

Cypress Semiconductor Package Qualification Report

**QTP# 071201 VERSION 1.0
May 2007**

**0.9 mil Au Wirebond Diameter
CML-R**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PRODUCT QUALIFICATION HISTORY

Qual Report	Description of Qualification Purpose	Date Comp
071201	Reduction of 99.99% Au Wirebond Diameter from 1.0 to 0.9mils on Cypress Packages built @CML-R. ONLY CCD and MID devices are covered on this Qual.	May 07

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Storage	150C, no bias	P
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc Max = 2.25V, 150C	P
High Accelerated Saturation Test (HAST)	130C, 85%RH, 3.3/3.65/5.5V Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30°C/60% RH+3IR-Reflow, 260°C +0, -5°C	P
Pressure Cooker	121C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30°C/60% RH+3IR-Reflow, 260°C +0, -5°C	P
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30°C/60% RH+3IR-Reflow, 260°C +0, -5°C Precondition: JESD22 Moisture Sensitivity Level 1 168 Hrs, 85°C/85% RH+3IR-Reflow, 260°C +0, -5°C	P

Reliability Test Data

QTP #: 071201

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.25V, Vcc Max							
CY7C1370D (7C1370E)	4626922	610659757	CML-R	48	606	0	
CY7C1370D (7C1370E)	4626922	610659758	CML-R	48	2172	0	
CY7C1383D (7C13830E)	4637114	610668186	CML-R	48	4968	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.3V, PRE COND 192 HRS 30C/60%RH, MSL3							
CY7C1354G (7C1354G)	4634992	610662541	CML-R	128	47	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.65V, PRE COND 192 HRS 30C/60%RH, MSL3							
CY1354CV25 (7C13542C)	4642027	610701478	CML-R	128	80	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V, PRE COND 192 HRS 30C/60%RH, MSL3							
CY8C24223A (8C24223B)	2627714	610660682	CML-R	128	50	0	
STRESS: PRESSURE COOKER TEST, 121C, 15 Psig, PRE COND 192 HRS 30C/60%RH, MSL3							
CY7C1354G (7C1354G)	4634992	610662541	CML-R	168	50	0	
CY1354CV25 (7C13542C)	4642027	610701478	CML-R	168	80	0	
CY8C24223A (8C24223B)	2627714	610660682	CML-R	168	50	0	
STRESS: TC CONDITION C, -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY7C1354G (7C1354G)	4634992	610662541	CML-R	300	49	0	
CY7C1354G (7C1354G)	4634992	610662541	CML-R	500	49	0	
CY7C1354G (7C1354G)	4634992	610662541	CML-R	1000	49	0	
CY1354CV25 (7C13542C)	4642027	610701478	CML-R	500	80	0	
CY1354CV25 (7C13542C)	4642027	610701478	CML-R	1000	80	0	
CY7C1021CV33 (7C1321G)	4640309	610672017	CML-R	500	80	0	
CY7C1021CV33 (7C1321G)	4640309	610672017	CML-R	1000	80	0	
CY7C1019CV33 (7C1319G)	4644649	610701194	CML-R	500	80	0	
CY7C1019CV33 (7C1319G)	4644649	610701194	CML-R	1000	79	0	
CY8C24223A (8C24223B)	2627714	610660682	CML-R	300	50	0	
CY8C24223A (8C24223B)	2627714	610660682	CML-R	500	50	0	
CY28419ZC (7C828419F)	4608940	601662966	CML-R	300	48	0	
CY28419ZC (7C828419F)	4608940	601662966	CML-R	500	48	0	
CY82409OXCT (7C828409D)	4608980	601672680	CML-R	500	80	0	

Reliability Test Data

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<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
STRESS: HIGH TEMPERATURE STORAGE							
CY7C1354G (7C1354G)	4634992	610662541	CML-R	500	50	0	
CY7C1354G (7C1354G)	4634992	610662541	CML-R	1000	50	0	
CY1354CV25 (7C13542C)	4642027	610701478	CML-R	500	80	0	
CY1354CV25 (7C13542C)	4642027	610701478	CML-R	1000	80	0	
CY7C1021CV33 (7C1321G)	4640309	610672017	CML-R	500	80	0	
CY7C1021CV33 (7C1321G)	4640309	610672017	CML-R	1000	80	0	
CY8C24223A (8C24223B)	2627714	610660682	CML-R	500	50	0	
CY8C24223A (8C24223B)	2627714	610660682	CML-R	1000	50	0	
CY82409OXCT (7C828409D)	4608980	601672680	CML-R	500	80	0	
CY82409OXCT (7C828409D)	4608980	601672680	CML-R	1000	80	0	