

ON Semiconductor 7/21/2020

Base Part		HF		Pb-free
Orderable Part		AR0147ATSC00XUEA0-DPBR	Total weight (mg)	200
Homogenous Material	Weight (mg)	Substance in Mat.	CAS #	% Avg. Weight
Die	32.4	Misc.	n/a	0.38
		Silicon (Si)	7440-21-3	98.63
		Aluminum (Al)	7429-90-5	0.99
Die Attach	2.8	Bisphenol A_Epichlorohydrin polymer	25068-38-6	37.5
		Ethylene Glycol	107-21-1	1
		Sulfonium (Thiodi-4,1-phenylene)	89452-37-9	3
		Modified Silicon Dioxide (SiO2)	67762-90-7	21
		Formaldehyde Polymer	9003-36-5	37.5
Imaging Lens	28.48	Titanium Dioxide (TiO2)	13463-67-7	5.263
		Sodium Monoxide (Na2O)	1313-59-3	5.263
		Zinc Monoxide (ZnO)	1314-13-2	5.263
		Antimony Trioxide (Sb2O3)	1309-64-4	0.527
		Aluminum Trioxide (Al2O3)	1344-28-1	5.263
		Potassium Monoxide (K2O)	12136-45-7	5.263
		Silica Crystalline (SiO2)	14808-60-7	73.158
Lid Attach	1.46	2-phenoxy ethyl acrylat	48145-04-6	45
		Bisphenol A_Epichlorohydrin polymer	25068-38-6	20
		Epoxy Prepolymer	n/a	12.5
		Acrylate Oligomer	n/a	0.5
		Curative	n/a	2
		Formaldehyde Polymer	9003-36-5	20
Mold Compound-Black	65.6	Phenolic Resin	proprietary	15
		Oxirane	39817-09-9	15
		1,4-Butanediol Diglycidyl Ether (DGE)	2425-79-8	3
		Carbon Black (C)	1333-86-4	1
		Fused Silica (SiO2)	60676-86-0	64
		Silica Crystalline (SiO2)	14808-60-7	2
Solder Ball	29.5	Silver (Ag)	7440-22-4	3
		Tin (Sn)	7440-31-5	96.5
		Copper (Cu)	7440-50-8	0.5
Substrate and Solder Mask	39.48	Bis(3-ethyl-5-methyl-4-maleimidophenyl)methane	105391-33-1	1.12
		Fiber Glass (SiO2)	65997-17-3	12.96
		Zinc (Zn)	7440-66-6	0.15
		Inorganic Filler of Solder Mask_Talc (Mg3Si4O10(OH)2)	14807-96-6	2.33
		Cyanic acid (1-methylethylidene)di-4,1-phenylene ester homopolymer	25722-66-1	1.12
		Silica Amorphous (SiO2)	7631-86-9	0.58
		Chromium (Cr)	7440-47-3	0.01
		Acetophenone Derivative	proprietary	3.49
		Carbon Black (C)	1333-86-4	0.58
		2,4-Diethyl-9H-thioxanthen-9-one (DETX)	82799-44-8	0.58
		Aluminum Hydroxide (Al(OH)3)	21645-51-2	12
		Nickel (Ni)	7440-02-0	1.41
		Gold (Au)	7440-57-5	0.05
		Solvent Naphtha (Solvent oil)	64742-94-5	6.99
		Formaldehyde Polymer	9003-36-5	1.12
		Copper (Cu)	7440-50-8	37.46
		Barium Sulfate (BaSO4)	7727-43-7	18.05
Wire Bond - Au	0.28	Gold (Au)	7440-57-5	100

Materials Disclosure Disclaimer: Even though all possible efforts have been made to provide you with the most accurate information, we cannot guarantee to its accuracy since the data has been compiled based on the ranges provided, and some information provided by the subcontractors and raw material suppliers may have been withheld to protect their business proprietary information. Thus this information is provided only as estimates, and do not include trace levels for dopants and metal materials contained within silicon devices in the finished products. There is no intentional use of RoHS restricted substances. Lead (Pb) and lead oxide (PbO) are exempted with the RoHS exemption 7(a), 7(c) and 15. For further explanation on material composition calculations, please view our Product Chemical Content Brochure at:

<https://www.onsemi.com/pub/Collateral/BRD8022-D.PDF>