



Statement of Material Content  
 Ceramic LCC Packages  
 STK11C68-L  
 STK12C68-L  
 STK14C88-L

This package type is not available in a lead-free version.

Detail	Unit	28 350 LEADLESS CHIP CARRIER	32 450 LEADLESS CHIP CARRIER
<b>PACKAGE MATERIALS</b>			
Simtek Package ID		L [hot solder dip lead finish]	L [hot solder dip lead finish]
Pin/Lead Count		28	32
Simtek package pn		STK-91-01-2303	STK-91-01-3202
Package Manufacturer		Kyocera	NTK Technical Ceramics
Mfg Pkg ID/Simtek part ID/Dwg ID		PB-CA1771 / STK-91-01-2803	IRK32F1-5379C / STK-91-01-3202
Simtek package Outline		STK-40-05-007	STK-40-05-011
JEDEC Case Outline		MO-041	MO-041
Mil Case Outline ID		Figure C11, CQCC3-N28	Figure C11, CQCC3-N32
Assembly Facility		Amkor Technologies	Amkor Technologies
Plant		ATP1	ATP1
Leadframe Plating		Gold Plate 60µ" min over 80-250µ" Nickel	Gold Plate 80µ" min Over 50-350µ" Nickel
Plating Process		Electrolytic	Electrolytic
Ceramic		Kyocera 440 Black [Al <sub>2</sub> O <sub>3</sub> 90%]	NTK ALN
Leads		Alloy 42 [Fe 58% / Ni 42%]	Alloy 42 [Fe 58% / Ni 42%]
Lead Plating [Gold Underplate]		Gold Plate 80µ"	Gold Plate 80µ"
Leads [Hot Solder Dip Finish]		Sn/Pb 60/40%	Sn/Pb 60/40%
<b>PACKAGE DIMENSIONS &amp; CHARACTERISTICS</b>			
Nominal Cavity Volume	in <sup>3</sup>	.0035	.0062
Die Size	mil	146x153x19	144x374x19
Pad Size	mil	214x205	310x440
Theta Ja [still air] -approx	C/W	98	73
Theta Ja [200fpm/1mps] - approx	C/W	55	42
Theta Jc	C/W	3	3
Lead Resistance		800 mOhm Max	500 mOhm Max
Lead to Lead Capacitance	pF	3pF max [1MHz]	3pF max [1MHz]
<b>SHIPPING INFORMATION</b>			
Carrier Type		rail	rail
Units Per Rail	qty	34	34
Total Product Weight	gm	0.9	1.3
<b>LID DETAIL</b>			
Manufacturer		Williams Advanced Materials	Williams Advanced Materials
Lid Type		Hi Rel Lid with Preform	Hi Rel Lid with Preform
Simtek Lid ID		STK-92-10-0003	STK-92-10-0007
Dimensions	in	.330x.530 .280x.480 .01"	.430x.530 .360x.500 .01"
Lid Material		Kovar [Fe 54% / Co 17% / Ni 29%]	Kovar [Fe 54% / Co 17% / Ni 29%]
Plating	µ"	Gold 25µ" min on Nickel 50-350µ"	Gold 25µ" min on Nickel 50-350µ"
Plating Process		Electrolytic	Electrolytic
Frame		Au 80% / Sn 20%	Au 80% / Sn 20%
Frame Thickness	in	.002"	.002"



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<b>ASSEMBLY MATERIALS</b>			
Die Attach		JMI 7000	JMI 7000
Manufacturer		Johnson Matthey	Johnson Matthey
Die Attach Type		Silver Glass	Silver Glass
Die Attach Thickness	mil	0.5 - 1.0 mil	0.5 - 1.0 mil
Die Thickness	mil	19 mil	19 mil
Die Coating		None	None
Wire Bond Material		Al 99.99%	Al 99.99%
Wire Bond Diameter	mil	1.25 mil	1.25 mil
<b>ASSEMBLY PROCESS FLOW</b>			
Flow ID		P596-0501-0202	P596-0501-0202
Wafer Mount		Non Contact	Non Contact
Scribe Method		Complete Saw Through	Complete Saw Through
Saw/Clean		CO2 bubbler	CO2 bubbler
2nd optical		High Power. 100%	High Power. 100%
2nd optical QA		High Power. 45 C=0	High Power. 45 C=0
Die Attach Method		Manual	Manual
Die Attach Cure		150-160°C, 10-30 minutes	150-160°C, 10-30 minutes
Bonder: Manual/Auto		Automatic	Automatic
Bond Type: Forward/Reverse		Reverse	Reverse
Bond Type: At The Die		Ball	Ball
Bond Type: At The Paddle		Stitch	Stitch
3rd Optical		Low & High Power. 100%	Low & High Power. 100%
3rd Optical QA		Low & High Power. 45 C=0	Low & High Power. 45 C=0
Seal Method/Atmosphere		Furnace / Nitrogen	Furnace / Nitrogen
Lid Seal Temp Profile	°C	Peak 420+/-5°C	Peak 420+/-5°C
	min	Dwell 7-10 Minutes @ 410°C	Dwell 7-10 Minutes @ 410°C
	min	Rise 60.5 Min 100-400°C	Rise 60.5 Min 100-400°C
		Cool 2.0-3.5 minutes 400-200°C	Cool 2.0-3.5 minutes 400-200°C
Marking Ink		Markem 4489 White	Markem 4489 White
Backside Mark		[lot #] [assembly country]	[lot #] [assembly country]
Ink Cure		150°C+10°C -0°C 1hr +30 -0 minutes	150°C+10°C -0°C 1hr +30 -0 minutes
Temp Cycle		100% 10 cycles, -65°C to +150°C	100% 10 cycles, -65°C to +150°C
Centrifuge		100% 30KG	100% 30KG
Fine Leak		100% He 5x10 <sup>-8</sup> atm cc/sec	100% He 5x10 <sup>-8</sup> atm cc/sec
Gross Leak		100% 5torr 0.5H 75psig 1H	100% 5torr 0.5H 75psig 1H
Final Visual QA		100%	100%
Pack & Ship		45, C=0	45, C=0
<b>PROCESS MONITORS</b>			
Wire Bond Monitor		Amkor Procedure	Amkor Procedure
Die Attach Monitor		Amkor Procedure	Amkor Procedure
Lid Seal Monitor		Amkor Procedure	Amkor Procedure
PIND Monitor		Amkor Procedure	Amkor Procedure
Lead Trim Monitor		Amkor Procedure	Amkor Procedure
Seal Area Particulate Monitor		Amkor Procedure	Amkor Procedure
Area Particle Count Limits		10,000 In D/A, Wire Bond Areas	10,000 In D/A, Wire Bond Areas