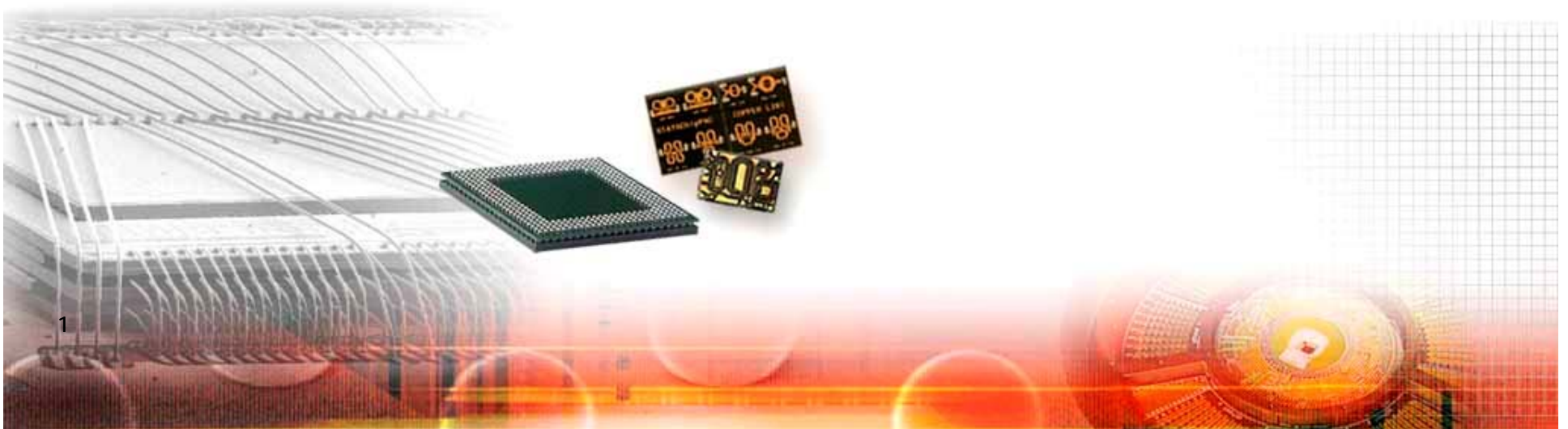




Tin Whisker Monitoring Data

Update: March 2007



Tin Whisker Monitoring

➤ REFERENCE SPECIFICATION

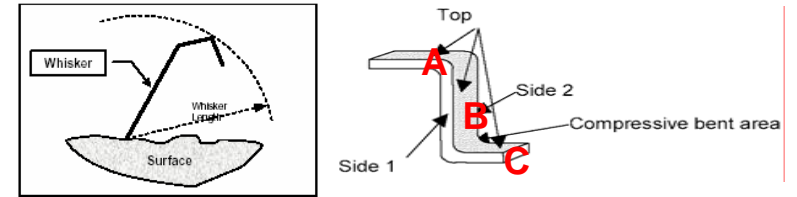
- External Specifications: JESDA121 and JESD201
- SCS PECN: QR090023WI and QR090030QP

➤ METHOD

- Measuring technique
- Measuring point



FOR LQFP (Leaded):
Top-A / Top-B / Top-C / Side-1 / Side-2 / Compressive Bend3
FOR QFNp (Leadless):
Top-A / Top-B (Front)
FOR PLCC (Gull Wing):
Top-A / Top-B (Front) / Side-1 / Side-2



➤ TEST PLAN & CONDITIONS

Package	Leads inspected	Preconditioning	Sample Size per test	TC -55(+0/-10) oC, 85(+10/-0) oC			TH 60(+/-5) oC, 87(+3/-2) %RH			Total sample size
				Readout Point			Readout Point			
20x20x1.4 144L LQFP	17, 54, 90	No reflow	6	500x	1000x	1500x	1000hrs	1500hrs	4000hrs	24
		Pb free	6							24
10x10x0.85 124L QFNp-DR	15, 47, 77	No reflow	6	500x	1000x	1500x	1000hrs	1500hrs	4000hrs	24
		Pb free	6							24

✓ A/R Criteria: <50um max whisker length (Generic); Subjected to specific customer requirement

➤ PACKAGE PLATING INFORMATION

Pkg Type	Leaframe Type	Plating Type	Plating Line	Post Bake (Anneal)
LQFP	C7025 Cu Alloy	Pure Sn	Fujisieki	150C/1hr
QFNp-dr	C194H Cu Alloy	Pure Sn	Fujisieki	150C/1hr



Tin Whisker Monitoring Schedule

Pkg	pre-con type	Assembly & Sampling	precon	pre-inspection	TC			TH		
					500x	1000x	1500x	1000	1500	4000
LQFP 20x20x1.4 144L	No reflow	07ww05-10	07ww11	07ww12-15	4-May-07	22-Jul-07	14-Oct-07	15-Jun-07	7-Sep-07	25-Nov-07
	Pb free	07ww05-10	07ww11	07ww12-15	20-May-07	6-Aug-07	26-Oct-07	27-Jun-07	15-Sep-07	3-Dec-07
QFNp-Dr 10x10x0.85 124L	No reflow	07ww05-10	07ww11	07ww12-15	27-May-07	18-Aug-07	3-Nov-07	3-Jul-07	28-Sep-07	13-Dec-07
	Pb free	07ww05-10	07ww11	07ww12-15	3-Jun-07	28-Aug-07	14-Nov-07	16-Jul-07	4-Oct-07	28-Dec-07