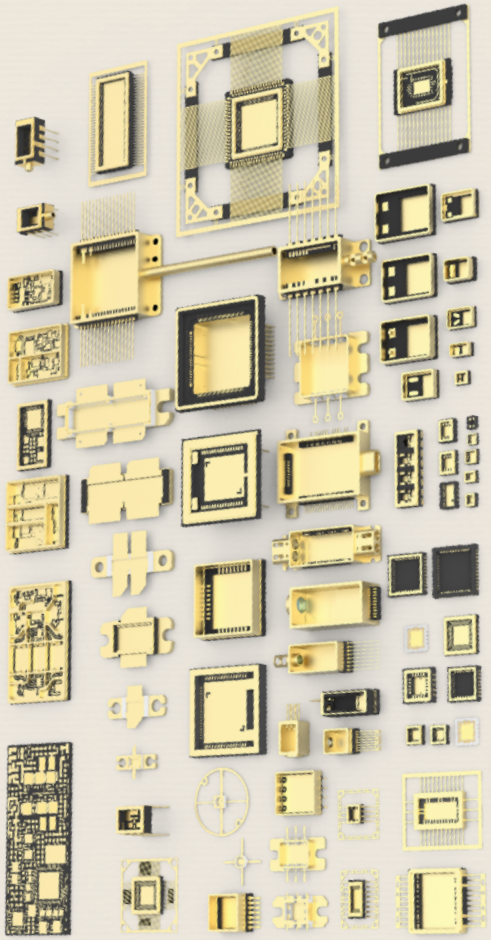


A & N Technologies

Reliable and Durable

OUR MISSION



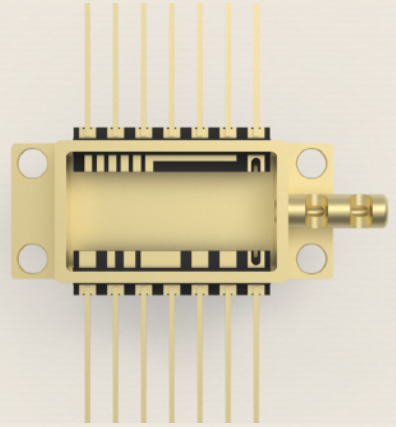
Operating at our Houston office and Hefei factory, we are missioned to provide our clients with reliable and durable products, including packages, equipments, materials, and services.

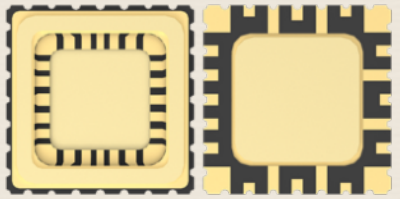
A & N Technologies
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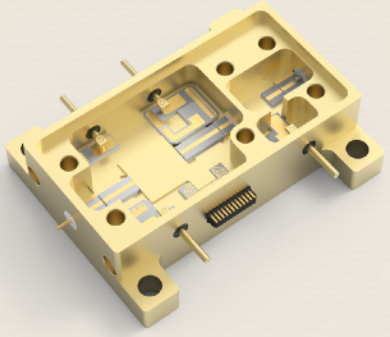
ANNING TECHNOLOGIES
6423 Dylan Springs Ln, Katy, TX 77450
+1 (346) 433-6895
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PRODUCT BROCHURE





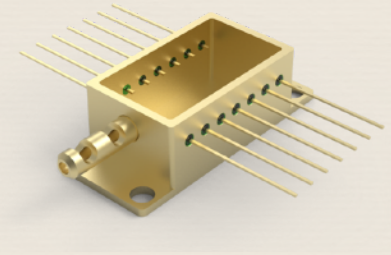


PHOTONICS PACKAGING

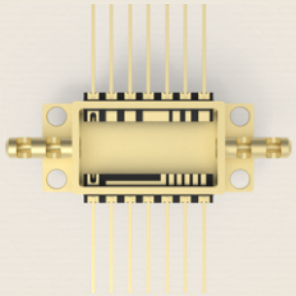
BUTTERFLY PACKAGING: Metal ring frame embedded in ceramic/glass feedthrough assembly, brazed light pipe (light window), metal heat dissipation bottom plate, metal sealing ring structure. Using mold with high precision, the package can meet the requirements of hermeticity and heat management.

FEATURES:

- Customizable: feedthrough, pipe, heatsink, etc.
- Both ceramic and glass feed-through supported
- Gold plate finish
- Heatsink choices: WCu, MoCu, CPC, CMC, etc.
- Hermeticity: $\leq 1 \times 10^{-9}\ (Pa \cdot m)$/sec or 1×10^{-8} (atm $\cdot\ cc$)/sec
- Resistance: $\geq 1 \times 10^{9}\ \Omega\ (100V$ DC)
- Thermal Conductivity: Up to 260 $W/(m \cdot K)$



Glass to Metal



Ceramic to Metal

Package No.	Lead Pitch mm (in)	Pin No.	Heat Sink	Sealing Size mm (in)
FOFG2113A	2.54 (0.1)	14	WCu15	20.8x12.7 (0.82*0.50)
FOFC2113A	2.54 (0.1)	14	WCu15	20.8x12.7 (0.82*0.50)
FOFG2616A	2.54 (0.1)	18	WCu20	26.2x15.8 (1.03x0.62)
FOFC2616A	2.54 (0.1)	18	WCu15	26.2x15.8 (1.03x0.62)
FOFC2524A	1.27 (0.05)	32	TU-1	25.0x23.5 (0.98*0.93)
FOFC2524B	1.27 (0.05)	32	WCu15	25.0x23.5 (0.98*0.93)
FOFC3024A	1.27 (0.05)	32	WCu15	29.5x23.5 (1.16x0.93)

PHOTONICS PACKAGING

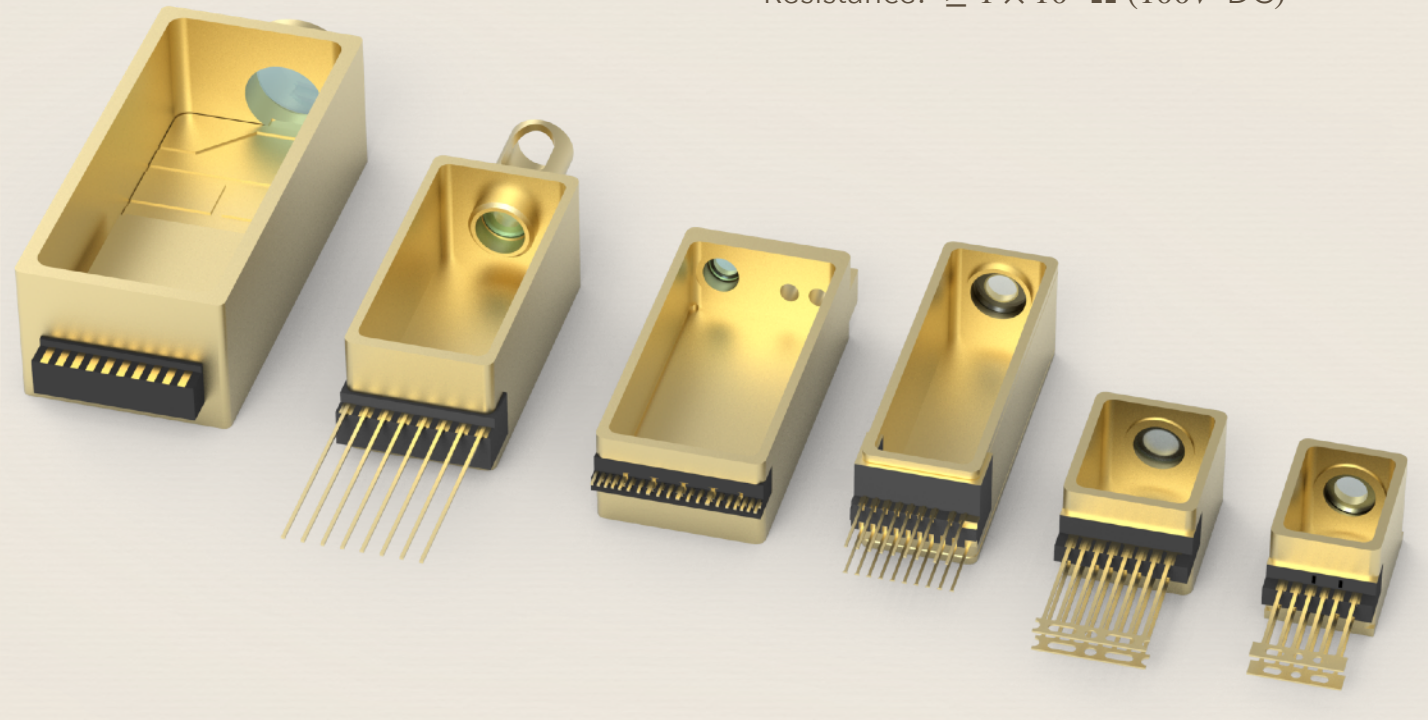
TOSA/ROSA PACKAGING: The packages are equipped with (1) Kovar ring frame with Au-Sn brazing light window; (2) high temperature co-fired ceramic HTCC) as feedthrough, and (3) heatsink material as base structure. It can reach 25Gbps transmission index with small size and low cost.

