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Cypress Semiconductor Automotive Product Qualification Report

QTP# 034402 VERSION*D
June 2018

SRAM Automotive Device Family R7FD-3R Technology, Fab4	
CY7C1019CV33	1-Mbit (128K X 8) Static RAM
CY7C1020CV26	32K x 16 Static RAM
CY7C1020CV33	32K x 16 Static RAM
CY7C1021CV26	1-Mbit (64K x 16) Static RAM
CY7C1021CV33	1-Mbit (64K x 16) Static RAM
CY7C1049CV33	512k x 8 Static RAM
CY7C10212CV33	1-MBIT (64 K X 16) STATIC RAM

FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT
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PACKAGE QUALIFICATION HISTORY

Qual Number	Description of Qualification Purpose	Date Comp
034402	CY7C1020CV33, 512Kb and family on R7FD-3R Technology from Fab4, AEC-Q100 Automotive Application	Jul 04
050503	Industrial Temp Qualification for Automotive Device CY7C1020CV33-15ZXE, R7FD-3R (44 TSOP II, Pb-free)	Mar 05
101602	Qualify 1Meg R7FD-3R x8 I/O's Fast Asynch on Automotive Application	June 10

PRODUCT DESCRIPTION (for qualification)	
Qualification Purpose: Qualify 7C1320G (512Kb, 3.3V) / 7A1319G device and family on R7FD-3R Technology for Automotive Application	
Marketing Part #:	CY7C1020CV26, CY7C1020CV33, CY7C1021CV26, CY7C1021CV33, CY7C1041CV33, CY7C1049CV33, CY7C1019CV33, CY7C10212CV33
Device Description:	3.3V, Automotive
Cypress Division:	Cypress Semiconductor Corporation – MCU and Connectivity Division (MCD)

TECHNOLOGY/FAB PROCESS DESCRIPTION – S4AD-5			
Number of Metal Layers:	Proprietary	Metal Composition:	Proprietary
Passivation Type and Materials:		Proprietary	
Generic Process Technology/Design Rule (□-drawn):		Proprietary	
Gate Oxide Material/Thickness (MOS):		Proprietary	
Name/Location of Die Fab (prime) Facility:		Cypress Semiconductor - Bloomington, MN	
Die Fab Line ID/Wafer Process ID:		Fab4/ R7FD-3R	

PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY FACILITY SITE
44-Lead TSOP II	**CML-R**
32-Lead TSOP	**OSET-T**

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZS44
Package Outline, Type, or Name:	44 Lead Thin Small Outline Package (TSOP II)
Mold Compound Name/Manufacturer:	Hitachi CEL9200CYR
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	85% Sn, 15% Pb
Die Backside Preparation Method/Metallization:	Grinding
Die Separation Method:	Sawing
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 509
Wire Bond Method:	Thermo sonic
Wire Material/Size:	Au, 1. 0 mil (25.4um)
Thermal Resistance Theta JA °C/W:	76.92°C/W
Package Cross Section Yes/No:	No
Name/Location of Assembly (prime) facility:	Cypress Philippines (CML-R)

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZW32A
Package Outline, Type, or Name:	32-Lead TSOP II
Mold Compound Name/Manufacturer:	CEL9200HF
Mold Compound Flammability Rating:	V-O per UL94
Mold Compound Alpha Emission Rate:	Maximum 0.005 C/cm2.hr
Oxygen Rating Index:	50%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Sawing
Die Attach Supplier:	Hitachi
Die Attach Material:	EN4900G
Die Attach Method:	Epoxy
Bond Diagram Designation:	001-54166
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.0mil (25.4um)
Thermal Resistance Theta JA °C/W:	68.67
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-35029
Name/Location of Assembly (prime) facility:	OSE (T)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-R

