



Whisker Test Report

Optical 50-100X Stereomicroscope
SEM 250-300X Whisker Verification
SEM 2000X Whisker Measurement
Class 2 JESD201 (< 40 um)
Class 1 JESD201 (<100 um)

Plating Process Details
Plating 100% Matte Tin / Copper Alloy Lead frame
Min Plating Thickness (400u inch)
Post Plating Bake (PPB) 1 HR @ +150C

Aging (unbiased) +60C / 90%RH

PACKAGE	LEADS	ASSY.	INSPECTION TIMEPOINT			COND A	COND D	COND C	RESULTS	
			HRS	HRS	HRS					
							+255'C	+215'C		
PLCC	28L	AMKOR-ATP	1000	3000	5000	pass	pass		no whisker	
QFP	52L	AMKOR-ATK	4000			N/A	pass	N/A	18.50_um	
QSOP	16L	AMKOR-ATP	4000		5000	pass	pass		no whisker	
SOIC	8L	AMKOR-ATP	3000	3000	5000	pass	pass		no whisker	
TQFP	64L	AMKOR-ATK	4000			N/A	pass	N/A	26.95um	
QFP	208L	ASE	1000	3000	5000	pass	pass		no whisker	
QFP	208L	ASE	1000	3000	5000	pass	pass		no whisker	
QFP	128L	ASE	4000	5000	5000	pass	pass	pass	no whisker	
QFP	128L	ASE	4000		5000	pass	pass		no whisker	
QFP	128L	ASE	4000		5000	pass	pass	pass	no whisker	
SSOP	48L	ASE	1000*	4000*		pass	pass		31/31 um	
SPAK	7L	CARSEM	4000	4000		N/A	pass	N/A	no whisker	
SSOP	20L	CARSEM	1000	3000	5000	pass	pass		no whisker	
SSOP	20L	CARSEM	1000	3000	5000	pass	pass		no whisker	
TO263	5L	CARSEM	4000		5000	N/A	pass	N/A	no whisker	
LQFP	48L	OSE	2000	4000	7000	pass	class 1		21/49/53 um	
QFP	48L	OSE	1000	3000*	5000*	class 1	class 1		46/46 um	
QFP	128L	OSE	4000			pass	pass		no whisker	
SSOP	48L	OSE	4000			pass	pass		no whisker	
SSOP	48L	OSE	4000			N/A	pass		no whisker	
SSOP	48L	OSE	3000			N/A	pass		23 um	
SSOP	48L	OSE	3000			N/A	x	N/A	no whisker	
SSOP	48L	OSE	in progress				N/A	x	N/A	
PQFP	128L	TICP	n/a	in progress			x	x	x	
PQFP	128L	TICP	n/a	in progress			N/A	x	N/A	
PQFP	128L	TICP	n/a	4000			N/A	pass	N/A	no whisker

Aging (unbiased) +60C / 90%RH									
PACKAGE	LEADS	ASSY.	INSPECTION TIMEPOINT			COND A	COND D	COND C	RESULTS
TYPE	NO.	HOUSE	HRS	HRS	HRS		+255'C	+215'C	
MSOP	8L	UNISEM	1000	3000	5000	pass	pass		no whisker
MSOP	8L	UNISEM	1000	3000	5000*	pass	pass		27 um
MSOP	10L	UNISEM	in progress			N/A	pass	N/A	
SC70	6L	UNISEM	1000	3000	5000	pass	pass		no whisker
SOIC	8L	UNISEM	1000	3000	5000	pass	pass		no whisker
SOIC	8L	UNISEM	3000	5000	5000	pass	pass		no whisker
SOT143	4L	UNISEM	4000		5000	pass	pass	pass	no whisker
SOT143	4L	UNISEM	4000			N/A	pass	pass	no whisker
SOT143	4L	UNISEM	4000			pass	pass	pass	no whisker
SOT223	3L	UNISEM	4000		5000	pass	pass		no whisker
SOT23	6L	UNISEM	1000	3000	5000*	pass	pass		25 um
SOT23	5L	UNISEM	1000	3000	5000	pass	pass		no whisker
SOT23	5L	UNISEM	3000	5000	5000	pass	pass		no whisker
SOT23	3L	UNISEM	N/A	4000		x	x	x	no whisker
SSOP	28L	UNISEM	1000	3000	5000	pass	pass		no whisker
TO220	3L	UNISEM	1000	3000	5000		pass		28 um
TO220	5L	UNISEM	4000			pass	pass	pass	no whisker
TO92	3L	UNISEM	4000			pass	pass	pass	no whisker
TSSOP	14L	UNISEM	1000	3000	5000	pass	pass		no whisker

