

제KT218호 (1/5)

국제공인시험기관인정서

기 관 명 : 큐알티 주식회사

사업장소재지 : 경기도 이천시 부발읍 경충대로 2091
경기도 수원시 영통구 광교로 109

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사업자등록번호 : 126-86-75409

최초인정일자 : 2004년 4월 19일

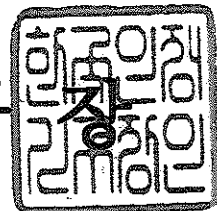
유효기간 : 2016년 6월 22일 ~ 2020년 6월 21일

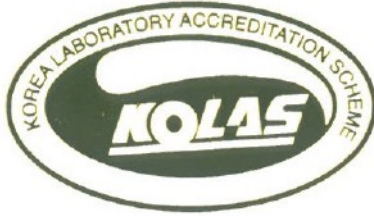
인정분야 및 범위 : 별첨 참조

상기 시험기관을 국가표준기본법 제23조 및 KS Q ISO/IEC 17025 인정요건에 의거하여 국제공인시험기관으로 인정합니다. 또한 ISO-ILAC-IAF 공동성명(2009.1.8)에 언급된 바와 같이 인정된 분야 및 범위에 대한 기술적 능력과 시험기관 품질경영시스템이 적절함을 인정합니다.

2016년 6월 22일

한국인정기구





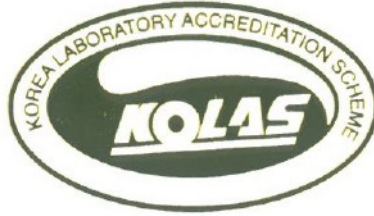
제KT218호 (2/5)

사업장소재지 : 경기도 이천시 부발읍 경충대로 2091

03. 전기시험

03.014 환경 및 신뢰성

규격번호	규격명	시험범위 또는 검출한계
AEC-Q100-005-REV-D1: 2012	NON-VOLATILE MEMORY PROGRAM/ERASE ENDURANCE, DATA RETENTION, AND OPERATIONAL LIFE TEST (제외) 3.6 Measurements 4 Failure criteria	- Temperature : (55 ~ 150) °C
AEC-Q100-008-REV-A: 2003	EARLY LIFE FAILURE RATE (ELFR) (제외) 3.3 Acceptance Criteria 3.4 Sample Disposition	- Temperature: (55 ~ 150) °C
IPC/JEDEC J-STD-020E: 2014	MOISTURE/REFLOW SENSITIVITY CLASSIFICATION FOR NONHERMETIC SOLID STATE SURFACE-MOUNT DEVICES (제외) 3.6 Electrical test 5.2 Initial electrical test 5.8 Final electrical test	- Temperature : (30 °C ~ 125) °C - Humidity : (30 ~ 85) % R.H. - Peak Temperature.: Max. 300 °C
JESD22-A101D:2015	STEADY STATE TEMPERATURE HUMIDITY BIAS LIFE TEST (제외) 5 Failure criteria	- Temperature : (60 ~ 85) °C - Humidity : (65 ~ 85) % R.H.
JESD22-A102E:2015	ACCELERATED MOISTURE RESISTANCE UNBIASED AUTOCLAVE (제외) 5 Failure criteria	- Temperature : 121 °C - Humidity : 100 % R.H. - Pressure : 205 kPa
JESD22-A103E:2015	HIGH TEMPERATURE STORAGE LIFE (제외) 4.2 Measurements 4.3 Failure criteria	- Temperature : (55 ~ 300) °C
JESD22-A104E:2015	TEMPERATURE CYCLING (제외) 5.9 Measurements 6 Failure criteria	- Temperature : (-65 ~ 150) °C
JESD22-A105C:2004	POWER AND TEMPERATURE CYCLING (제외) 4.4 Measurements 5 Failure criteria	- Temperature : (-40 ~ 125) °C
JESD22-A106B:2004	THERMAL SHOCK (제외) 4.2 Measurements 4.3 Failure criteria	- Temperature : (-65 ~ 150) °C



제KT218호 (3/5)

03.014 환경 및 신뢰성(계속)

