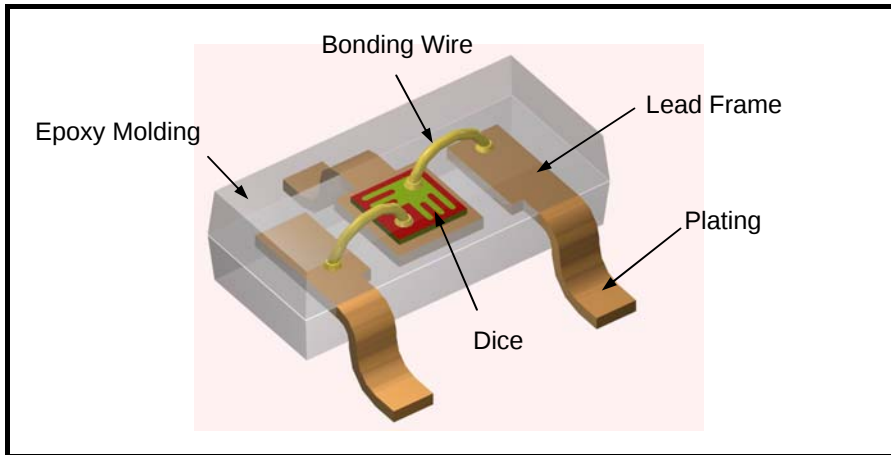


Chemical Composition of Transistor (SOT-23)

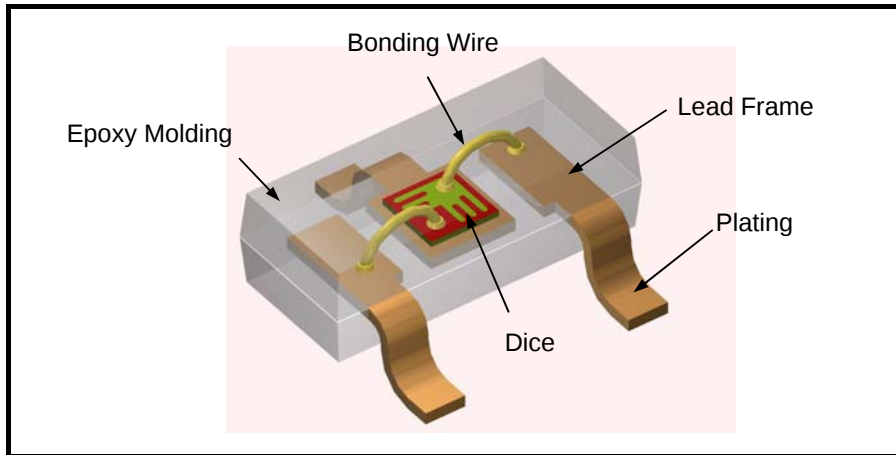


Weight: 8.72 mg / pc

15-Nov-07

Make up of material		Chemical Composition	CAS No.	Content Spec. (%)	Content (%)	Substance Weight (mg)
Plating (0.14 mg)		Sn	7440-31-5	99.95 min.	99.97	0.139958
		Others	—	0.05 max.	0.03	0.000042
Epoxy Molding (5.9526 mg)		Crystalline Silica (Quartz)	14808-60-7	70 - 90	78.2	4.6549332
		Cristobalite	14464-46-1	0 - 1	0.5	0.029763
		Bisphenol-A Epoxy Resin	1675-54-3	3 - 20	10	0.59526
		Phenolic Resin Water-Soluble	9003-35-4	2 - 15	9.5	0.565497
		Antimony Trioxide	1309-64-4	0.1 - 3	1.5	0.089289
		Carbon Black	1333-86-4	0.1 - 0.5	0.3	0.0178578
Bonding Wire (0.076 mg)		Au	7440-57-5	99.99 min.	99.998	0.07599848
		Others	—	0.01 max.	0.002	0.00000152
Lead Frame (2.526 mg)		Ni	7440-02-0	40 - 42	40.34	1.0189884
		Fe	7439-89-6	balance	59.66	1.5070116
Dice (0.0254 mg)	Basis	Si	7440-21-3	72.5	72.5	0.018415
	Obverse Metal	Al	7429-90-5	0.9	0.9	0.0002286
	Back Metal	Au	7440-57-5	26.6	26.6	0.0067564

Chemical Composition of Transistor (SOT-323)

