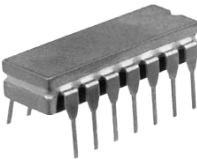
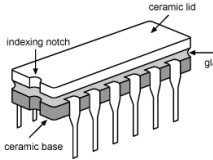
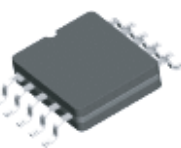
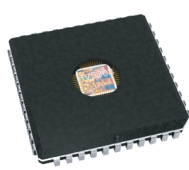
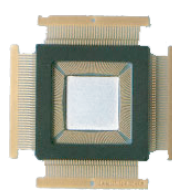
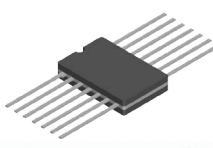
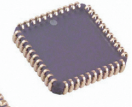
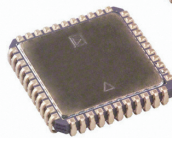
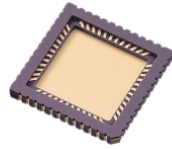
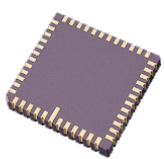
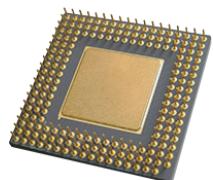


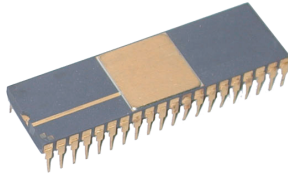
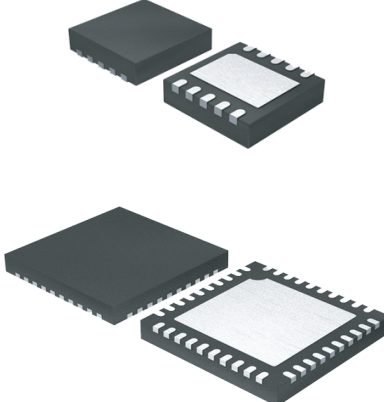


Sample of Integra's Package Assembly Capability

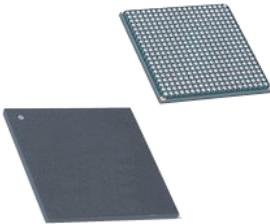
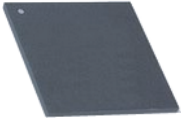
Package Type					Package Notes		
	Package	Pins	Body Size	Lead Pitch		Notes	Lead Finish
Hermetic	Cerdip	8	300mil		   2 sided gull wing leads 2 sided gull wing leads  	Requires Solder DIP	Alloy42
	Cerdip	14	300mil			Requires Solder DIP	Alloy42
	Cerdip	16	300mil			Requires Solder DIP	Alloy42
	Cerdip	18	300mil			Requires Solder DIP	Alloy42
	Cerdip	20	300mil			Requires Solder DIP	Alloy42
	Cerdip	24	300/600mil			Requires Solder DIP	Alloy42
	Cerdip	28	300/600mil			Requires Solder DIP	Alloy42
	Cerdip	40	600mil				Alloy42
	Cerpak	14	300mil			Requires Solder DIP	Alloy42
	Cerpak	16	300mil			Requires Solder DIP	Alloy42
	Cerquad	28				J Leads, requires Solder DIP	Alloy42
	Cerquad	32				J Leads, requires Solder DIP	Alloy42
	Cerquad	44				J Leads, requires Solder DIP	Alloy42
Hermetic							
	CQFP	44				Gull Wing Leads	Gold
	CQFP	132				Gull Wing Leads	Gold
	CQFP	160				Gull Wing Leads	Gold
	CQFP	208					
	Flatpack	14			     	Straight Flat Leads	Gold
	Flatpack	22				Straight Flat Leads	Gold
	Flatpack	40				Straight Flat Leads	Gold
	JLCC	44				J Leads	Gold
	JLCC	68				J Leads	Gold
	JLCC	84				J Leads	Gold
	LCC	20				Leadless Ceramic Chip Carrier	Gold
	LCC	28					Gold
	LCC	40					Gold
	LCC	68					Gold
	PGA	65	1.1 sq"				Gold
	PGA	68	1.1 sq"				Gold
	PGA	84	27x27				Gold
	PGA	101	1.32 sq"				
	PGA	133	1.4 sq"				Gold
	PGA	145	1.575 sq"				Gold
	PGA	181	40x40				Gold
	PGA	225	1.86 sq"			Cavity down	Gold