FEATURES:

- Multilayer HTCC feedthrough with high density
- Frame Material: Kovar
- Ni+Au plate finish

FEATURES:

- Heatsink choices: WCu, MoCu, CPC, CMC, etc.
- Hermeticity: $\leq 1 \times 10^{-9}$ $(Pa \cdot m)$/sec or 1×10^{-8} (atm $\cdot$ cc)/sec
- Resistance: $\geq 1 \times 10^{9}$ Ω $(100V$ DC)

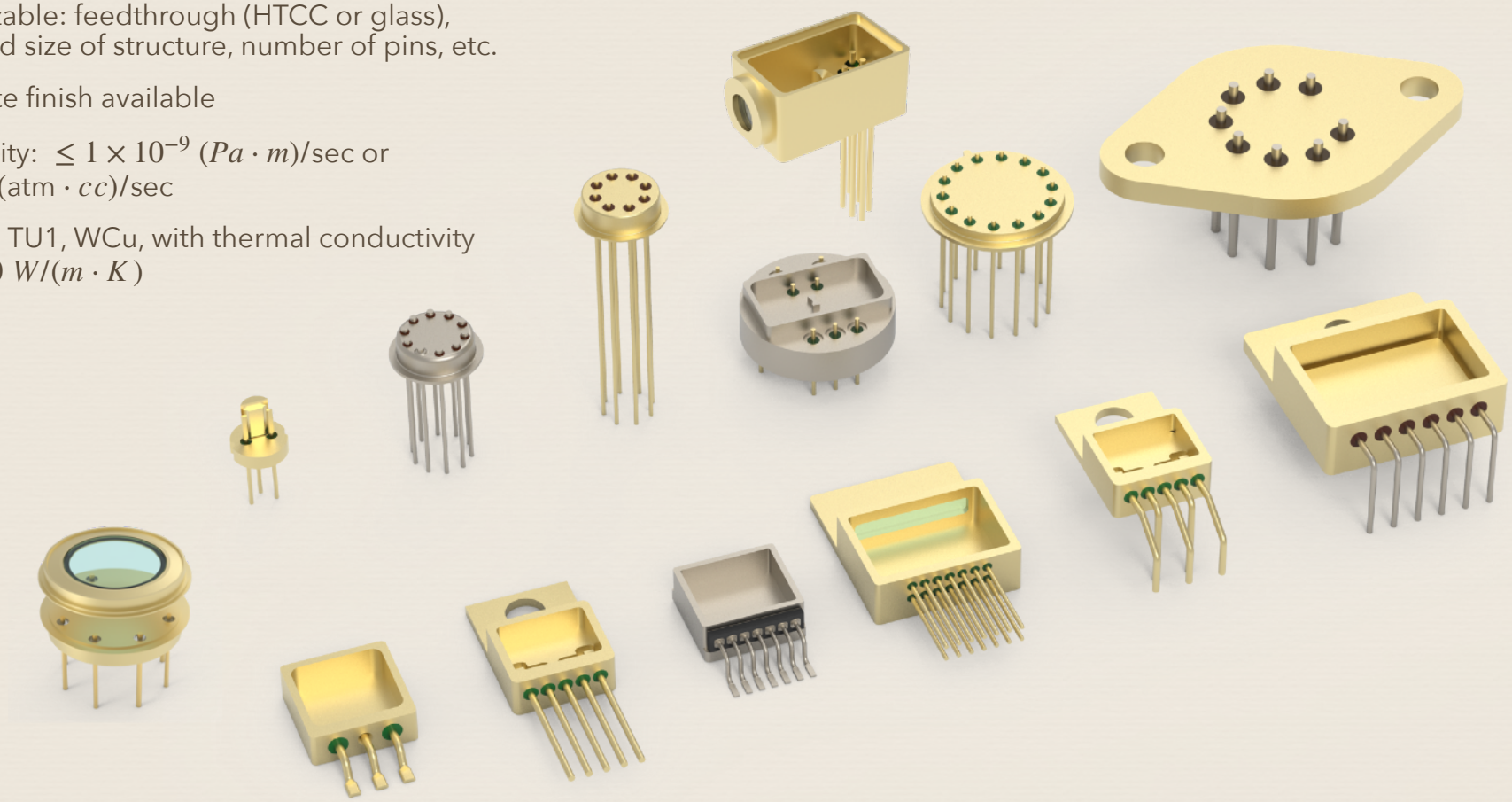


PHOTONICS PACKAGING

PHOTOELECTRIC SENSOR PACKAGING: The packaging typically adopts the circular array of kovar chassis. The matched sealing process of glass to metal is adopted to meet the requirements of laser welding or energy storage welding process.

FEATURES:

- Customizable: feedthrough (HTCC or glass), shape and size of structure, number of pins, etc.
- Gold plate finish available
- Hermeticity: $\leq 1 \times 10^{-9}$ $(Pa \cdot m)$/sec or 1×10^{-8} $(\text{atm} \cdot cc)$/sec
- Heatsink: TU1, WCu, with thermal conductivity up to 300 $W/(m \cdot K)$

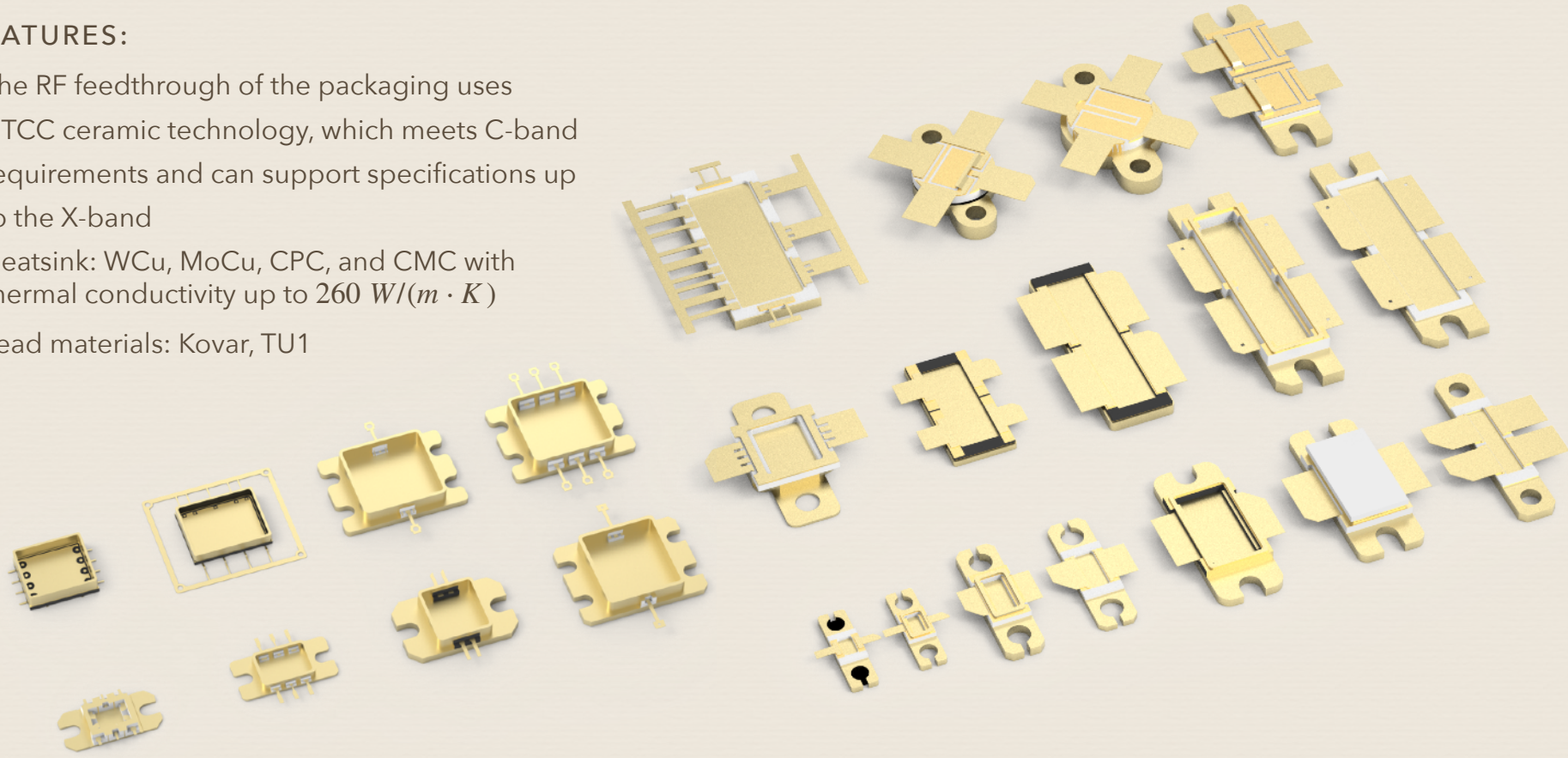


RF MODULE

RF POWER MODULE PACKAGING: The packages typically use a Kovar metal ring frame for high-temperature brazing of ceramic RF and current-carrying feedthrough components, along with a metal heatsink base structure. The shape, dimensions, and number of RF and current-carrying feedthrough pins can be customized. The cover is designed as a matching stepped lid to accommodate parallel seam welding processes.