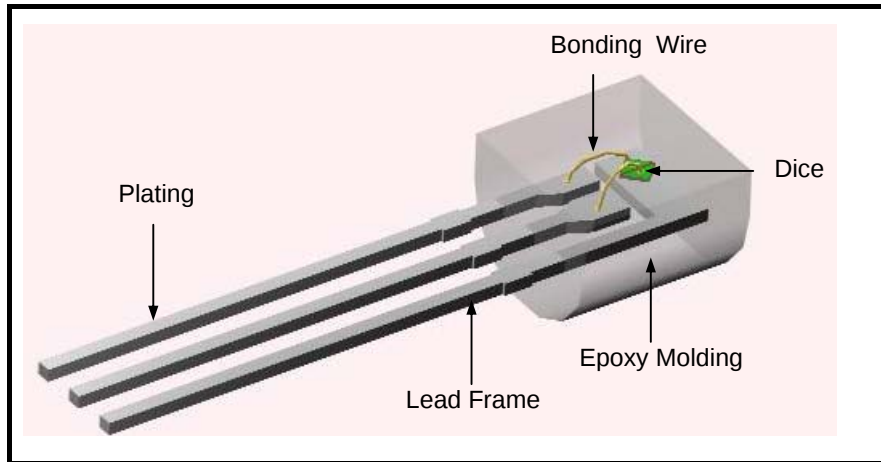


Weight: 5 mg / pc

15-Nov-07

Make up of material		Chemical Composition	CAS No.	Content Spec. (%)	Content (%)	Substance Weight (mg)
Plating (0.08 mg)		Sn	7440-31-5	99.95 min.	99.97	0.079976
		Others	—	0.05 max.	0.03	0.000024
Epoxy Molding (3.4153 mg)		Crystalline Silica (Quartz)	14808-60-7	70 - 90	78.2	2.6707646
		Cristobalite	14464-46-1	0 - 1	0.5	0.0170765
		Bisphenol-A Epoxy Resin	1675-54-3	3 - 20	10	0.34153
		Phenolic Resin Water-Soluble	9003-35-4	2 - 15	9.5	0.3244535
		Antimony Trioxide	1309-64-4	0.1 - 3	1.5	0.0512295
		Carbon Black	1333-86-4	0.1 - 0.5	0.3	0.0102459
Bonding Wire (0.044 mg)		Au	7440-57-5	99.99 min.	99.998	0.04399912
		Others	—	0.01 max.	0.002	0.00000088
Lead Frame (1.448 mg)		Ni	7440-02-0	40 - 42	40.34	0.5841232
		Fe	7439-89-6	balance	59.66	0.8638768
Dice (0.0127 mg)	Basis	Si	7440-21-3	72.5	72.5	0.0092075
	Obverse Metal	Al	7429-90-5	0.9	0.9	0.0001143
	Back Metal	Au	7440-57-5	26.6	26.6	0.0033782

Chemical Composition of Transistor (TO-92)

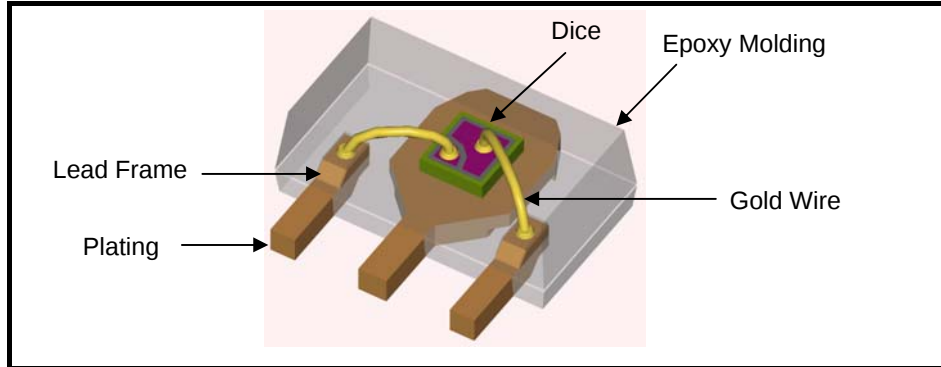


Weight: 190 mg / pc

29-Mar-08

Make up of material		Chemical Composition	CAS No.	Content Spec. (%)	Content (%)	Substance Weight (mg)
Plating (2.06 mg)		Sn	7440-31-5	99.95 min.	99.97	2.059382
		Others	—	0.05 max.	0.03	0.000618
Epoxy Molding (109.7185 mg)		Crystalline Silica (Quartz)	14808-60-7	70 - 90	78.2	85.799867
		Cristobalite	14464-46-1	0 - 1	0.5	0.5485925
		Bisphenol-A Epoxy Resin	1675-54-3	3 - 20	10	10.97185
		Phenolic Resin Water-Soluble	9003-35-4	2 - 15	9.5	10.4232575
		Antimony Trioxide	1309-64-4	0.1 - 3	1.5	1.6457775
		Carbon Black	1333-86-4	0.1 - 0.5	0.3	0.3291555
Bonding Wire (0.0065 mg)		Au	7440-57-5	99.99 min.	99.998	0.00649987
		Others	—	0.01 max.	0.002	0.00000013
Lead Frame (77.85 mg)		Fe	69012-55-1	98.569	98.569	76.7359665
		Cu	7440-50-8	0.955	0.955	0.7434675
		Ag	7440-22-4	0.476	0.476	0.370566
Dice (0.365 mg)	Basis	Si	7440-21-3	72.5	72.5	0.264625
	Obverse Metal	Al	7429-90-5	0.9	0.9	0.003285
	Back Metal	Au	7440-57-5	26.6	26.6	0.09709

