International
IOR Rectifier



SOT-223

RoHS Compliance Document

Contents:

1. Composition
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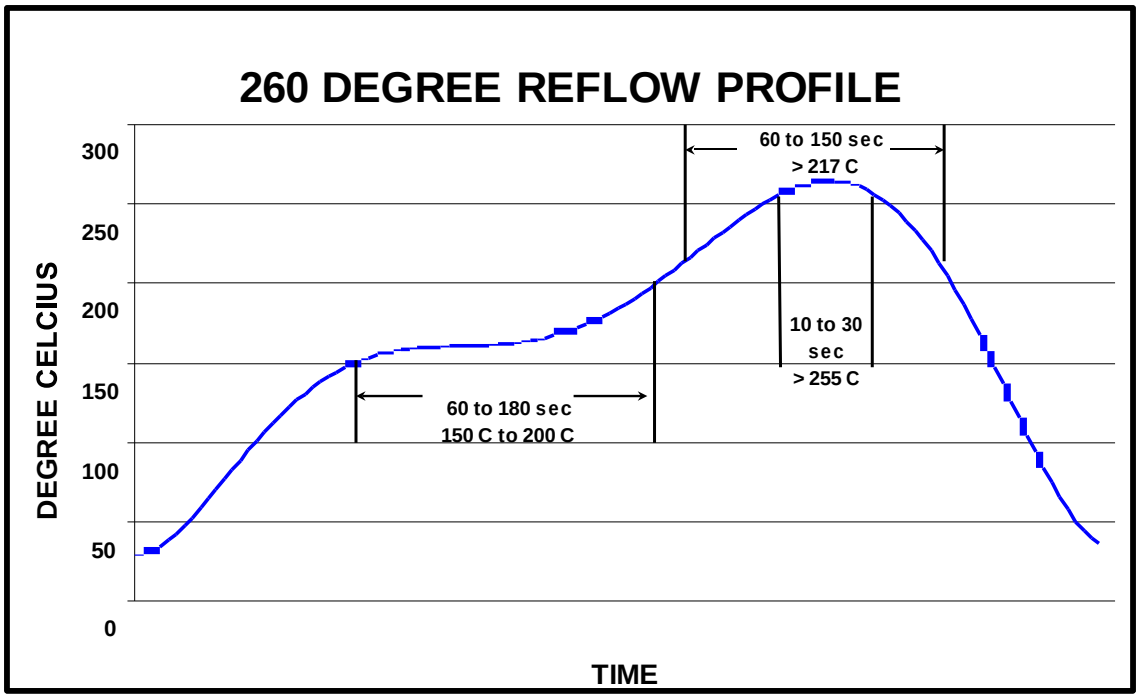
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SOT-223 BOM 1

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00280	Si	7440-21-3	0.00280	100%	2.4%
Encapsulant	Epoxy Resin	0.04600	SiO_2	7631-86-9	0.03703	80%	31.7%
			Epoxy	90598-46-2	0.00552	12%	4.7%
			Other	-	0.00345	8%	3.0%
Lead Frame	Copper	0.06430	Cu	7440-50-8	0.06261	97%	53.6%
			Other	-	0.00170	3%	1.5%
Die Attach	Soft Solder	0.00175	Pb	7439-92-1	0.00167	95.5%	1.4%
			Sn	7440-31-5	0.00004	2%	0.0%
			Ag	7440-22-4	0.00004	2.5%	0.0%
Wire Bond	Gold	0.00020	Au	7440-57-5	0.00020	100%	0.2%
Lead Finish	Matte Tin*	0.00170	Sn	7440-31-5	0.00170	100%	1.5%
			Total Weight (g)		**0.11676**		

*Tin whisker mitigation strategy is 150 °C, 1 hour anneal within 24 hours of tin plating.



This part is compliant with EU Directive 2011/65/EU (RoHS Directive) and does not contain lead, mercury, cadmium (0.01%), hexavalent chromium, PBB or PBDE in concentrations greater than 0.1%, except as permitted by Annex (7).