Sample of Integra's Package Assembly Capability

Package Type		Package Notes					
	Package	Pins	Body Size	Lead Pitch		Notes	Lead Finish
Hermetic	Sidebrazed	8	300mil			Ceramic with Lead Brazed	Gold
	Sidebrazed	16	300mil				Gold
	Sidebrazed	28	300/600mil				Gold
	Sidebrazed	32	300/600mil				Gold
	Sidebrazed	40	600mil				Gold
	Sidebrazed	48	600mil				Gold
	Sidebrazed	50	600mil				Gold
Plastic	DFN	8	5x6	1.27		Custom Lead frame	NiPdAu
	QFN	16	3x3	0.50			NiPdAu
	QFN	20	4x4	0.50			NiPdAu
	QFN	20	5x5	0.65			
	QFN	28	5x5	0.50			NiPdAu
	QFN	32	5x5	0.50			NiPdAu
	QFN	33	6x6	0.50		Custom Lead frame	NiPdAu
	QFN	40	6x6	0.50			NiPdAu
	QFN	48	7x7	0.50			NiPdAu
	QFN	52	8x8	0.50			NiPdAu
	QFN	56	8x8	0.50			NiPdAu
	QFN	64	9x9	0.50			
	QFN	64	12x12	0.65		Custom Lead frame	NiPdAu
	QFN	68	10x10	0.50			NiPdAu
	QFN	88	10x10	0.40			NiPdAu
Open Cavity	OQFN	8	3x3	0.65		Glob top or lid seal	
	OQFN	12	3x3	0.50		Glob top or lid seal	
	OQFN	16	3x3	0.50		Glob top or lid seal	
	OQFN	16	4x4	0.65		Glob top or lid seal	
	OQFN	20	4x4	0.50		Glob top or lid seal	
	OQFN	24	4x4	0.50		Glob top or lid seal	
	OQFN	28	5x5	0.50		Glob top or lid seal	
	OQFN	32	5x5	0.50		Glob top or lid seal	
	OQFN	40	5x5	0.40		Glob top or lid seal	
	OQFN	40	6x6	0.50		Glob top or lid seal	
	OQFN	48	6x6	0.40		Glob top or lid seal	
	OQFN	48	7x7	0.50		Glob top or lid seal	
	OQFN	56	8x8	0.50		Glob top or lid seal	
	OQFN	60	7x7	0.40		Glob top or lid seal	
	OQFN	72	10x10	0.50		Glob top or lid seal	
	OQFN	80	12x12	0.50		Glob top or lid seal	
Plastic	PBGA	441	27x27	1.27		Gob top encap only	
	PBGA	729	35x35	1.27			

Sample of Integra's Package Assembly Capability

Package Type					Package Notes		
	Package	Pins	Body Size	Lead Pitch		Notes	Lead Finish
Plastic	FBGA	100	11x11	1.0	Saw Singulated / MAP BGA's 	All BGA ball tools are customer owned.	
	FBGA	144	13x13	1.0			
	FBGA	256	17x17	1.0			
	FBGA	324	19x19	1.0			
	FBGA	484	23x23	1.0			
Plastic	caBGA	49	7x7	0.8		Not taken to the edge	
	caBGA	100	10x10	0.8			
	caBGA	256	14x14	0.8			
Plastic	csBGA	56	6x6	0.5		Depopulated	
	csBGA	64	5x5	0.5		Full Array	
	csBGA	100	8x8	0.5		2 rows, no center balls	
	csBGA	132	8x8	0.5		Very popular, 3 rows, no center balls	
	csBGA	144	7x7	0.5		Full Array	
Plastic	ucBGA	64	4x4	0.4		Consider max feasible escape routing	
	ucBGA	132	6x6	0.4		4 rows, no center balls	
Glass Lid	Open cav	84	14x14	1.0		Custom LF w/ Standard Glass Lid	
	Open cav	84	14x14	1.0		Custom LF w/ IR Glass Lid	
	Open cav	84	14x14	1.0		Custom LF w/ AR Glass Lid	
	Open cav	84	14x14	1.0		Custom LF w/ BBAR Glass Lid	
Custom Flow Cell	Flow Cell	96	31x31	1.0		Custom Applications	
Custom Flow Cell	Flow Cell		30x30	1.0		Custom Applications	
Metal Tube	Metal dam		30x30	1.0		Custom Applications	
Ceramic COB	COB	xxx				Must be reviewed by Engineering	
Plastic COB	COB	xxx				Must be reviewed by Engineering	
* Dam and Fill Only						Must be reviewed by Engineering	
Stacked Die COB	COB	xxx				Must be reviewed by Engineering	
	COB	xxx				Flip Chip, and Wire Bond	
	BGA	xxx					