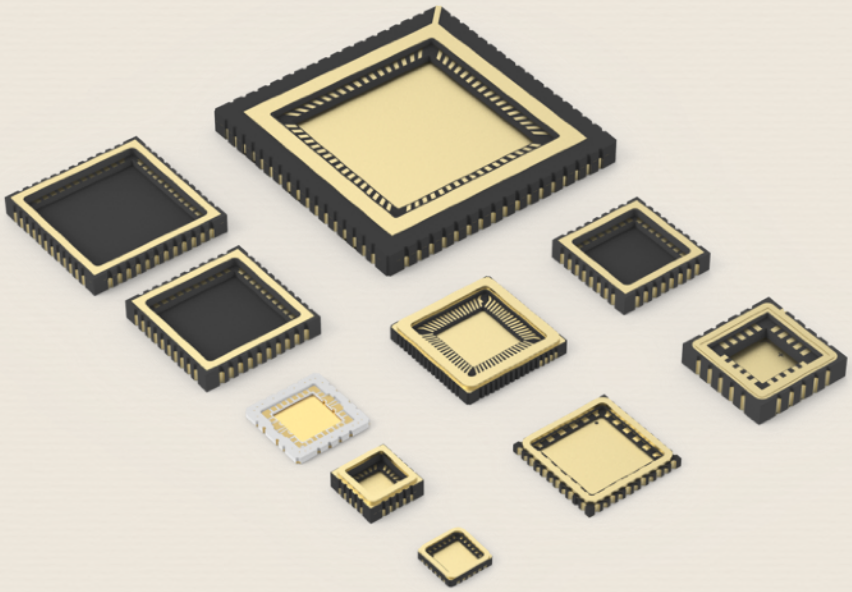
FEATURES:

- The RF feedthrough of the packaging uses HTCC ceramic technology, which meets C-band requirements and can support specifications up to the X-band
- Heatsink: WCu, MoCu, CPC, and CMC with thermal conductivity up to 260 $W/(m \cdot K)$
- Lead materials: Kovar, TU1



CERAMIC PACKAGING

CQFN: Ceramic Quad-Flat No-leads(CQFN), capable of transmitting DC to 40 GHz signals. The chip grounding method can be either metallized grounding or metal heat sink grounding to meet various heat dissipation needs. Multiple lid sealing options are available, including parallel seam welding, alloy sealing, and adhesive bonding. The cover plate material can be selected from metal, ceramic, or polymer materials. This type of package features a compact size, lightweight, and excellent high-frequency performance, making it suitable for low-power chip packaging.

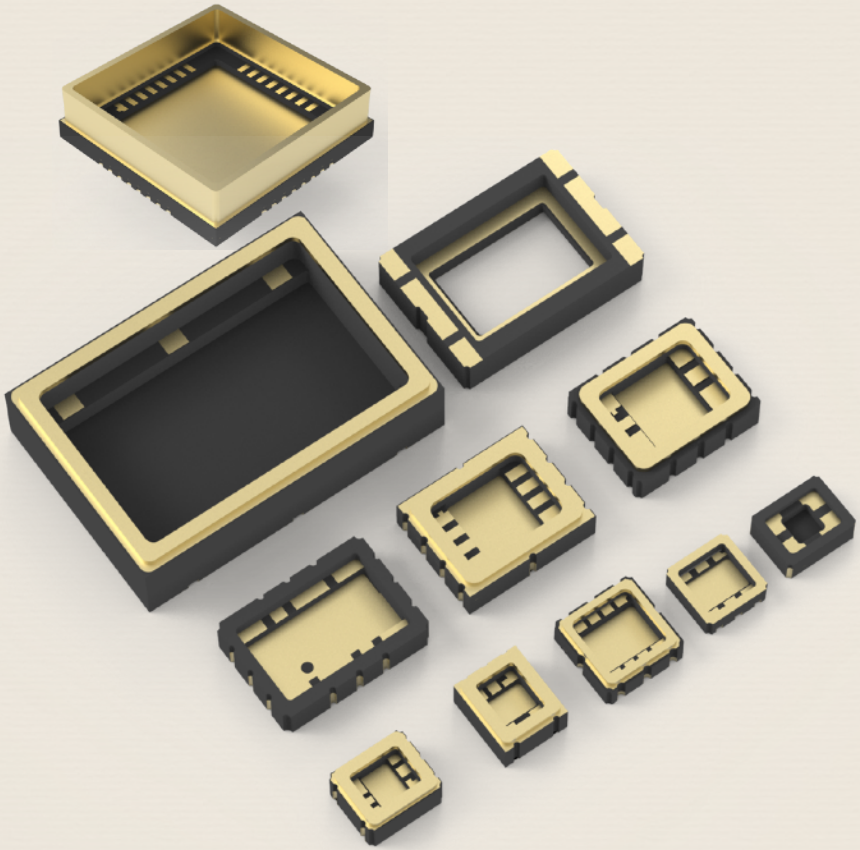


Representative CQFN products

Package No.	Lead Count	Die Cav. (mm)	Sealing Option	Freq. Range *GHz*
CQFN0303A	16	SQ1.5	AuSn Solder	DC-12
CQFN0404A	24	SQ2.7	AuSn Solder	DC-12
CQFN0505A	20	SQ2.3	Parallel	DC-12
CQFN0707A	18	SQ4.0	AuSn Solder	DC-40
CQFN0707B	48	SQ5.0	Parallel	DC-12
CQFN0707C	48	SQ4.6	Parallel	DC-40
CQFN0808A	20	SQ4.6	Parallel	DC-08
CQFN0909A	32	SQ6.0	AuSn Solder	DC-10
CQFN1010A	64	SQ5.1	Parallel	DC-04
CQFN1111A	40	SQ8.0	AuSn Solder	DC-03
CQFN1313A	48	SQ10.0	AuSn Solder	DC-03
CQFN2020A	32	SQ15.0	Parallel	DC-01
CQFN2424A	68	SQ14.7	AuSn Solder	DC-01

CERAMIC PACKAGING

CLCC: The Ceramic Leadless Chip Carrier (CLCC) comes in two structures: cavity-down and cavity-up. Common lead pitches include 1.27mm and 0.5mm. CLCC is suitable for surface mounting, with advantages such as low parasitic parameters, compact size, lightweight, and excellent heat dissipation. It is also convenient for installing heat sinks, making it commonly used for packaging various VLSI, ASIC, and ECL circuits.

