International Rectifier



SO-8

RoHS Compliance Document

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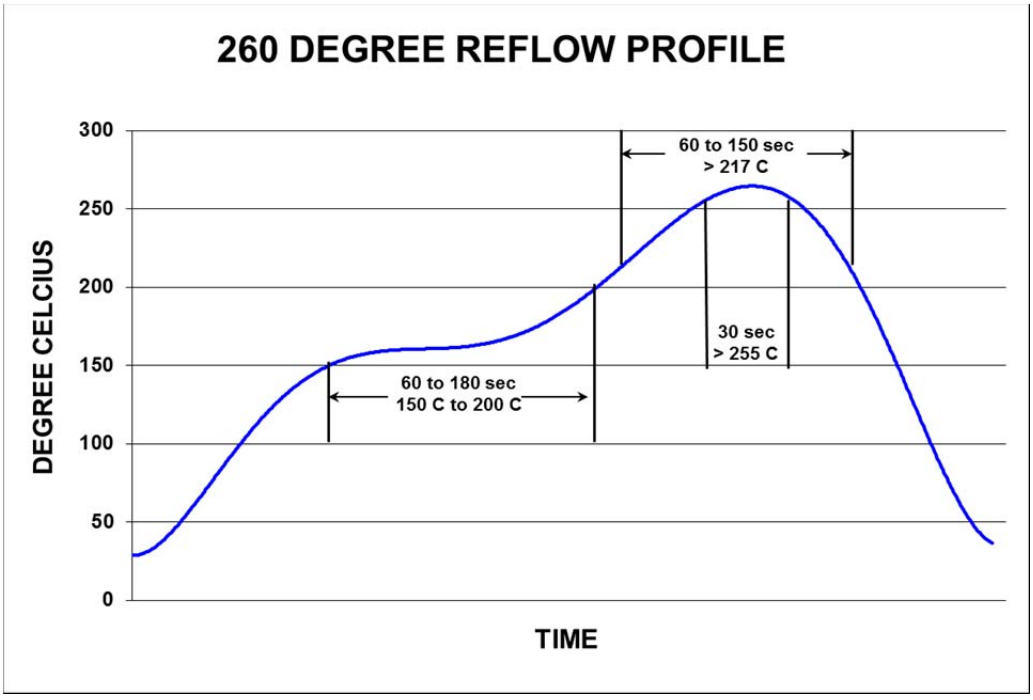
IOR International Rectifier



SO-8 BOM 1

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00262	Si	7440-21-3	0.00262	100%	3.2%
Encapsulant	Epoxy Resin	0.05006	SiO_2	7631-86-9	0.04405	88%	54.6%
			Epoxy	90598-46-2	0.00501	10%	6.2%
			Other	-	0.00100	2%	1.2%
Lead Frame	Copper	0.02426	Cu	7440-50-8	0.02363	97%	29.3%
			Fe	7439-89-6	0.00063	3%	0.8%
Die Attach	Soft Solder	0.00193	Ag	7440-22-4	0.00145	75%	1.8%
			Epoxy	90598-46-2	0.00039	20%	0.5%
			Other	-	0.00009	5%	0.1%
Wire Bond	Copper	0.00030	Cu	7440-50-8	0.00030	100%	0.4%
Lead Finish	Matte Tin*	0.00146	Sn	7440-31-5	0.00146	100%	1.8%
			Total Weight (g)		**0.08063**		

*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 III. Further part complies with 3 reflow cycles per JEDEC J-STD-020

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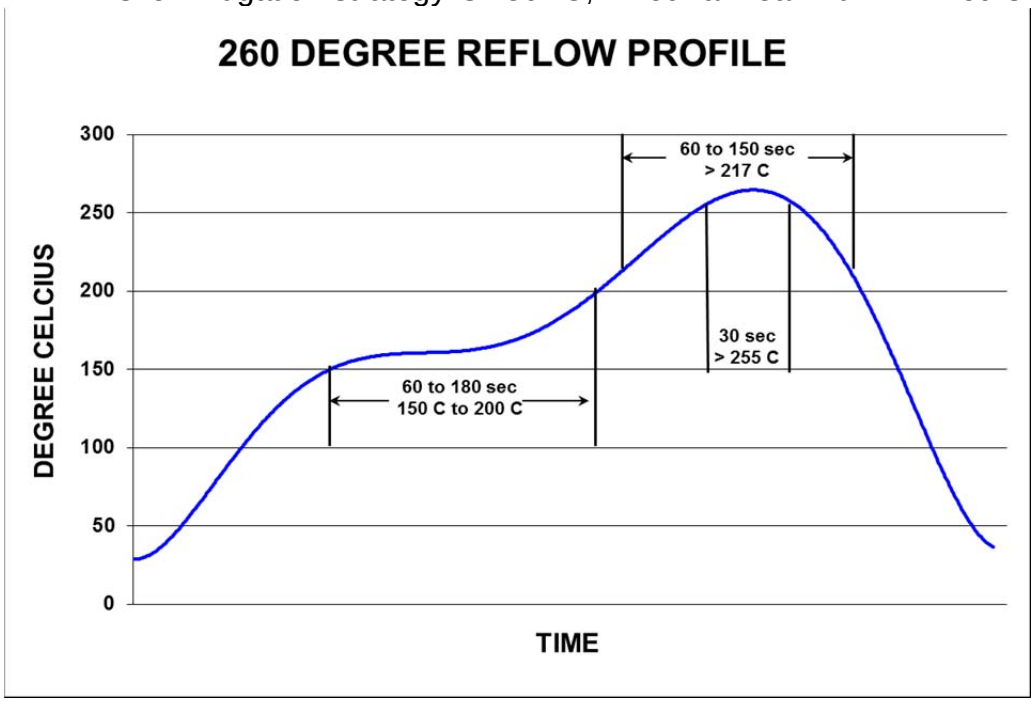
Jan. 2015



