



## **64 Lead QFP**

# **RoHS Compliance Document**

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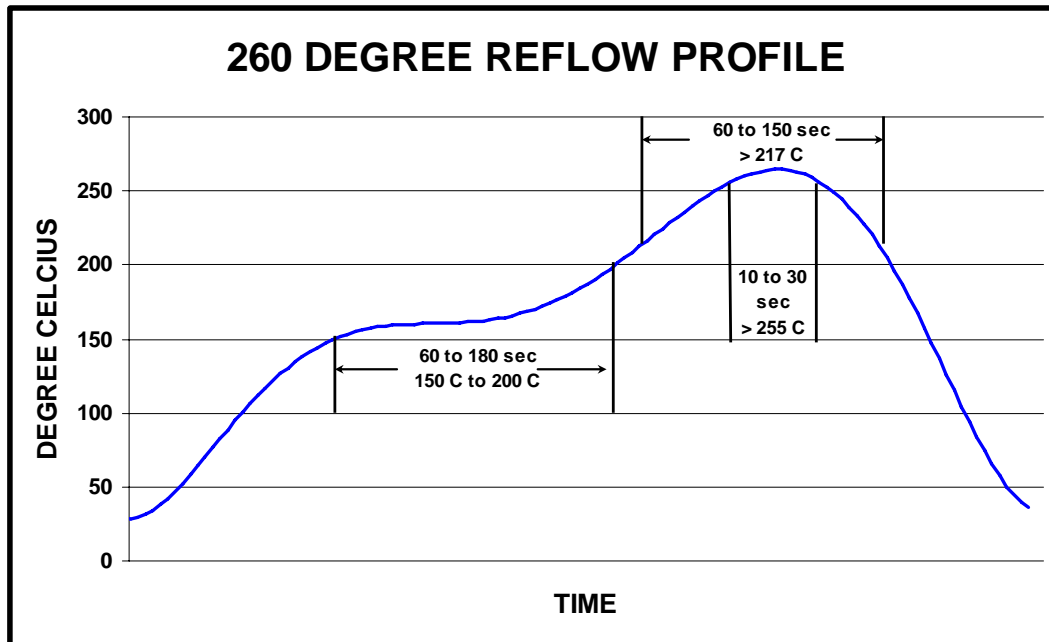
<http://www.irf.com/ehs>



**64 Lead QFP**

Component	Material Name	Material Mass (g)	Element Name Composition	CAS #	Substance Mass (g)	Material Analysis Weight (%)	% of Total Weight
Chip	Silicon	0.0140	Si	7440-21-3	0.01400	100%	3.0%
Encapsulate	Epoxy Resin	0.2500	SiO2	60676-86-0	0.22375	90%	48.4%
			Epoxy	85954-11-6	0.01250	5%	2.7%
			Phenol	26834-02-6	0.01000	4%	2.2%
			Phosphate	139189-30-3	0.00375	1%	0.8%
Lead Frame	Copper Alloy	0.1800	Cu	7440-50-8	0.17316	96%	37.5%
			Ni	7440-02-0	0.00540	3%	1.2%
			Si	7440-21-3	0.00144	1%	0.3%
Die Attach	Silver Epoxy	0.0030	Ag	7440-22-4	0.00224	75%	0.5%
			Epoxy	85954-11-6	0.00076	25%	0.1%
Wire bond	Gold	0.0013	Au	7440-57-5	0.00130	100%	0.3%
Lead Finish	Matte Tin*	0.0138	Sn	7440-31-5	0.01380	100%	3.0%
<b>Weight (g)</b>					<b>0.46210</b>		

\* 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).



**64 Lead QFP**

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

<b>Test</b>	<b>1000 Hours</b>	<b>2000 Hours</b>	<b>3000 Hours</b>	<b>4000 Hours</b>
<b>Room Temperature Humidity Storage</b>	0/24	0/24	0/24	0/24
<b>Temperature Humidity Unbiased</b>	0/24	0/24	0/24	0/24
<b>Test</b>	<b>500 Cycles</b>	<b>1000 Cycles</b>	<b>1500 Cycles</b>	
<b>Temperature Cycling</b>	0/24	0/24	0/24	