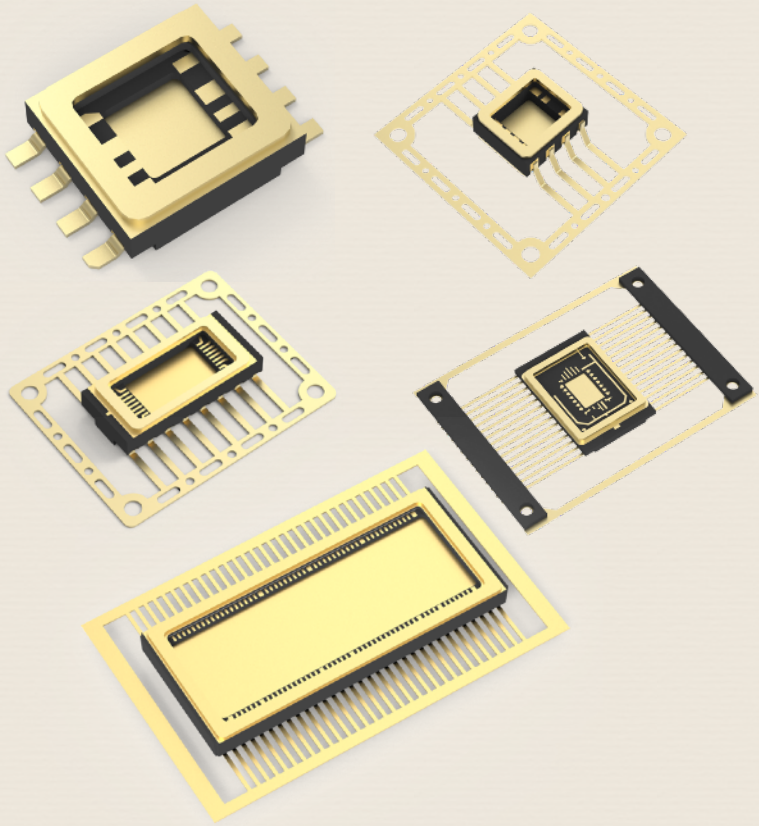


Representative CLCC products

Package No.	Lead Count	Die Cav. (mm)	Sealing Option	Heatsink
CLCC0303A	2	1.8x1.2	AuSn Solder	N
CLCC0303B	6	2.3x1.5	AuSn Solder	N
CLCC0606A	8	2.4x2.0	Parallel	Y
CLCC0606B	10	3.0x2.4	Parallel	Y
CLCC0909A	20	4.6x4.6	Parallel	N
CLCC0909B	24	4.7x4.7	Parallel	Y
CLCC1111A	28	7.4x7.4	Parallel	Y
CLCC2020A	32	15.0x15.0	Parallel	Y
CLCC2020B	72	6.5x6.5	AuSn Solder	N

CERAMIC PACKAGING

CSOP: Ceramic Small Outline Package (CSOP), typically come with bottom-exit metal leads, making it suitable for surface mount technology. The package's sealing size generally does not exceed 12x12 mm, with 6 to 40 feedthroughs, supporting RF feedthrough requirements from DC to 10 GHz. These packages are highly reliable, compact, and have a high feedthrough density, making them ideal for packaging various single chips.

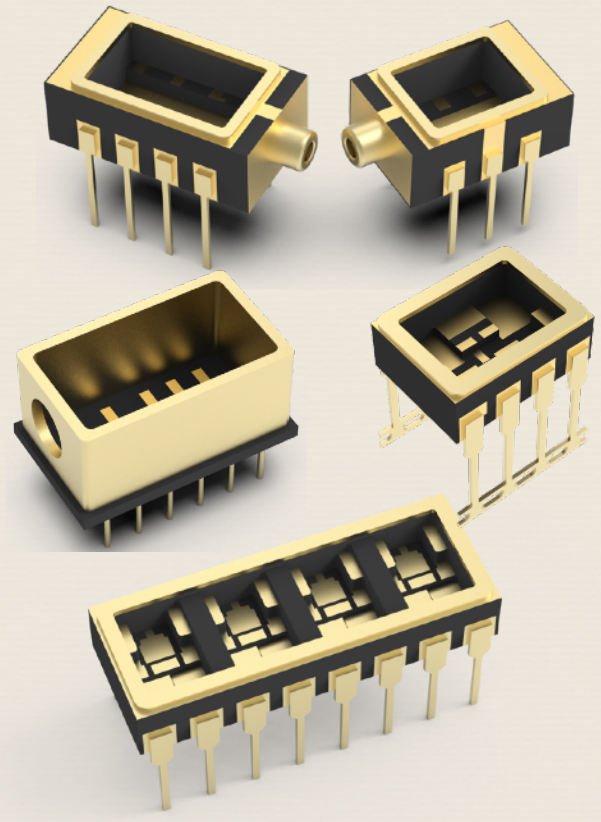


Representative CSOP products

Package No.	Lead Count	Die Cav. (mm)	Sealing Option	Heatsink
CSOP0504A	8	3.0x3.0	Parallel	N
CSOP0504B	8	3.0x3.8	Parallel	N
CSOP0604A	8	3.0x3.0	Parallel	N
CSOP0505A	8	3.5x3.5	Parallel	N
CSOP0705A	8	3.6x1.5	AuSn Solder	Y
CSOP0806A	10	5.6x3.2	Parallel	Y
CSOP0904A	16	6.2x3.8	Parallel	N
CSOP1608A	48	13.9x4.9	Parallel	N

CERAMIC PACKAGING

CDIP: Ceramic Dual Inline Package (CDIP) with vertical metal leads on both sides, with 6-40 leads, are suitable for digital logic chips, optical couplers, small optoelectronic modules, and similar devices.

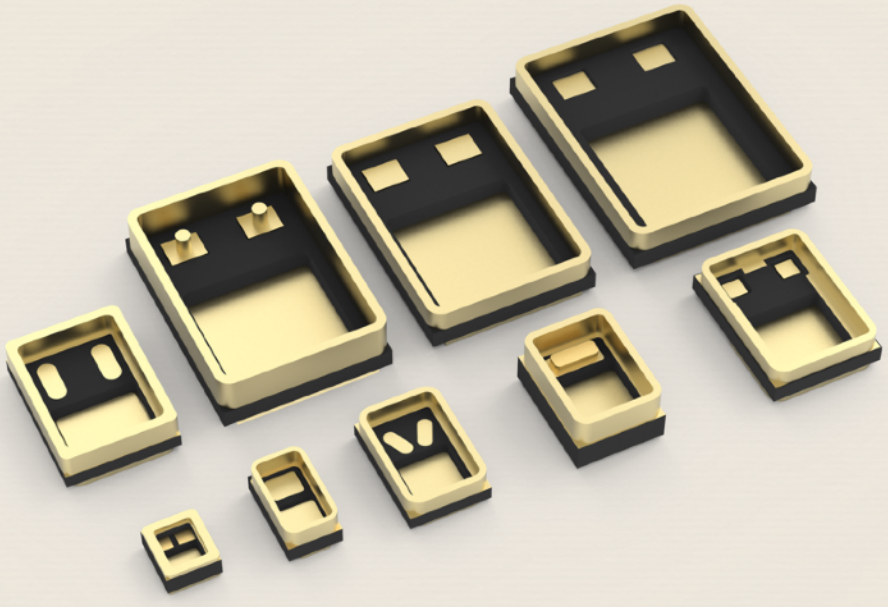


Representative CDIP products

Package No.	Lead Count	Die Cav. (mm)	Sealing Option	Lead Pitch (mm)
CDIP0705A	4	5.4x3.2	Parallel	2.54
CDIP0807A	6	6.6x5.4	Parallel	2.54
CDIP0907A	8	7.7x5.4	Parallel	2.54
CDIP0907B	8	5.7x5.0	AuSn Solder	2.54
CDIP1507A	12	5.6x3.8	Parallel	2.54
CDIP1607A	14	5.6x3.8	Parallel	2.54
CDIP1807A	16	5.6x4.3	Parallel	2.54
CDIP1807B	18	5.6x3.8	Parallel	2.54
CDIP2407A	20	8.4x3.9	AuSn Solder	2.54
CDIP2607A	24	8.9x4.5	Parallel	2.54
CDIP2609A	32	10.0x6.2	Parallel	2.54

CERAMIC PACKAGING

SMD: Surface Mount Device (SMD) packages are compact and lightweight, with strong current-carrying capacity in the electrodes and good heat dissipation through the base. They are suitable for surface mount technology and ideal for high-power diodes and transistors.

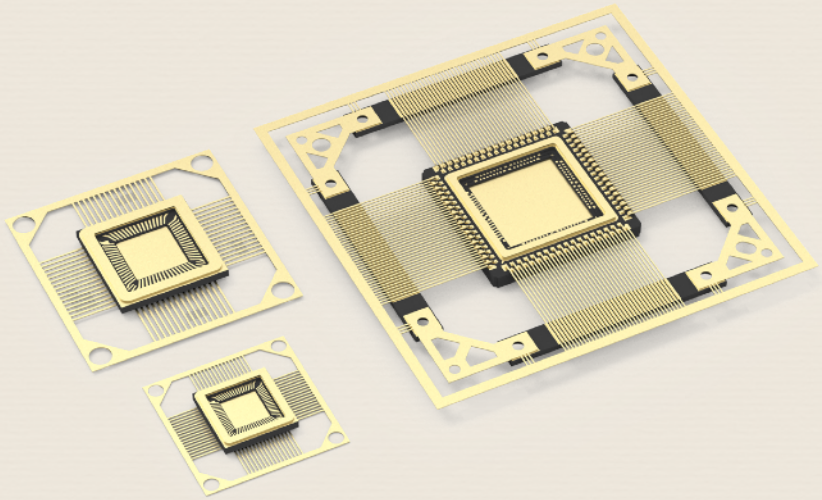


Representative SMD products

Package No.	Lead Count	Die Cav. (mm)	Sealing Option	DWG No.
SMD0604A	2	5.3x2.8	Parallel	SMD0.1
SMD0805A	3	3.6x3.6	Parallel	SMD0.2
SMD0806A	3	5.8x3.0	Parallel	SMD0.3
SMD1008A	3	7.5x3.8	Parallel	SMD0.5
SMD1611A	3	8.6x8.6	Parallel	SMD1.0
SMD1813A	3	9.4x9.9	Parallel	SMD2.0

CERAMIC PACKAGING

CQFP: The Ceramic Quad Flat Package (CQFP) is a type of surface mount package. Common lead pitches include 1.27mm, 1.0mm, 0.8mm, 0.65mm, 0.5mm, and 0.4mm, with pin counts ranging from 20 to 240. Due to its compact size, lightweight, high packaging density, and excellent heat dissipation, it is well-suited for surface mounting. CQFP is widely used for large-scale integrated circuits, microprocessors, signal processors, gate arrays, and other devices.