Chemical Composition of Transistor (SOT-89)

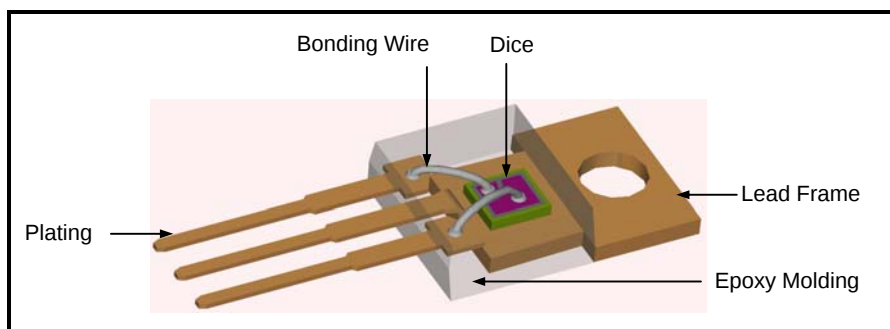


Weight: 49.7 mg / pc

15-Nov-07

Make up of material		Chemical Composition	CAS No.	Content Spec. (%)	Content (%)	Substance Weight (mg)
Plating (0.4mg)		Sn	7440-31-5	99.95 min.	99.97	0.39988
		Others	—	0.05 max.	0.03	0.00012
Epoxy Molding (27.75mg)		Crystalline Silica (Quartz)	14808-60-7	70 - 90	78.2	21.7005
		Cristobalite	14464-46-1	0 - 1	0.5	0.13875
		Bisphenol-A Epoxy Resin	1675-54-3	3.0 - 20	10.0	2.775
		Phenolic Resin Water-Soluble	9003-35-4	2.0 - 15	9.5	2.63625
		Antimony Trioxide	1309-64-4	0.1 - 3.0	1.5	0.41625
		Carbon Black	1333-86-4	0.1 - 0.5	0.3	0.08325
Gold Wire (0.05mg)		Au	7440-57-5	99.99 min.	99.998	0.049999
		Others	—	0.01 max.	0.002	0.000001
Lead Frame (21mg)		Cu	7440-50-8	100	100	21
Dice (0.5mg)	Basis	Si	7440-21-3	72.5	72.5	0.3625
	Obverse Metal	Al	7429-90-5	0.9	0.9	0.0045
	Back Metal	Au	7440-57-5	26.6	26.6	0.133

Chemical Composition of Transistor (TO-220)



Weight: 1862mg / pc

11-Jun-10

Make up of material	Chemical Composition	CAS No.	Content Spec. (%)	Content (%)	Substance Weight (mg)
Plating (58.25 mg)	Sn	7440-31-5	99.95 min.	99.97	58.2325
	Others	—	0.05 max.	0.03	0.0175
Solder (11.5 mg)	Pb	7439-92-1	78.3	78.3	9.0045
	Sn	7440-31-5	6.96	6.96	0.8004
	Ag	7440-22-4	1.74	1.74	0.2001
	Colophony	8050-9-7	5.85	5.85	0.6728
	Hexanedioic Acid	42331-63-5	0.13	0.13	0.0150
	Active Additive	—	1.17	1.17	0.1346
	Solvent	—	5.85	5.85	0.6728
Epoxy Molding (584.736 mg)	Epoxy Resin	61788-97-4	5 - 20	12	70.1683
	Phenolic Resin	9003-35-4	5 - 10	8	46.7789
	4-methylimidazole	822-36-6	1 max.	0.5	2.9237
	SiO ₂	7440-21-3	70 - 91	76.9	449.6620
	Brominated Epoxy Resin	69928-70-1	1.5 max.	0.8	4.6779
	Antimony Trioxide	1309-64-4	1.5 max.	0.8	4.6779
	Carnauba wax	8015-86-9	1 max.	0.5	2.9237
	Carbon Black	1333-86-4	1 max.	0.5	2.9237
Bonding Wire (0.014 mg)	Al	7429-90-5	98.5 min.	98.5	0.0138
	Si	7440-21-3	1.5 max.	1.5	0.0002
Lead Frame (1205 mg)	Cu	7440-50-8	99.87	99.869	1203.4215
	Fe	7439-89-6	0.03	0.03	0.3615
	P	7723-14-0	0.1	0.1	1.2050
	Ni	7440-02-0	0.001	0.001	0.0121
Dice (2.5 mg)	Si	7440-21-3	99.9	99.9	2.4975
	Al	7429-90-5	0.1	0.1	0.0025