International Rectifier

SOIC-14

RoHS Compliance Document

Contents:

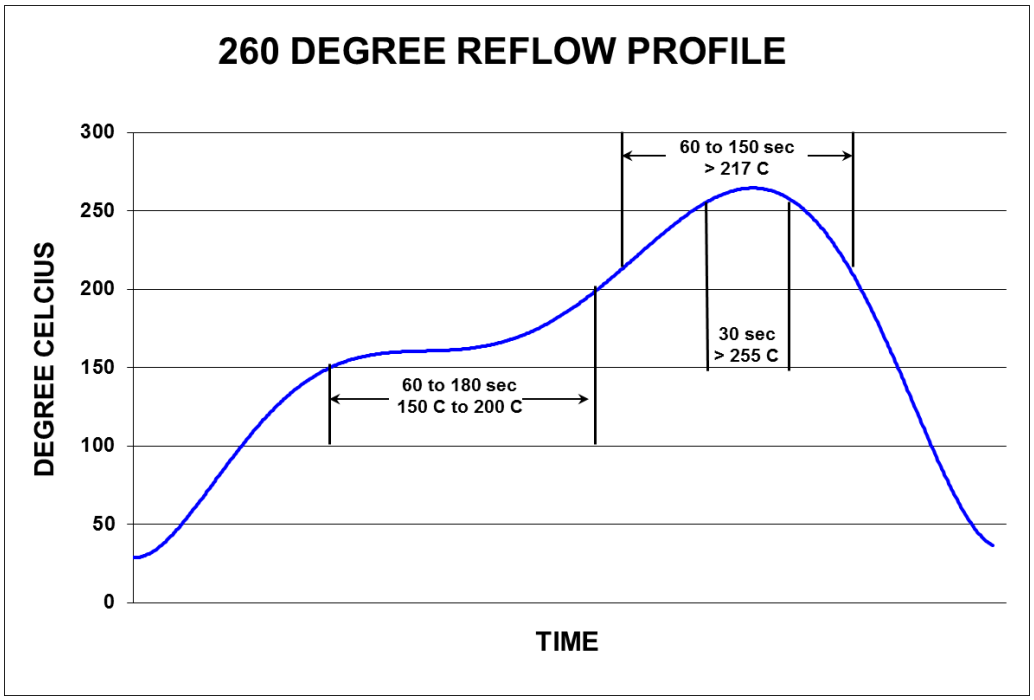
1. Composition
2. Solder Reflow
3. Tin Whisker Report

International Rectifier

SOIC-14 BOM 1

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00362	Si	7440-21-3	0.00362	100%	2.6%
Encapsulant	Epoxy Resin	0.08080	SiO_2	7631-86-9	0.06946	86%	50.5%
			Epoxy	90598-46-2	0.00992	12%	7.2%
			Other	-	0.00142	2%	1.0%
Lead Frame	Copper	0.04913	Cu	7440-50-8	0.04787	97%	34.8%
			Fe	7439-89-6	0.00126	3%	0.9%
Die Attach	Silver Epoxy	0.00108	Ag	7440-22-4	0.00085	79%	0.6%
			Epoxy	90598-46-2	0.00017	16%	0.1%
			Other	-	0.00006	6%	0.0%
Wire Bond	Gold	0.00049	Au	7440-57-5	0.00049	100%	0.4%
Lead Finish	Tin*	0.00256	Sn	7440-31-5	0.00256	100%	1.9%
			Total Weight (g)		**0.13768**		

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

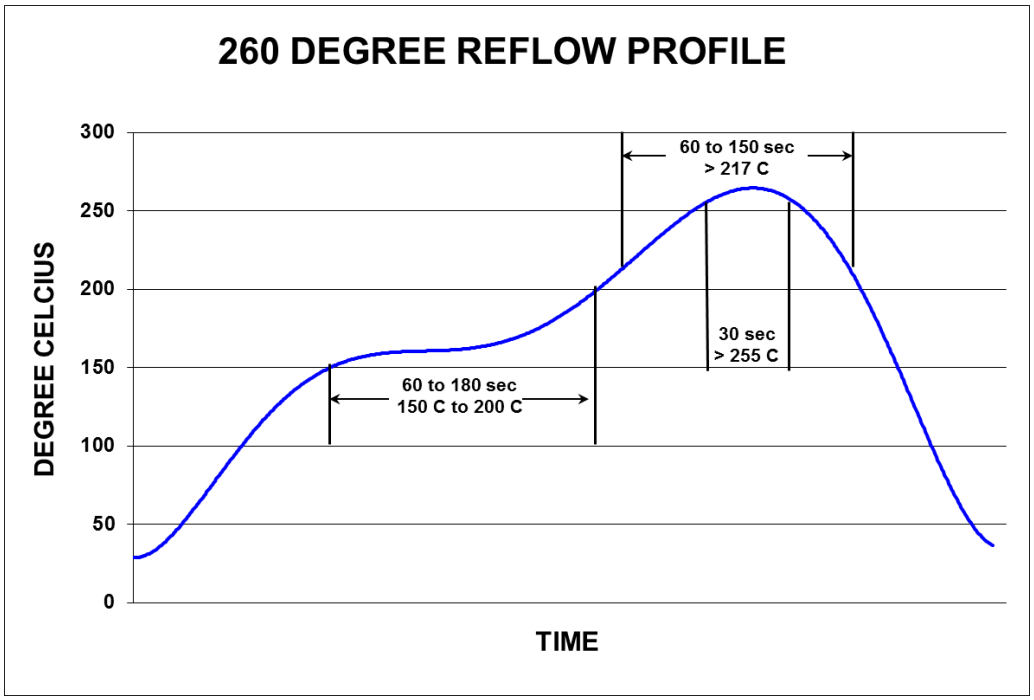


This part is compliant with EU Directive 2002/95/EC (RoHS) and does not contain lead, mercury, cadmium (0.01%), hexavalent chromium, PBB or PBDE in concentrations greater than 0.1%, except as permitted by Annex (7). Further part complies with 3 reflow cycles per JEDEC J-STD-020 (current rev).

SOIC-14 BOM 2

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.00362	Si	7440-21-3	0.00362	100%	2.6%
Encapsulant	Epoxy Resin	0.08080	SiO_2	7631-86-9	0.06946	86%	50.5%
			Epoxy	90598-46-2	0.00992	12%	7.2%
			Other	-	0.00142	2%	1.0%
Lead Frame	Copper	0.04913	Cu	7440-50-8	0.04787	97%	34.8%
			Fe	7439-89-6	0.00126	3%	0.9%
Die Attach	Silver Epoxy	0.00108	Ag	7440-22-4	0.00085	79%	0.6%
			Epoxy	90598-46-2	0.00017	16%	0.1%
			Other	-	0.00006	6%	0.0%
Wire Bond	Copper	0.00049	Cu	7440-50-8	0.00049	100%	0.4%
Lead Finish	Tin*	0.00256	Sn	7440-31-5	0.00256	100%	1.9%
			Total Weight (g)		**0.13768**		

*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). Further part complies with 3 reflow cycles per JEDEC J-STD-020 (current rev).

SOIC-14

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	