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Operating Life Early Failure Rate	AEC-Q100-008 and JESD22-A108 Dynamic Operating Condition, Vcc = 2.3V, 150°C Dynamic Operating Condition, Vcc Max = 2.07V, 150°C	P
High Temperature Operating Life Latent Failure Rate	JESD22-A108, 150°C Dynamic Operating Condition, Vcc Max = 2.3V, 150°C Dynamic Operating Condition, Vcc = 2.75V, 150°C	P
High Accelerated Saturation Test (HAST)	JESD22-A110, 130°C, 3.65V,85%RH Precondition: JESD22-A113 Moisture Sensitivity MSL 3 192 Hrs, 30C/60%RH+3IR-Reflow, 235°C+0, -5°C JESD22-A110, 130°C, 3.63V, 85%RH Precondition: JESD22-A113 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
High Temperature Storage Life Test	JESD22-A103, 150°C	P
Temperature Cycle	JESD22-A104, -65°C to 150°C Precondition: JESD22-A113 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+3IR-Reflow, 235° / 260°C+0, -5°C	P
Pressure Cooker	JESD22-A102, 121C, 100%RH, 15 Psig Precondition: JESD22-A113 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+3IR-Reflow, 235° / 260°C+0, -5°C	P
Electrostatic Discharge Human Body Model (ESD-HBM)	AEC-Q100-002 500V/1000V/1500V/2000V	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	AEC-Q100-011 250V/500V/750V	P
Acoustic Microscopy	JEDEC JSTD-020	P
Electrical Distributions	AEC-Q100-009	
Ball Shear	AEC-Q100-001	P
Bond Pull	Mil-Std 883, Method 2011	P
Final Visual Inspection	JESD22-B101	P
Lead Finish Adhesion	MIL-STD-883, Method 2025	P
Physical Dimensions	JESD22-B100/108	P
Post Temp Cycle Wire Bond Pull	Mil-Std 883, Method 2011	P
Solderability	JESD22-B102	P
Static Latch-up	AEC-Q100-004, 125°C, 5.4V, ± 140mA	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Dye Penetrant Test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P

RELIABILITY FAILURE RATE SUMMARY

Stress/Test	Device Tested/ Device Hours	# Fails	Activation Energy	Thermal AF [1,3]	Failure Rate[4]
High Temperature Operating Life Early Failure Rate	40,876 Devices	0	N/A	N/A	0 PPM
High Temperature Operating Life[1,2] Long Term Failure Rate	552,496 DHRs*	0	0.7	170	10 FIT [2]

[1] Assuming an ambient temperature of 55°C and a junction temperature rise of 15°C.
[2] Chi-squared 60% estimations used to calculate the failure rate.
[3] Thermal Acceleration Factor is calculated from the Arrhenius equation
[4] Fit rate calculation based on limited sample size and device hours

$$AF = \exp\left[\frac{E_A}{k}\left[\frac{1}{T_2} - \frac{1}{T_1}\right]\right]$$

where:

E_A =The Activation Energy of the defect mechanism.
k = Boltzmann's constant = 8.62×10^{-5} eV/Kelvin.
T_1 is the junction temperature of the device under stress and T_2 is the junction temperature of the device at use conditions.

Note:*- *Fit Rate calculation includes QTP034403, QTP101602 & MR#083070 LFR data*

Reliability Test Data

QTP #: 034402

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.3V, Vcc Max							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	24	839	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	24	839	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	24	832	0	
CY7C1020CV26 (7A13206G)	4629915	610658431	CML-R	48	3186	0	
CY7C1020CV26 (7A13206G)	4629915	610658432	CML-R	48	3734	0	
CY7C1020CV26 (7A13206G)	4629915	610658470	CML-R	48	3788	0	
CY7C1020CV26 (7A13206G)	4642770	610673953	CML-R	48	3189	0	
CY7C1020CV26 (7A13206G)	4642770	610673954	CML-R	48	2963	0	
CY7C1020CV26 (7A13206G)	4642770	610673952	CML-R	48	2982	0	
CY7C1020CV26 (7A13206G)	4640309	610673955	CML-R	48	3269	0	
CY7C1020CV26 (7A13206G)	4640309	610673956	CML-R	48	3582	0	
CY7C1020CV26 (7A13206G)	4640309	610673957	CML-R	48	3581	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.3V, Vcc Max							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	48	80	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	80	80	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	408	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	48	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	80	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	408	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	48	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	80	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	408	80	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114, 500V							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114, 1,000V							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	3	0	