SO-8 BOM 2

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00262	Si	7440-21-3	0.00262	100%	3.2%
Encapsulant	Epoxy Resin	0.05006	SiO_2	7631-86-9	0.04405	88%	54.6%
			Epoxy	90598-46-2	0.00501	10%	6.2%
			Other	-	0.00100	2%	1.2%
Lead Frame	Copper	0.02426	Cu	7440-50-8	0.02363	97%	29.3%
			Fe	7439-89-6	0.00063	3%	0.8%
Die Attach	Silver Epoxy	0.00193	Ag	7440-22-4	0.00145	75%	1.8%
			Epoxy	90598-46-2	0.00039	20%	0.5%
			Other	-	0.00009	5%	0.1%
Wire Bond	Gold	0.00030	Au	7440-57-5	0.00030	100%	0.4%
Lead Finish	Matte Tin*	0.00146	Sn	7440-31-5	0.00146	100%	1.8%
			Total Weight (g)		**0.08063**		

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



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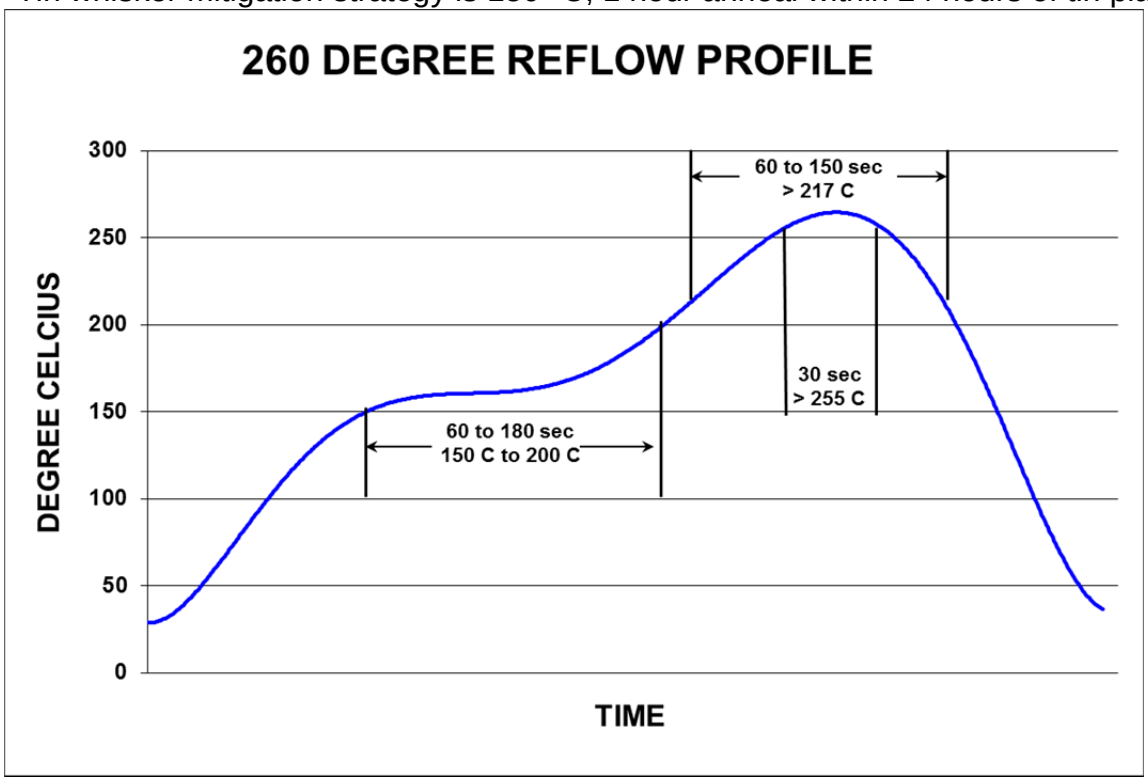
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SO-8 BOM 3

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00262	Si	7440-21-3	0.00262	100%	3.2%
Encapsulant	Epoxy Resin	0.05006	SiO_2	7631-86-9	0.04405	88%	54.6%
			Epoxy	90598-46-2	0.00501	10%	6.2%
			Other	-	0.00100	2%	1.2%
Lead Frame	Copper	0.02426	Cu	7440-50-8	0.02363	97%	29.3%
			Fe	7439-89-6	0.00063	3%	0.8%
Die Attach	Soft Solder	0.00193	Pb	7439-92-1	0.00179	92.5%	2.2%
			Sn	7440-31-5	0.00010	5%	0.1%
			Ag	7440-22-4	0.00004	2.5%	0.1%
Wire Bond	Copper	0.00030	Cu	7440-50-8	0.00030	100%	0.4%
Lead Finish	Matte Tin*	0.00146	Sn	7440-31-5	0.00146	100%	1.8%
			Total Weight (g)		**0.08063**		

*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 III. Further part complies with 3 reflow cycles per JEDEC J-STD-020

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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 Unbiase	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	0/24	0/24	0/24	0/24
Temperature Humidity	0/24	0/24	0/24	0/24
Test	**500 Cycles**	**1000 Cycles**	**1500 Cycles**	
Temperature Cycling	0/24	0/24	0/24	

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