



RELIABILITY REPORT

DATE: 9/10/13

QUALITY ENG :	PURPOSE:			
Micrel QA	New Product Qual			
PART NUMBER (NON-EEE VER)	PART NUMBER (EEE VER)	PACKAGE TYPE	FAB LOCATION	PROCESS NAME
KSZ8081RNDCA	KSZ8091RNDCA	24L QFN (MLF)	DONGBU	0.11 um
KSZ8081RNACA/IA	KSZ8091RNACA/IA	24L QFN (MLF)	DONGBU	0.11 um
KSZ8081MNXCA/IA	KSZ8091MNXCA/IA	32L QFN (MLF)	DONGBU	0.11 um
KSZ8081RNBCA/IA	KSZ8091RNBCA/IA	32L QFN (MLF)	DONGBU	0.11 um
KSZ8081MLXCA/IA	KSZ8091MLXCA/IA	48L LQFP	DONGBU	0.11 um
KSZ8051MNLU (AUTOMOTIVE GRADE of KSZ8081XXXXX)		32L QFN (MLF)	DONGBU	0.11 um
ESD RATINGS		LATCH-UP RATING		FIT RATE:
ESD-HBM: + 6000V ESD-MM: ± 200V		I/O Trigger @ 200 mA 0/V @ ABS max Vcc or 1.5xVcc		DONGBU 0.11 um : 15.7 FIT or MTBF= 6.37x10E7 device hours (60% C.L., TA= 55°C, Ea= 0.7eV)

QUALIFICATION RESULTS

TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	168H rej/ss	1000H rej/ss	2000H rej/ss	COMMENTS
HTOL High Temperature Operating Life Test	SPEC 100-1010 TA= + 125°C Tj= + 140°C	KSZ8051MNL (automotive grade of KSZ8081/91)	M114M0901MEH	0/77	0/77	0/77	
TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	TEST		RESULTS (rej/ss)	COMMENTS
ESD-HBM Electrostatic Discharge, Human Body Model	JEDEC JESD-22-A114 TA= +25°C	KSZ8051MNLU (automotive grade of KSZ8081/91)	M11AD13MEG	+ 500V +1000V +1500V +2000V +3000V +4000V +5000V +6000V	0/3 0/3 0/3 0/3 0/3 0/3 0/3 0/3		
ESD-MM Electrostatic Discharge, Machine Model	JEDEC JESD-22-A115/ AEC-Q100-003 TA= +25°C	KSZ8051MNLU (automotive grade of KSZ8081/91)	M11AD13MEG	+ 50V + 100V + 150V + 200V	0/3 0/3 0/3 0/3		

QUALIFICATION RESULTS CONTINUE:

TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	TEST	RESULTS (rej/ss)	COMMENTS
ESD-CDM Electrostatic Discharge, Charged Device Model	JESD-22 Method C101 Ta = +25°C	KSZ8051MNLU (automotive grade of KSZ8081/91)	M11AD13MEG	+ 500V + 1000V + 1500V + 2000V	0/3 0/3 0/3 0/3	
LU Latch-Up	JESD78/ AEC-Q100- 011	KSZ8051MNLU (automotive grade of KSZ8081/91)	M11AD13MEG	I/O VO	0/6 0/6	
TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	DATE CODE	1000hrs (rej/ss)	COMMENTS
HTSL High Temperature Storage Life Test	SPEC 100-1010 TA= + 150°C	KSZ8051MNLU KSZ8051MNLU	M114L0911MEJ M11AD13MEG	1143 1214	0/45 0/45	
TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	DATE CODE	500C (rej/ss)	COMMENTS
TEMPERATURE CYCLE (AIR/AIR) COND. C Pre-conditioning 3X Reflow	Ta= Delta- 65°C/+150°C Ref# MIL STD M1010 Ref# JESD22-A104	KSZ8051MNLU KSZ8051MNLU KSZ8051MNLU	M114L0911MEJ M114L092MEB M11AD13MEG	1143 1206 1214	0/77 0/77 0/77	
TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	DATE CODE	96 hrs (rej/ss)	COMMENTS
PRESSURE POT Pre-conditioning 3X Reflow	JESD22-102 Ta= +121°C/ 100%RH	KSZ8051MNLU KSZ8051MNLU KSZ8051MNLU	M114L0911MEJ M114L092MEB M11AD13MEG	1143 1206 1214	0/77 0/77 0/77	
TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	DATE CODE	96 hrs (rej/ss)	COMMENTS
HAST Highly Accelerated Stress Test	JESD22- A110 Ta= 130C/ 85% R.H; Vcc = 3.3V	KSZ8051MNLU KSZ8051MNLU KSZ8051MNLU	M114L0911MEJ M114L092MEB M11AD13MEG	1143 1206 1214	0/77 0/76 0/77	
TEST DESCRIPTION	METHOD/ CONDITIONS	PART NO.	LOT ID.	DATE CODE	RESULTS	COMMENTS
SOLDERABILITY TEST	MIL-STD-883 TM.2003 +245C	KSZ8051MNLU	M114L092MEB	1206	0/15	