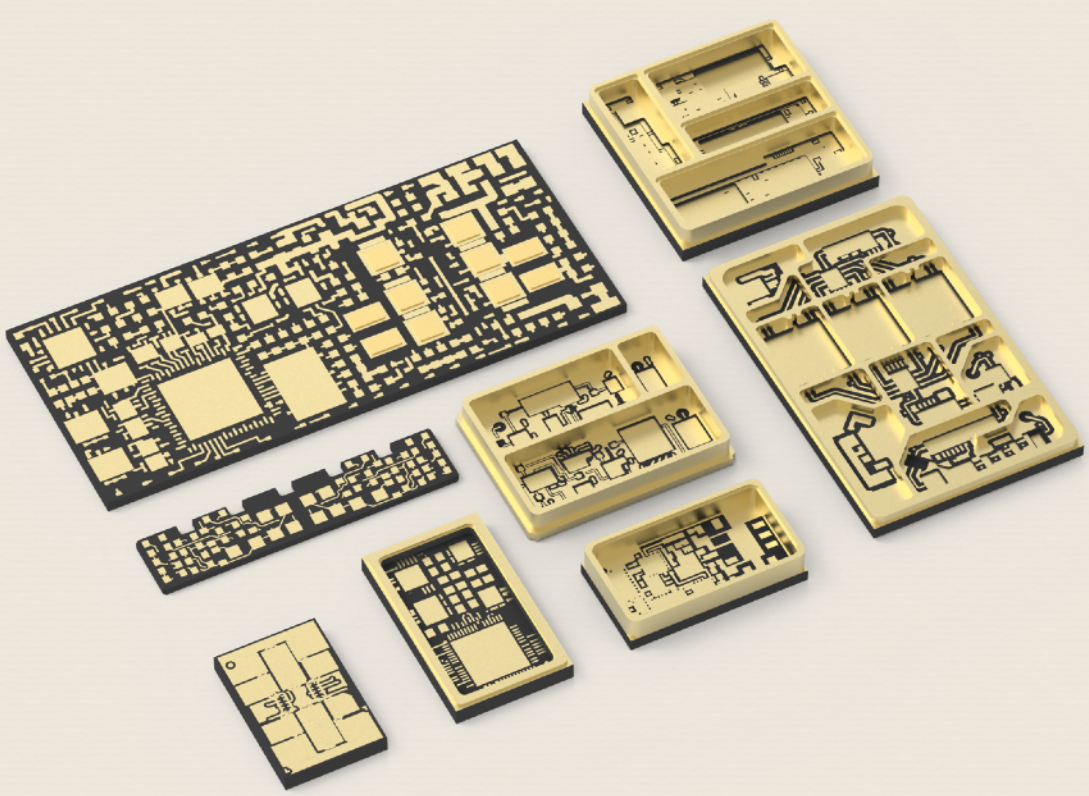


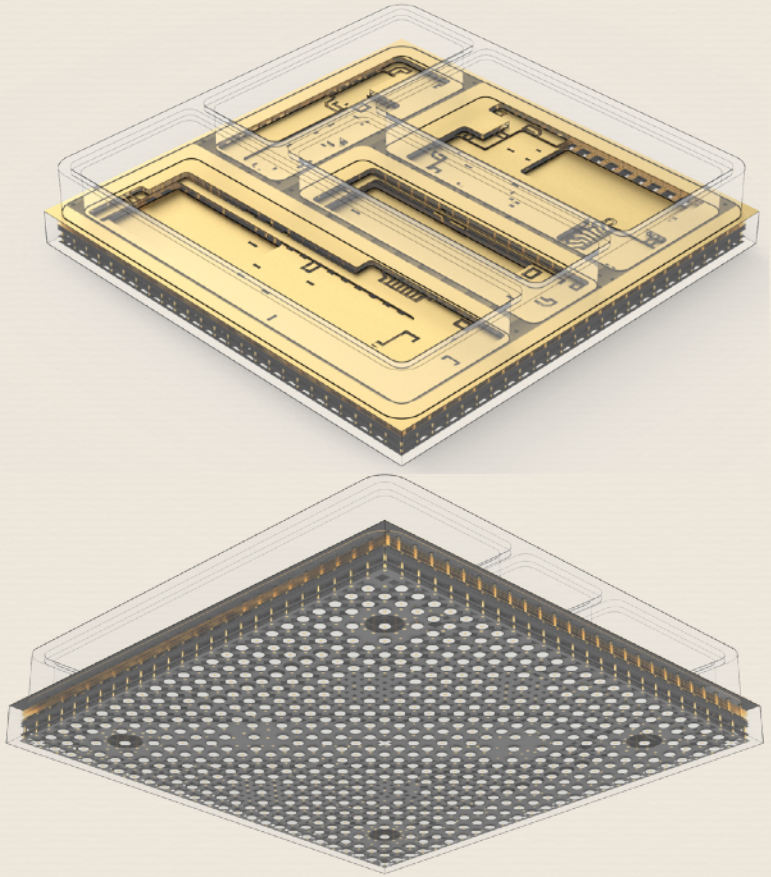
Representative CQFP products

Package No.	Lead Count	Lead Pitch (mm)	Die Cav. (mm)	Sealing Option	Heatsink
CQFP0707A	24	0.65	3.3x3.3	AuSn Solder	Y
CQFP2929A	20	2.54	25.8x25.8	Parallel	Y
CQFP2525A	24	2.54	21.5x21.5	Parallel	N
CQFP2424A	26	2.54	15.8x15.8	Parallel	N
CQFP2222A	32	1.27	18.5x17.5	Parallel	N
CQFP3232A	48	2.54	23.2x22.4	Parallel	N
CQFP3232B	100	2.54	23.2x22.2	Parallel	N
CQFP3232C	175	1.27	27.0x27.0	Parallel	N
CQFP4040A	417	2.54	38.0x38.0	Parallel	N
CQFP4040B	591	1.27	22.0x22.0	Parallel	Y

CERAMIC PACKAGING

CBGA: The Ceramic Ball Grid Array (CBGA) is a surface mount packaging type arranged in an array format. Spherical bumps are created in an array on the back of the ceramic substrate to replace pins, with lead pitches ranging from 1.27mm to 0.7mm, adjustable based on chip area. Compared to traditional packaging forms, CBGA offers a smaller package size for the same number of leads, a larger and shorter contact area between pads and substrate, improved heat dissipation and electrical performance, better moisture resistance, and high reliability.