Ambient Storage +30C / 60%RH									
PACKAGE	LEADS	ASSY.	INSPECTION TIMEPOINT			COND A	COND D	COND C	RESULTS
TYPE	NO.	HOUSE	HRS	HRS	HRS		+255'C	+215'C	
PLCC	28L	AMKOR-ATP	1000	3000	5000	pass	pass	N/A	no whisker
QFP	52L	AMKOR-ATK	4000			N/A	pass	N/A	no whisker
QSOP	16L	AMKOR-ATP	4000		5000	pass	pass	pass	no whisker
SOIC	8L	AMKOR-ATP	3000	3000	5000	pass	pass	N/A	no whisker
TQFP	64L	AMKOR-ATK	4000			N/A	pass	N/A	no whisker
QFP	208L	ASE	1000	3000	5000	pass	pass	N/A	no whisker
QFP	208L	ASE	1000	3000	5000	pass	pass	N/A	no whisker
QFP	128L	ASE	4000	5000	5000	pass	pass	pass	no whisker
QFP	128L	ASE	4000		5000	pass	pass	N/A	no whisker
SSOP	48L	ASE	1000	4000		pass	pass	N/A	no whisker
SPAK	7L	CARSEM	4000		5000	n/a	pass	N/A	no whisker
SSOP	20L	CARSEM	1000	3000	5000	pass	pass	N/A	no whisker
SSOP	20L	CARSEM	1000	3000	5000	pass	pass	N/A	no whisker
TO263	5L	CARSEM	4000		5000	n/a	pass	N/A	no whisker

Ambient Storage +30C / 60%RH

PACKAGE TYPE	LEADS NO.	ASSY. HOUSE	INSPECTION TIMEPOINT			COND A	COND D +255'C	COND C +215'C	RESULTS
			HRS	HRS	HRS				
LQFP	48L	OSE	4000	7000		pass	pass	pass	no whisker
QFP	48L	OSE	1000	3000	5000	pass	pass	N/A	no whisker
QFP	128L	OSE	4000			pass	pass	N/A	no whisker
QFP	48L	OSE	4000			N/A	pass	pass	no whisker
SSOP	48L	OSE	4000		5000	pass	pass	N/A	no whisker
SSOP	48L	OSE	4000			N/A	pass		
SSOP	48L	OSE	4000			N/A	pass		no whisker
SSOP	48L	OSE	3000			N/A	pass	N/A	no whisker
SSOP	48L	OSE	3000			N/A	pass	N/A	no whisker
PQFP	128L	TICP	n/a	in progress		X	X	X	
PQFP	128L	TICP	n/a	in progress		N/A	X	N/A	
PQFP	128L	TICP	n/a	4000		N/A	pass	N/A	no whisker
MSOP	8L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
MSOP	8L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
MSOP	10L	UNISEM	4000			N/A	pass	N/A	no whisker
SC70	6L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
SOIC	8L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
SOIC	8L	UNISEM	3000	5000	5000	pass	pass	N/A	no whisker
SOT143	4L	UNISEM	4000		5000	pass	pass	pass	no whisker
SOT143	4L	UNISEM	4000			N/A	pass	pass	no whisker
SOT143	4L	UNISEM	4000			pass	pass	pass	no whisker
SOT223	3L	UNISEM	4000		5000	pass	pass	N/A	no whisker
SOT23	6L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
SOT23	5L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
SOT23	5L	UNISEM	3000	5000	5000	pass	pass	N/A	no whisker
SOT23	3L	UNISEM	n/a	4000		pass	pass	pass	no whisker
SSOP	28L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker
TO220	3L	UNISEM	1000	3000	5000	N/A	pass	N/A	no whisker
TO220	5L	UNISEM	4000		5000	pass	pass	pass	no whisker
TO92	3L	UNISEM	4000			pass	pass	pass	no whisker
TSSOP	14L	UNISEM	1000	3000	5000	pass	pass	N/A	no whisker