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July 2014

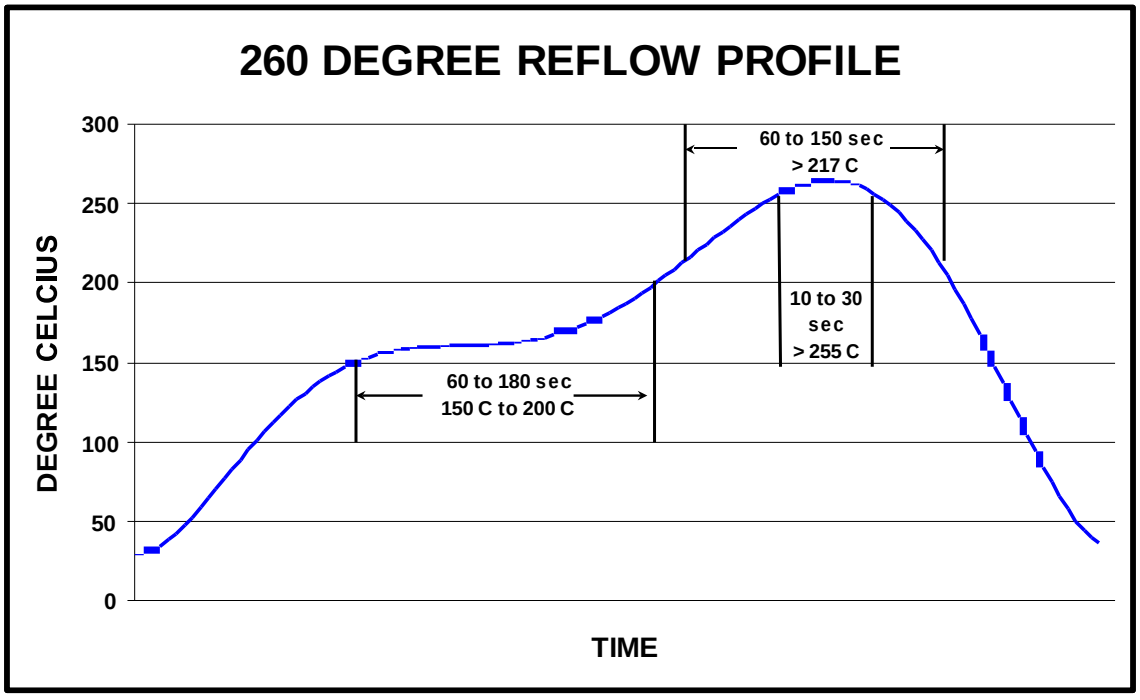
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SOT-223 BOM 2

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00280	Si	7440-21-3	0.00280	100%	2.4%
Encapsulant	Epoxy Resin	0.04600	SiO_2	7631-86-9	0.03703	80%	31.7%
			Epoxy	90598-46-2	0.00552	12%	4.7%
			Other	-	0.00345	8%	3.0%
Lead Frame	Copper	0.06430	Cu	7440-50-8	0.06261	97%	53.6%
			Other	-	0.00170	3%	1.5%
Die Attach	Soft Solder	0.00175	Pb	7439-92-1	0.00162	92.5%	1.3%
			Sn	7440-31-5	0.00009	5%	0.1%
			Ag	7440-22-4	0.00004	2.5%	0.0%
Wire Bond	Copper	0.00020	Cu	7440-50-8	0.00020	100%	0.2%
Lead Finish	Matte Tin*	0.00170	Sn	7440-31-5	0.00170	100%	1.5%
			Total Weight (g)		**0.11676**		

*Tin whisker mitigation strategy is 150 °C, 1 hour anneal within 24 hours of tin plating.



This part is compliant with EU Directive 2002/95/EC (RoHS) and does not contain lead, mercury, cadmium (0.01%), hexavalent chromium, PBB or PBDE in concentrations greater than 0.1%, except as permitted by Annex (7).

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Test Definition	Test Conditions	Inspection Interval Class 1 and 2 Products	Total Duration Class 1 and 2 Products	Maximum Whisker Length (µm)
Room Temperature Humidity	30± 2°C/60± 3% RH	1000 hours	4000 hours	20
Temperature Humidity Unbiased	55± 3°C/85± 3% RH	1000 hours	4000 hours	20
Temperature Cycling	-40 to 55°C to 80 to 95°C, air to air, 10 min soak, approx 3	500 cycles	1500 cycles	45

Tin Whisker testing per JESD201, Environmental Acceptance Requirements for Tin Whisker Susceptibility of Tin and Tin Alloy Surface Finish

Tin Whisker Results (number of failing whiskers)

Test	1000 Hours	2000 Hours	3000 Hours	4000 Hours
Room Temperature Humidity Storage	0/36	0/36	0/36	0/36
Temperature Humidity	0/36	0/36	0/36	0/36
Test	**500 Cycles**	**1000 Cycles**	**1500 Cycles**	
Temperature Cycling	0/36	0/36	0/36	

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