규격번호	규격명	시험범위 또는 검출한계
JESD22-A108D:2010	TEMPERATURE, BIAS, AND OPERATING LIFE (제외) 6 Measurements 7 Failure criteria	- Temperature : (-40 ~ 160) °C
JESD22-A110E:2015	HIGHLY ACCELERATED TEMPERATURE AND HUMIDITY STRESS TEST (HAST) (제외) 5 Failure criteria	- Temperature : (110 ~ 130) °C - Humidity : (85 ~ 100)% R.H. - Pressure : (122 ~ 230 kPa)
JESD22-A113G:2015	PRECONDITIONING OF NONHERMETIC SURFACE MOUNT DEVICES PRIOR TO RELIABILITY TESTING (제외) 4.1 Initial electrical test 4.10 Final electrical test	- Temperature : (30 ~ 125) °C - Humidity : (30 ~ 85) % R.H. - Peak Temperature.: Max. 300 °C
JESD22-A117C:2011	ELECTRICALLY ERASABLE PROGRAMMABLE ROM (EEPROM) PROGRAM/ERASE ENDURANCE AND DATA RETENTION TEST (제외) 4.1.3 Electrical test verification 4.4 Measurements 5 Failure criteria and calculation	- Temperature : (55 ~ 150) °C
JESD22-A118B:2015	ACCELERATED MOISTURE RESISTANCE - UNBIASED HAST (제외) 5 Failure criteria	- Temperature : (110 ~ 130) °C - Humidity : (80 ~ 100)% R.H. - Pressure : 230 kPa
JESD22-A119A:2015	LOW TEMPERATURE STORAGE LIFE (제외) 3.2 Measurements 3.3 Failure criteria	- Temperature : (-40 ~ -65) °C
JESD22-B101C:2015	EXTERNAL VISUAL (제외) 6 Failure criteria	- Magnification : Max. 100 X
JESD22-B110B:2013	MECHANICAL SHOCK - COMPONENT AND SUBASSEMBLY (제외) 4.3 Measurements 5 Failure criteria	- Acceleration Peak: (1 000 ~ 29 000) m/s ²

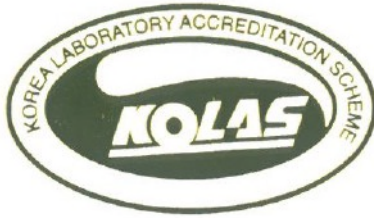


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03.014 환경 및 신뢰성(계속)

규격번호	규격명	시험범위 또는 검출한계
JESD22-B113A:2012	BOARD LEVEL CYCLIC BEND TEST METHOD FOR INTERCONNECT RELIABILITY CHARACTERIZATION OF COMPONENTS FOR HANDHELD ELECTRONIC PRODUCT (제외) 10 Electrical monitoring requirements and failure criteria	- Frequency : (1 ~ 3) Hz - Depth : (2 ~ 4) mm
JESD74A:2007	EARLY LIFE FAILURE RATE CALCULATION PROCEDURE FOR SEMICONDUCTOR COMPONENTS (제외) 4.4 Failure analysis	- Temperature : (55 ~ 150) °C





제KT218호 (5/5)

사업장소재지 : 경기도 수원시 영통구 광교로 109

03.014 환경 및 신뢰성

규격번호	규격명	시험범위 또는 검출한계
AEC-Q100-002-REV-E: 2013	HUMAN BODY MODEL (HBM) ELECTROSTATIC DISCHARGE TEST	- Voltage : (0 ~ 8 000) V
AEC-Q100-004-REV-D: 2012	IC LATCH-UP TEST (제외) 5. Failure criteria	- Current : (0 ~ 1) A - Voltage : (0 ~ 100) V
AEC-Q100-011-REV-C1: 2013	CHARGED DEVICE MODEL (CDM) ELECTROSTATIC DISCHARGE TEST (제외) 3.2.3 Relay Discharge Method 3.4 Measurements 4 Failure criteria	- Voltage : (0 ~ 3 000) V
AEC-Q101-001-REV-A: 2005	HUMAN BODY MODEL (HBM) ELECTROSTATIC DISCHARGE(ESD) TEST (제외) 3.4 Measurements 4 Failure criteria	- Voltage : (0 ~ 8 000) V
AEC-Q101-005-REV-: 2005	CHARGED DEVICE MODEL (CDM) ELECTROSTATIC DISCHARGE(ESD) TEST (제외) 3.4 Measurements 4 Failure criteria	- Voltage : (0 ~ 3 000) V
ANSI/ESDA/JEDECJS-001- 2014	ELECTROSTATIC DISCHARGE (ESD) SENSITIVITY TESTING HUMAN BODY MODEL (HBM) - COMPONENT LEVEL (제외) 6.1 Parametric and Functional Testing 6.7 Testing After Stressing 7.0 Failure criteria	- Voltage : (0 ~ 8 000) V
JESD22-A115C:2010	ELECTROSTATIC DISCHARGE (ESD) SENSITIVITY TESTING MACHINE MODEL (MM) (제외) 5 Failure criteria	- Voltage : (0 ~ 400) V
JESD22-C101F:2013	FIELD-INDUCED CHARGED-DEVICE MODEL TEST METHOD FOR ELECTROSTATIC DISCHARGE WITHSTAND THRESHOLDS OF MICROELECTRONIC COMPONENTS (제외) 11 Failure criteria	- Voltage : (0 ~ 3 000) V
JESD78D:2011	IC LATCH-UP TEST (제외) 5 Latch-up detection criteria	- Current : (0 ~ 1) A - Voltage : (0 ~ 100) V

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