Temperature Cycling -55C to +85C

PACKAGE	LEADS	ASSY.	INSPECTION TIMEPOINT			COND A	COND D	COND C	RESULTS
TYPE	NO.	HOUSE	CYCLE	CYCLE	CYCLE		+255'C	+215'C	
PLCC	28L	AMKOR-ATP	N/A	1000	2000	pass	pass	N/A	no whisker
QFP	52L	AMKOR-ATK	N/A	1000		N/A	pass	N/A	no whisker
QSOP	16L	AMKOR-ATP	N/A	1000	2000	pass	pass	pass	no whisker
SOIC	8L	AMKOR-ATP	N/A	1000	2000	pass	pass	N/A	no whisker
TQFP	64L	AMKOR-ATK	N/A	1000		N/A	pass	N/A	no whisker

Temperature Cycling -55C to +85C

PACKAGE	LEADS	ASSY.	INSPECTION TIMEPOINT			COND A	COND D	COND C	RESULTS
TYPE	NO.	HOUSE	CYCLE	CYCLE	CYCLE		+255'C	+215'C	
QFP	208L	ASE	500	1000	2000	pass	pass	N/A	no whisker
QFP	208L	ASE	N/A	1000	2000	pass	pass	N/A	no whisker
QFP	128L	ASE	N/A	1000	2000	pass	pass	N/A	no whisker
QFP	128L	ASE	N/A	1000	2000	pass	pass	pass	no whisker
SSOP	48L	ASE	N/A	1000	2000	pass	pass	N/A	no whisker
SPAK	7L	CARSEM	N/A	1000	2000	N/A	pass	N/A	no whisker
SSOP	20L	CARSEM	500	1000	2000	pass	pass	N/A	no whisker
SSOP	20L	CARSEM	N/A	1000	2000	pass	pass	N/A	no whisker
TO263	5L	CARSEM	N/A	1000	2000	N/A	pass	N/A	no whisker
LQFP	48L	OSE	N/A	1000		N/A	pass	pass	no whisker
QFP	48L	OSE	N/A	1000	2000	pass	pass	N/A	no whisker
QFP	128L	OSE	N/A	1000	2000	pass	pass	N/A	no whisker
QFP	48L	OSE	N/A	1000		N/A	pass	pass	no whisker
SSOP	48L	OSE	N/A	1000	2000	pass	pass	pass	no whisker
SSOP	48L	OSE	N/A	1000		N/A	pass	pass	
SSOP	48L	OSE	N/A	1000		N/A	pass	pass	no whisker
SSOP	48L	OSE	in progress			N/A	x	N/A	no whisker
SSOP	48L	OSE	in progress			N/A	x	N/A	no whisker
PQFP	128L	TICP	1000			N/A	pass	N/A	
PQFP	128L	TICP	in progress			x	x	x	
PQFP	128L	TICP	in progress			N/A	xx	N/A	no whisker
MSOP	8L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
MSOP	8L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
MSOP	10L	UNISEM	in progress			N/A	pass	N/A	no whisker
SC70	6L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
SOIC	8L	UNISEM	500	1000	2000	pass	pass	N/A	no whisker
SOIC	8L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker

SOT143	4L	UNISEM	N/A	1000	2000	pass	pass	pass	no whisker
SOT143	4L	UNISEM	N/A	1000		N/A	pass	pass	no whisker
SOT143	4L	UNISEM	N/A	1000		pass	pass	pass	no whisker
SOT223	3L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
SOT23	6L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
SOT23	5L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
SOT23	5L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
SOT23	3L	UNISEM	in progress			x	x	x	no whisker
SSOP	28L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker
TO220	3L	UNISEM	500	1000	2000	N/A	pass	N/A	no whisker
TO220	5L	UNISEM	N/A	1000	2000	pass	pass	pass	no whisker
TO92	3L	UNISEM	N/A	1000		pass	pass	pass	no whisker
TSSOP	14L	UNISEM	N/A	1000	2000	pass	pass	N/A	no whisker