



### MATERIAL DATA FORM

#### Manufacturer contact Information

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Manufacturer's Part Number.	Total Mass of the Unit specified in (g):	Material Name	Substance Name	IMDS No.	Substance Mass (mg)	% Weight of Assembly	PPM of Total Assembly
SM05-7	0.0086	Die,TVS	Doped silicon	TBD	0.1069	1.25%	12482
Customer's Partnumber.		SOT-23 leadframe	Alloy 42	10791142	2.4432	28.54%	285373
			Die attached pad plating	37507916	0.1034	1.21%	12082
		Bonding wire	Gold	3399000	0.0432	0.51%	5051
		Molding compound	KTMC-1050G	89310110	5.5662	65.01%	650149
		Die attach epoxy	84-1LMISR4	TBD	0.0430	0.50%	5023
		Tin solder	Pure Tin	37508652	0.2555	2.98%	29839

Total (mg)	8.561
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Manufacturer's Part Number.	Total Mass of the Unit specified in (g):	Material Name	Generic ID	Element	CAS No.	Substance Mass (mg)	% of Weight (Sub Assembly Material)	PPM of Sub Assembly Material	PPM of Total Weight	
SM05-7	0.0086	Die,TVS	Doped silicon	Si	7440-21-3	0.1069	100.00%	1000000	12482	
Customer's Partnumber.		SOT-23 leadframe	Alloy 42	Fe	7439-89-6	1.4085	57.65%	576500	164517	
				Ni	7440-02-0	1.0017	41.00%	410000	117003	
				Mn	7439-96-5	0.0147	0.60%	6000	1712	
				Cr(not Cr 6+)	7440-47-3	0.0024	0.10%	1000	285	
				Co	7440-48-4	0.0122	0.50%	5000	1427	
				Si	7440-21-3	0.0037	0.15%	1500	428	
			Pure silver	Ag	7440-22-4	0.1034	100.00%	1000000	12082	
			Bonding wire	1.3mil	Au	7440-57-5	0.0432	100.00%	1000000	5051
			Molding compound	KTMC-1050G	SiO2	60676-86-0	3.8407	69.00%	690000	448603
					Epoxy Resin	29690-82-2	0.7793	14.00%	140000	91021
					Phenol Resin	9003-35-4	0.3896	7.00%	70000	45510
					Mg(OH)2	1309-42-8	0.4453	8.00%	80000	52012
					C	1333-86-4	0.0111	0.20%	2000	1300
			others (wax, catal	----	0.1002	1.80%	18000	11703		
			Die attached epoxy	84-1 LMISR4	Ag	7440-22-4	0.0323	75.00%	750000	3767
		epoxy resin			Trade secret	0.0086	20.00%	200000	1005	
		curing agent & hardener			Trade secret	0.0022	5.00%	50000	251	
		Tin solder	Pure Tin	Sn	7440-31-5	0.2555	100.00%	1000000	29839	
<b>Total (mg)</b>						<b>8.561</b>				

#### MATERIALS DISCLOSURE DISCLAIMER

1. The materials are disclosed according to JIG-101 "Material Composition Declaration for Electronic Products"
2. Even though all possible efforts have been made to provide you with the most accurate information, we can not guarantee its completeness and accuracy due to the fact that the data has been compiled based on information provided by our subcontractors and raw material suppliers. Complete information may not have been provided to protect their business proprietary information. Based on the above considerations this information is provided only as estimates of the average weight of these parts and the anticipated significant toxic metals components.
3. These estimates do not include trace levels of dopants and metal materials within the silicon devices contained inside of the finished products.

This product or product family does not contain any of the following substances except as **CURRENTLY** exempted by ELVII and RoHS and reported above:

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|---|--|
| <ol style="list-style-type: none"> <li>1. Antimony compounds</li> <li>2. Asbestos</li> <li>3. Azo compounds</li> <li>4. Cadmium and cadmium compounds</li> <li>5. Certain Shortchain Chlorinated Paraffins</li> </ol> | <ol style="list-style-type: none"> <li>12. Ozone Depleting Substances - Class I (CFCs, HBFCs, etc.)</li> <li>13. Ozone Depleting Substances - Class II (HCFCs)</li> <li>14. Perfluorooctane Sulphonate (PFOS) or related compounds</li> <li>15. Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) including <b>DecaBDE</b></li> </ol> |
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6. Chlorinated organic compounds	16. Polychlorinated Biphenyls (PCBs)
7. Halogens	17. Polychlorinated Naphthalenes (>3 chlorine atoms)
8. Hexavalent chromium compounds	18. Radioactive Substances
9. Lead and lead compounds	19. Tributyl Tin (TBT) and Triphenyl Tin (TPT)
10. Mercury and mercury compounds	20. Tributyl Tin Oxide (TBTO)
11. Organic tin compounds	
This product or product family meet REACH requirements for chemicals designated by the European Chemicals Agency (ECHA) as Substances of Very High Concern (SVHC) appended below:	
1. Anthracene	9. Bis (2-ethyl(hexyl)phthalate) (DEHP)
2. 4,4'- Diaminodiphenylmethane	10. Hexabromocyclododecane (HBCDD)
3. Dibutyl phthalate (DBP)	11. Bis(tributyltin)oxide (TBTO)
4. Cyclododecane	12. Lead hydrogen arsenate
5. Cobalt dichloride	13. Triethyl arsenate
6. Diarsenic pentaoxide	14. Benzyl butyl phthalate (BBP)
7. Diarsenic trioxide	15. 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)
8. Sodium dichromate, dihydrate	16. Alkanes, C10-13, chloro (SCCPs - Short Chain Chlorinated Paraffins)