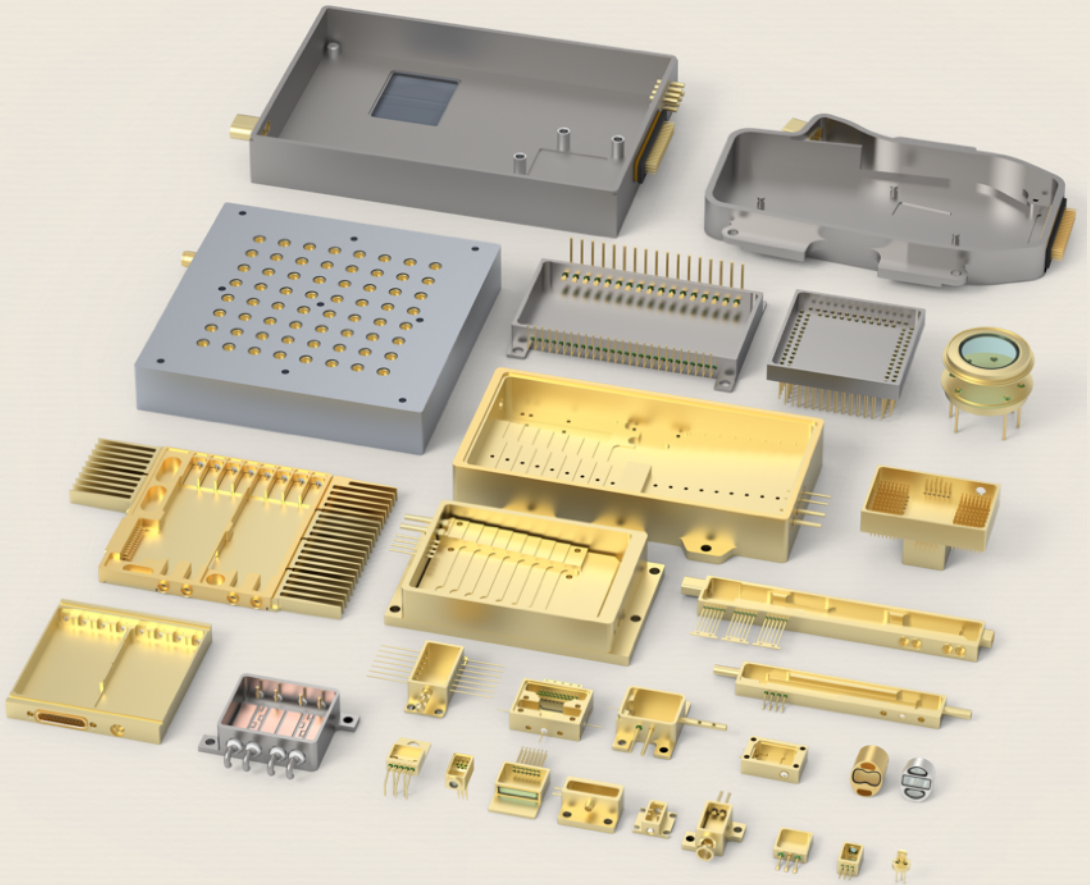


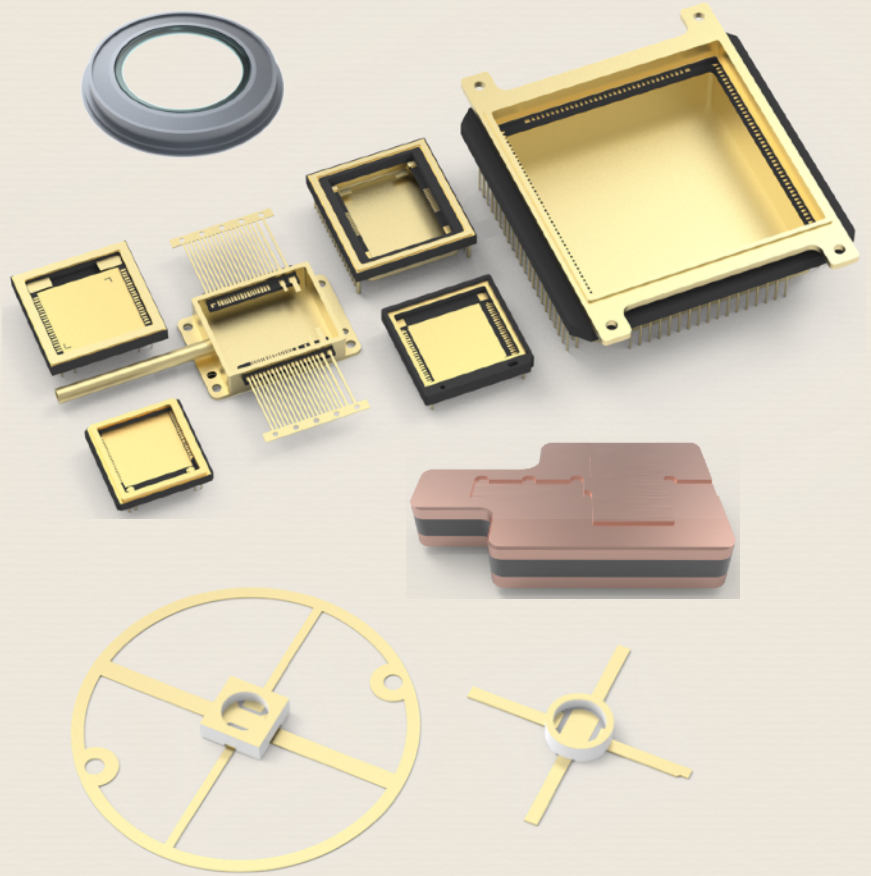


Representative CBGA products

OTHER PACKAGING

Other packages include: (1) Wavelength Selective Switch (WSS) packages; (2) T/R module packages; (3) Optical modulator packages; (4) Wideband power amplifier module packages; (5) Pump laser packages; (6) Accessories such as optical windows, heat sinks, and cover plates.





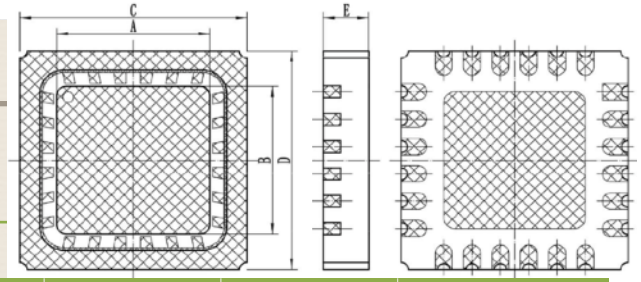
ALUMINA CERAMIC MATERIAL PROPERTIES

Properties		Unit	92% Al_2O_3	96% Al_2O_3
Dielectric Constant	10 GHz	–	8.77	9.41
	20 GHz	–	8.77	9.41
	30 GHz	–	8.78	9.40
	40 GHz	–	8.77	9.41
Coefficient of Linear Thermal Expansion (CTE)	25-200 °C	ppm/°C	5.5	5.6
	25-800 °C	ppm/°C	7.9	7.8
Density	–	g/cm^3	3.72	3.75
Insulation Resistance	500V DC	Ω/mm	$\geq 1 \times 10^{12}$	$\geq 1 \times 10^{12}$
Surface Dielectric Strength	–	V/mm	> 1000	> 1000
Surface Characteristics	–	–	Matte Black	Matte White
Flexural Strength	–	MPa	≥ 400	≥ 400
Heat Resistance	–	°C	1450	1450
Common Thickness	Post-Sintering	μm	95/193	100/200

HTCC CERAMIC CIRCUIT DESIGN SPECIFICATIONS

Properties (Unit: mm)		Typical Requirements	Maximum Limits
Substrate Shape	Physical Dimensions	SQ 5.0 – 80.0	150x150
Line Width	Metallization Width	≥ 0.15	–
Insulation Spacing	Line-to-Hole Insulation	≥ 0.30	–
Pad-to-Insulation Spacing	Bonding Pad Array Spacing	≥ 0.15	–
Via Hole Diameter (Filled), ϕ_d	Solid Via Diameter (Filled)	$\phi 0.15$, $\phi 0.20$, $\phi 0.30$	–
Via Center-to-Center Spacing	Solid Via Spacing	$\geq 3 \times \phi_d$	–
Solid Via Center-to-Edge Spacing	Solid Via to Physical Edge	≥ 0.50	–
Pad Edge Margin	Metal Pad Size Increment	≥ 0.10	–
Through-Hole Diameter	Hollow	$\phi 0.5$, $\phi 1.0$, $\phi 3.0$, 1.0×1.0	–
Pad Diameter	Aligned Pads	$\geq \phi_d + 0.1$	–
Edge Spacing	Metal to Physical Edge Spacing	≥ 0.50	–
Total Thickness	Laminated Structure Thickness	≤ 3.0	3.6
Wall Thickness	Cavity	≥ 1.0	–
Filled Hole Depth	Stacked Solid Hole Depth	≤ 0.8	1.0
Grid Grounding Ratio	Metallization Area Ratio	$\leq 50\%$	–

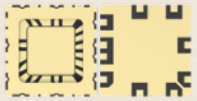
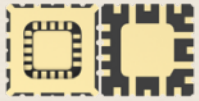
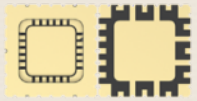
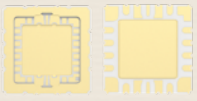
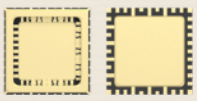
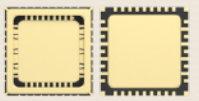
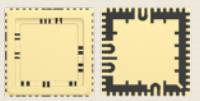
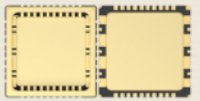
CQFN PACKAGING



