

# **Cypress Semiconductor Molding Compound Qualification Report**

**QTP# 024603 VERSION 1.0**

**April, 2003**

**Sumitomo EME 7320CR Molding Compound  
Thin Quad Flat Pack 14 x 14 x 1.4mm (TQFP)  
Anam Seoul - Korea**

**CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:**

Ed Russell  
Reliability Director  
(408) 432-7069

Banjie Bautista  
Quality Systems Engineering  
(408) 545-7177

**PACKAGE QUALIFICATION HISTORY**

<b>QUAL REPORT</b>	<b>DESCRIPTION OF QUALIFICATION PURPOSE</b>	<b>DATE COMP.</b>
024603	New Molding Compound Sumitomo EME 7320CR , 120lead TQFP Package, MSL5, Anam - Seoul Korea	Dec 02

<b>MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION</b>	
<b>Package Designation:</b>	AT120
<b>Package Outline, Type, or Name:</b>	120 Lead Thin Quad Flat Packs
<b>Mold Compound Name/Manufacturer:</b>	Sumitomo EME 7320CR
<b>Mold Compound Flammability Rating:</b>	V-O per UL94
<b>Oxygen Rating Index:</b>	> 28%
<b>Lead Frame Material:</b>	Copper
<b>Lead Finish, Composition / Thickness:</b>	Solder Plate, 85 % Sn, 15 % Pb
<b>Die Backside Preparation Method/Metallization:</b>	N/A
<b>Die Separation Method:</b>	Wafer Saw
<b>Die Attach Supplier:</b>	Ablestik
<b>Die Attach Material:</b>	8361J
<b>Bond Diagram Designation</b>	10-04667
<b>Wire Bond Method:</b>	Thermosonic
<b>Wire Material/Size:</b>	Gold/ 1.2mil
<b>Thermal Resistance Theta JA °C/W:</b>	31.5°C/W
<b>Package Cross Section Yes/No:</b>	N/A
<b>Assembly Process Flow:</b>	49-10044
<b>Name/Location of Assembly (prime) facility:</b>	Anam-Seoul Korea

<b>ELECTRICAL TEST / FINISH DESCRIPTION</b>	
<b>Test Location:</b>	Anam-Seoul Korea
<b>Fault Coverage:</b>	100%

**Note:** Please contact a Cypress Representative for other packages availability.

**RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS**

<b>Stress/Test</b>	<b>Test Condition (Temp/Bias)</b>	<b>Result P/F</b>
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL 5 72 Hrs., 30°C/60%RH+3IR-Reflow, 220°C+5, -0°C	P
Pressure Cooker	121°C, 100%RH Precondition: JESD22 Moisture Sensitivity MSL 5 72 Hrs, 30C/60%RH+3IR-Reflow, 220°C+5, 0°C	P
Acoustics	Cypress Spec 12-00292	P

## Reliability Test Data

**QTP #: 024603**

<b>Device</b>	<b>Fab Lot #</b>	<b>Assy Lot #</b>	<b>Ass Loc</b>	<b>Duration</b>	<b>Samp</b>	<b>Rej</b>	<b>Failure Mechanism</b>
<b>STRESS: ACOUSTIC, MSL5</b>							
CY7B9532V-ATC (7B9532B)	4146730	610221964/1362	SEOL-L	COMP	15	0	
CY7B9532V-ATC (7B9532B)	4216860	610232117/7731	SEOL-L	COMP	15	0	
CY7B9532V-ATC (7B9532B)	4217949	610216718/0384	SEOL-L	COMP	15	0	
<b>STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL5</b>							
CY7B9532V-ATC (7B9532B)	4216860	610232117/7731	SEOL-L	168	45	0	
CY7B9532V-ATC (7B9532B)	4217949	610216718/0384	SEOL-L	168	45	0	
<b>STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH, MSL5</b>							
CY7B9532V-ATC (7B9532B)	4146730	610221964/1362	SEOL-L	300	44	0	
CY7B9532V-ATC (7B9532B)	4216860	610232117/7731	SEOL-L	300	45	0	
CY7B9532V-ATC (7B9532B)	4217949	610216718/0384	SEOL-L	300	44	0	