Reliability Test Data

QTP #: 034402

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114, 1,500V							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114, 2,000V							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL, 250V							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL, 750V (Corner Pins)							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	6	0	
STRESS: BOND PULL							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	5	0	
STRESS: STATIC LATCH-UP TESTING, 125C, 5.45 V, ±100mA							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	6	0	
STRESS: ELECTRICAL DISTRIBUTIONS							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	30	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	COM	30	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	COMP	30	0	
STRESS: HIGH TEMPERATURE STORAGE, 150ºC							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	500	80	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	1000	80	0	
STRESS: PHYSICAL DIMENSIONS							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	30	0	
STRESS: SOLDERABILITY							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	15	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	COMP	15	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	COMP	15	0	
STRESS: BALL SHEAR							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	5	0	

Reliability Test Data

QTP #: 034402

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: EXTERNAL VISUAL							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	COMP	1351	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	COMP	1199	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	COMP	1197	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.65V, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	96	77	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	128	77	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	96	75	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	128	75	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	96	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	128	80	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	96	80	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	168	77	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	96	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	168	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	96	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	168	80	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH, MSL3							
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	300	80	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	500	80	0	
CY7C1020CV33 (7C1320G)	4320164	610345596	CML-R	1000	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	300	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	500	80	0	
CY7C1020CV33 (7C1320G)	4210573	610347340	CML-R	1000	80	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	300	78	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	500	78	0	
CY7C1020CV33 (7C1320G)	4329858	610344870	CML-R	1000	78	0	

Reliability Test Data

MR #: MR083070

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.3V, Vcc Max							
CY7C1021CV33 (7C1321G)	4752040	610832964	CML-R	24	299	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.3V, Vcc Max							
CY7C1021CV33 (7C1321G)	4752040	610832964	CML-R	512	298	0	
CY7C1021CV33 (7C1321G)	4752040	610832964	CML-R	1012	298	0	

Reliability Test Data

QTP #: 101602

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	22	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	COMP	22	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	COMP	22	0	
STRESS: BALL SHEAR							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	5	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	COMP	5	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	COMP	5	0	
STRESS: BOND PULL							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	5	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	COMP	5	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	COMP	5	0	
STRESS: CONSTRUCTIONAL ANALYSIS							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	5	0	
STRESS: DYE PENETRANT TEST							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	15	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	COMP	15	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	COMP	15	0	
STRESS: ESD-CHARGE DEVICE MODEL, 250V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL, 750V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114, 500V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114 , 1,000V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	

Reliability Test Data

QTP #: 101602

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114, 1,500V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114, 2,000V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114, 4,000V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114, 6,000V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22-A114, 8,000V							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	3	0	
STRESS: STATIC LATCH-UP TESTING, 125C, 5.4V, +/- 140mA							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	6	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.07V, Vcc Max							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	48	2085	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	48	2878	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	48	2830	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.07V, Vcc Max							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	408	125	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	408	125	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	408	125	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	96	80	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	96	80	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	96	80	0	
STRESS: HIGH TEMP STORAGE, 150C							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	1000	85	0	
STRESS: LEAD FINISH ADHESION							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	5	0	

Reliability Test Data

QTP #: 101602

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: PHYSICAL DIMENSIONS							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	10	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	COMP	10	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	COMP	10	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	96	84	0	
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	168	84	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	96	85	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	168	85	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	96	85	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	168	85	0	
STRESS: SOLDERABILITY							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	COMP	15	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	COMP	15	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	COMP	15	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY7C1019CV33 (7A1319GC)	4935215	610940163	T-TAIWAN	500	84	0	
CY7C1019CV33 (7A1319GC)	4935215	610940164	T-TAIWAN	500	85	0	
CY7C1019CV33 (7A1319GC)	4935215	610940165	T-TAIWAN	500	85	0	

Document History Page

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Rev.	ECN No.	Orig. of Change	Description of Change
**	3000656	NSR	Initial Spec Release Added device CY7C1019CV33 and QTP101602 data into qualification report of QTP034402 (Ref. Memo HGA-680)
*A	3716028	NSR	Removed VERSION 6.0 in the title page. Removed reference Cypress spec in the reliability tests performed table and reflect the reference industry standards.
*B	4490360	JYF	Sunset Review: -Updated QTP title page for template alignment. -Updated device division from “Memory and Imaging Division” to “Programmable System Division”
*C	4736809	HSTO	Deleted CY7C1041CV33 MPN in front page.
*D	6206762	HSTO	Update Cypress Logo Update Reliability Contact Person Update Technology/Fab Description Table and Cypress Division Added “um” unit of measurement for wire diameter Added “CY7C10212CV33” in MPN list

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