Package No.	Lead Count	Lead Pitch	Die Cav. Dimensions		External Dimensions		Ceramic Type	Heatsink	Parallel Seam Welding	Max Operating Freq. (Hz)
			Size	Height	Size	Height				
CQFN0303A	16	0.50	SQ 1.48	0.30	SQ 3.00	0.50	92% BLACK	N	N	14 G
CQFN0303B	16	0.50	SQ 1.40	0.40	SQ 3.00	0.70	92% BLACK	N	N	19 G
CQFN0404A	24	0.50	SQ 2.70	0.50	SQ 4.00	0.80	92% BLACK	N	N	12 G
CQFN0404B	24	0.50	SQ 2.70	0.80	SQ 4.00	1.10	92% BLACK	N	Y	12 G
CQFN0404C	24	0.50	SQ 2.60	0.40	SQ 4.00	0.70	92% BLACK	N	N	19 G
CQFN0404D	16	0.65	SQ 2.20	0.50	SQ 4.00	0.80	92% BLACK	N	N	14 G
CQFN0505B	20	0.50	2.05x2.35	1.30	SQ 5.00	1.80	92% BLACK	N	Y	8 G
CQFN0505C	20	0.50	2.05x2.35	1.18	SQ 5.00	1.80	92% BLACK	Y	Y	8 G
CQFN0505D	32	0.50	SQ 3.00	0.85	SQ 5.00	1.25	92% BLACK	N	Y	8 G
CQFN0606A	40	0.50	SQ 4.50	0.70	SQ 6.00	1.00	92% BLACK	N	N	8 G
CQFN0707B	48	0.50	SQ 5.00	1.00	SQ 7.00	1.25	92% BLACK	N	Y	8 G
CQFN0808A	20	1.27	SQ 4.60	1.80	SQ 8.00	2.30	92% BLACK	N	Y	5 G
CQFN0909A	32a	0.90	SQ 6.00	1.30	SQ 9.00	1.80	92% BLACK	N	N	5 G
CQFN0909B	32c	0.90	SQ 6.00	1.60	SQ 9.00	2.10	92% BLACK	N	Y	5 G
CQFN0909C	20b	1.50	SQ 6.30	1.30	SQ 9.00	1.60	92% BLACK	N	Y	10 G
CQFN1010A	64	0.50	SQ 5.10	0.90	SQ 10.00	1.50	92% BLACK	Y	Y	4 G
CQFN1111A	40	0.90	SQ 8.00	1.25	SQ 11.00	1.80	92% BLACK	N	N	3 G
CQFN1111B	40	0.90	SQ 8.00	4.75	SQ 11.00	5.30	92% BLACK	N	Y	3 G
CQFN1111C	40	0.90	SQ 8.00	2.00	SQ 11.00	2.55	92% BLACK	N	Y	3 G
CQFN1313A	48	0.90	SQ 10.00	1.25	SQ 13.00	1.80	92% BLACK	N	N	3 G
CQFN1313B	48	0.90	SQ 10.00	1.55	SQ 13.00	2.10	92% BLACK	N	Y	3 G
CQFN1515A	48	1.10	SQ 12.00	1.75	SQ 15.00	2.55	92% BLACK	N	Y	2 G
CQFN1616A	48	1.20	SQ 12.00	2.75	SQ 16.30	3.30	92% BLACK	N	Y	2 G
CQFN2020A	32	1.27	SQ 15.00	4.96	SQ 20.60	5.70	92% BLACK	N	Y	1 G
CQFN2424A	68	1.27	SQ 14.73	1.14	SQ 24.13	2.16	92% BLACK	N	N	1 G

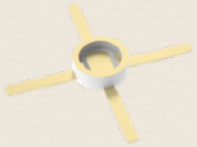
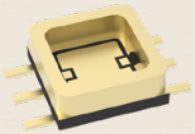
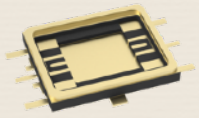
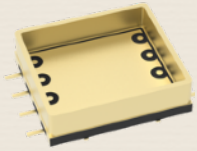
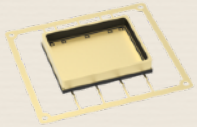
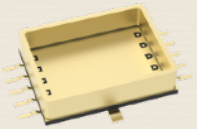
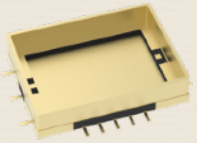
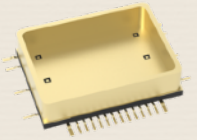
Unit: mm

SURFACE-MOUNT MICROWAVE POWER PACKAGE FOR MMICS

Diagram								
Package No.	CQFN0404B	CQFN0404C	CQFN0505B	CQFN0707A	CQFN0707D	CQFN0707E	CQFN0707C	CQFN0909D
Max Operating Freq. (Hz)	25G	30G	30G	40G	30G	25G	40G	30G
Lead Count	10	23	24	18	36	36	48	34
RF Terminal Count	5	3	5	2	7	6	4	6
Control Terminal Count	5	10	9	12	4	4	6	20
Die Cav. Size	SQ2.1	SQ1.7	SQ2.7	SQ4.0	SQ4.7	SQ5.5	SQ4.6	SQ7.0
Die Cav. Height	0.5	0.7	0.7	0.36	1.35	1.35	0.88	0.80
Die Cav. Material	Al_2O_3	Al_2O_3	Al_2O_3	MoCu	MoCu	MoCu	Al_2O_3	MoCu
Sealing Method	AuSn	AuSn	AuSn	AuSn	Parallel	Parallel	Parallel	AuSn
External Size	SQ4.0	SQ4.0	SQ5.0	SQ7.0	SQ7.0	SQ7.0	SQ7.0	SQ9.3
External Hight	0.75	1.05	1.00	0.54	1.65	1.65	1.15	1.05

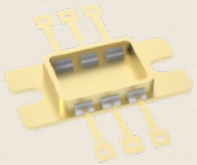
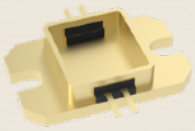
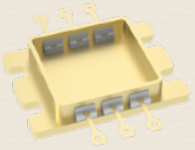
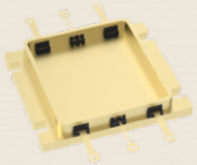
Unit: mm

SURFACE-MOUNT MICROWAVE POWER PACKAGE FOR MMICS

Diagram								
Package No.	TOC02A	CSOP0404A	CSOP0807A	CSOP1312A	CSOP1512A	CSOP1814A	CSOP2015A	CSOP2015B
Max Operating Freq. (Hz)	16G	8G	8G	6G	8G	6G	8G	20G
Lead Count	4	6	8	8	9	11	11	22
RF Terminal Count	2	2	2	8	8	10	2	6
Control Terminal Count	2	4	4	0	0	0	5	11
Die Cav. Size	1.4x1.0	2.3x1.8	3.8x3.3	9.9x8.7	13.2x8.5	14.4x12.2	16.2x11.2	13.9x11.1
Die Cav. Height	0.46	0.95	0.80	2.5	1.9	3.5	3.55	1.65
Die Cav. Material	Al_2O_3	Al_2O_3	Kovar	Al_2O_3	Al_2O_3	Al_2O_3	Al_2O_3	Al_2O_3
Sealing Method	AuSn	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel
External Size	DIA2.4	SQ3.8	8.26x6.90	13.0x11.6	15.0x12.0	18.0x13.8	20.0x15.0	20.0x15.0
External Hight	0.82	1.60	1.25	3.70	2.85	4.50	4.40	2.80

Unit: mm

POWER TRANSISTOR PACKAGES

Diagram								
Package No.		FPC0808A	FPC1007A	FPC1211A	FPC1615A	FPC1616A	FPC1616B	FPC2623A
Max Operating Freq. (Hz)		20G	12G	8G	14G	5G	5G	10G
Base Plate	Material	WCu	CPC141	CPC141	CPC141	CPC141	CPC141	CPC141
	Dimensions	17.8x8.3	18.03x8.70	21.0x13.0	24.0x17.4	24.0x17.4	24.0x17.5	30.8x27.4
	Thickness	0.50	0.50	1.65	1.40	1.40	1.40	2.00
Lead	Count	6	6	4	2	2	6	6
	Length	2.0MIN	3.0MIN	3.50MIN	3.5MIN	2.00MIN	2.00MIN	3.95MIN
	Width	0.30/0.50	0.76	0.70	0.70	0.70	0.60	0.40/1.27
	Height	1.00	1.00	2.65	2.40	2.40	2.40	3.00
Die Cavity	Size	5.78x4.90	8.00x4.70	9.35x9.00	13.50x13.40	14.50x12.80	14.50x12.80	22.70x21.50
	Height	0.87	1.74	2.90	3.10	3.00	3.00	3.00

Unit: mm

MICROWAVE POWER DEVICE PACKAGES (I)

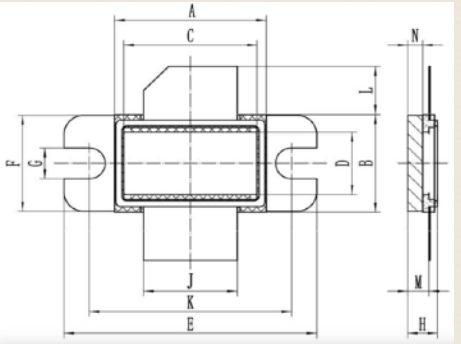
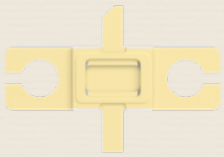
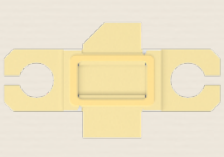


Diagram							
Package No.		CMPD0504A	CMPD0504B	CMPD0906A	CMPD0906B	CMPD1510A	CMPD1706A
Ceramic Outer Dimensions A x B		5.20x4.10	5.20x4.10	9.20x5.84	9.20x5.84	15.24x10.20	16.50x5.84
Die Cavity Size C x D		3.60x1.70	3.20x2.10	6.60x2.80	6.70x2.80	13.40x6.50	13.21x2.80
Flange	Dimensions E x F	14.00x4.10	14.00x4.10	20.32x5.84	20.32x5.84	25.40x10.00	28.92x5.84
	Thickness N	1.00	1.00	1.00	1.52	1.50	1.52
	Material	CPC	WCu	WCu	CPC	CPC	CPC
Mounting Hole	Distance K	9.50	9.50	14.28	14.28	22.32	22.84
	Diameter G	2.50	2.50	3.30	3.30	3.25	3.00
Pin	Count	2	2	2	2	2	4
	Length L	2.50	2.50	3.00	2.50	3.28	5.98
	Width J	1.30	1.30	5.46	5.46	9.40	5.46
	Height M	1.55	1.55	1.50	2.10	2.15	2.08
Total Height H		2.00	1.65	1.60	2.77	3.00	2.20
Sealing Method		AuSn	Adhesive	Adhesive	AuSn	AuSn	Adhesive

Unit: mm

MICROWAVE POWER DEVICE PACKAGES (II)

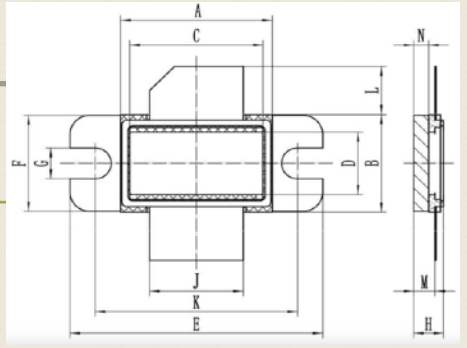
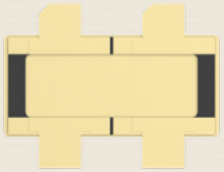
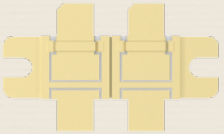
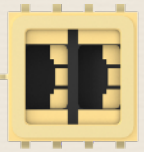
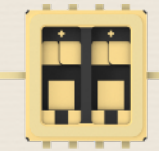
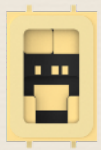


Diagram							
Package No.		CMPD2009A	CMPD2210A	CMPD3016A	CMPD3109A	CMPD3109B	
Ceramic Outer Dimensions A x B		19.80x9.40	10.80x10.16	29.50x13.30	31.24x10.00	31.24x9.40	
Die Cavity Size C x D		16.51x6.10	7.57x4.06	26.10x9.90	28.84x6.00	28.84x7.00	
Flange	Dimensions E x F	20.60x9.80	34.04x9.78	30.00x13.50	41.15x10.16	41.15x10.16	
	Thickness N	1.00	1.65	1.57	2.20	1.62	
	Material	CPC	WCu	CPC	CPC	CPC	
Mounting Hole	Distance K	–	27.94	–	35.58	35.58	
	Diameter G	–	3.15	–	3.18	3.18	
Pin	Count	4	4	12	4	4	
	Length L	3.00	5.08	3.00	3.60	3.23	
	Width J	4.00	5.70	3.30/1.70/0.89	11.68	11.68	
	Height M	1.50	2.72	2.13	2.90	2.16	
Total Height H		1.62	3.56	2.28	4.60	2.28	
Sealing Method		Adhesive	Adhesive	Adhesive	AuSn	Adhesive	

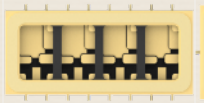
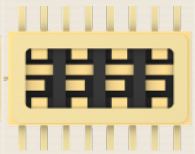
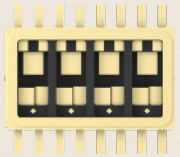
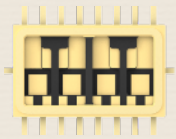
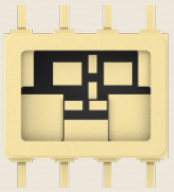
Unit: mm

OPTRONICS/SOLID-STATE RELAY PACKAGES(I)

Diagram									
Package No.		CLCC0302A	CSOP0403A	CSOP0505B	CSOP0505C	CSOP0604B	CSOP0604C	CSOP0605A	CLCC0705A
Framework Lead	Lead Count	4	4	8	8	6	6	8	4
	Lead Pitch	2.40	1.27	1.27	1.27	1.27	1.27	1.27	2.54
	Lead-Out Method	LCC	SOP	SOP	SOP	SOP	SOP	SOP	LCC
Die Cavity Size		2.55x1.70	3.00x1.90	3.70x1.64	3.70x1.64	4.80x3.10	4.80x3.10	4.90x1.88	5.40x3.20
External Size		3.20x2.50	4.50x3.40	5.18x5.16	5.18x5.16	6.20x4.50	6.20x4.50	6.30x5.85	7.40x5.20
Layer Thickness (Measured from the ceramic outer base)	1st	0.25	0.5	0.6	0.6	0.7	0.7	0.6	0.6
	2nd	1.2	0.8	1.5	1.5	1.0	1.0	0.9	0.9
	3rd	–	1.6	2.1	2.1	1.6	1.6	1.4	1.7
	4th	–	2.0	–	–	2.0	2.0	1.9	2.3
	5th	–	–	–	–	–	–	–	–
	Total	1.35	2.3	2.4	2.4	2.3	2.3	2.2	2.55
Conduction Resistance		0.5 Ω	0.5 Ω	0.3 Ω	0.3 Ω	20 mΩ	20 mΩ	60 mΩ	20 mΩ
Cavity Count		1	1	2	2	1	1	2	1
Sealing Method		Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding

Unit: mm

OPTRONICS/SOLID-STATE RELAY PACKAGES(II)

Diagram									
Package No.		CLCC0807A	CLCC0904A	CSOP1005A	CSOP1006A	CSOP1006B	CLCC1007A	CLCC1206A	CDIP2007A
Framework Lead	Lead Count	6	16	16	16	16	8	16	8
	Lead Pitch	2.54	1.00	1.27	1.27	1.27	2.54	1.27	2.54
	Lead-Out Method	LCC	LCC	SOP	SOP	SOP	LCC	LCC	DIP
Die Cavity Size		6.60x5.40	2.60x1.60	3.40x1.60	4.70x1.85	4.00x1.85	7.70x5.40	3.50x2.10	5.40x3.60
External Size		8.40x7.40	9.00x4.00	10.50x5.40	10.50x6.30	10.50x6.30	9.70x7.40	11.90x6.30	20.70x7.40
Layer Thickness (Measured from the ceramic outer base)	1st	0.6	0.6	0.7	0.6	0.6	0.6	0.7	1.2
	2nd	1.1	0.9	1.6	0.9	0.9	1.1	0.8	1.5
	3rd	1.7	1.7	1.96	1.4	1.4	1.7	1.0	2.4
	4th	2.3	2.3	–	1.7	1.9	2.6	1.9	3.3
	5th	–	–	–	–	–	–	2.3	–
	Total	2.55	2.55	2.3	2.2	2.2	2.85	2.6	3.6
Conduction Resistance		25 mΩ	0.5Ω	0.5Ω	60 mΩ	60 mΩ	30 mΩ	4 mΩ	25 mΩ
Cavity Count		1	4	4	4	4	1	4	4
Sealing Method		Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding	Parallel Seam Welding

Unit: mm