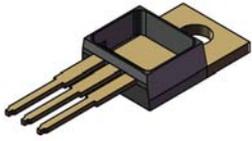
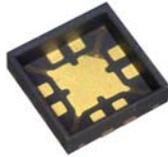


Open (Air) Cavity QFN Plastic Packages 2026-A

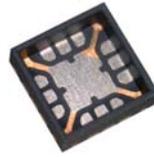




3L TO220–Page 4



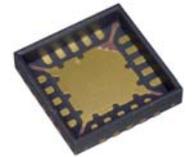
8L QFN–Page 5



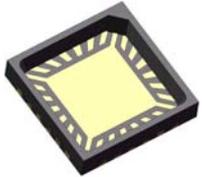
12L QFN–Page 6



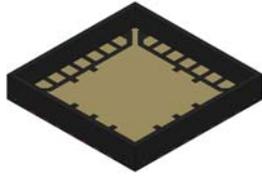
16L QFN–Page 7



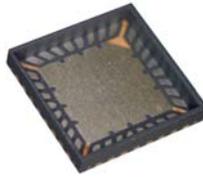
20L QFN–Page 8



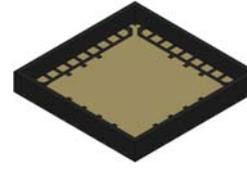
24L QFN–Page 9



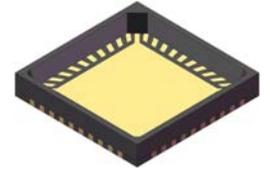
28L QFN–Page 10



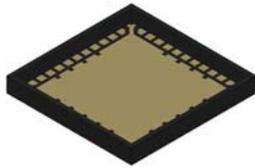
32L QFN–Page 11



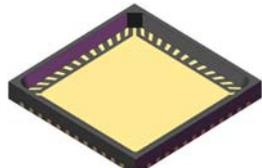
36L QFN–Page 12



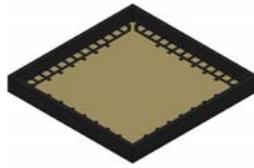
40L QFN–Page 13



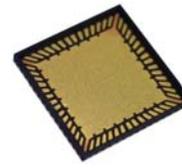
44L QFN–Page 14



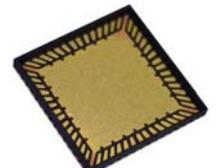
48L QFN–Page 15



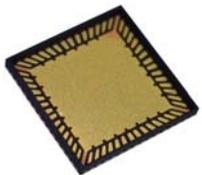
52L QFN–Page 16



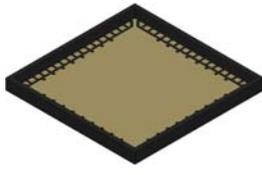
56L QFN–Page 17



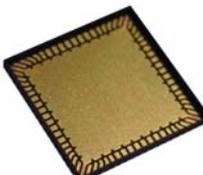
60L QFN–Page 18



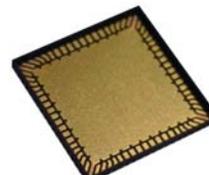
64L QFN–Page 19



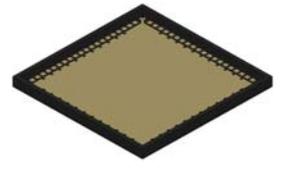
68L QFN–Page 20



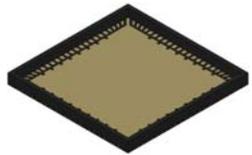
72L QFN–Page 21



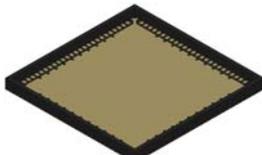
76L QFN–Page 22



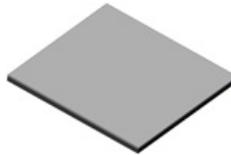
80L QFN–Page 23



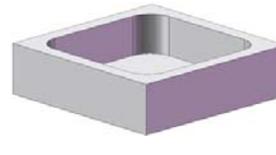
88L QFN–Page 24



100L QFN–Page 25



Flat Lids
Page 26 ~ 34



DOME Cavity Lids
Page 26 ~ 34

**Lid
Material
Properties**

Page 35

**Package
Part Number
System**

Page 36~37

**Lid
Part Number
System**

Page 38~39

**Tray
Packing**

Page 40~41

**International
Distributors**

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About MirrorSemi:

MirrorSemi is our brand name for open (air) cavity plastic packages. We are tooled to make plastic QFN packages for microelectronics labs, universities and volume users. Easy to Order. Contact us today.

What are Open Cavity (Air) Packages:

Open Cavity packages (also known as Air Cavity) are made for die bonding and wire bonding semiconductor die, RF chips and sensors. These packages are useful for all prototyping and production needs. They are perfect for sensors and RF circuitry. We make packages in two cavity depths: 0.6mm (standard) and 1.0mm for tall die.

Cavity Packages for Tall Die :

M-QFN Series: Cavity Depth 0.6mm

H-QFN Series: Cavity Depth 1.0mm

Even taller die >1.0mm can fit by adding our Dome CAP lid series to cover the package.

Plating Choice: Ni/Au or Ni-Pd-Au:

Ni/Au (thick gold) has a long history of success for wire-bonding. However, there is a concern that thick gold is not preferred for soldering on ENIG PCB boards, with the potential for Black Pad phenomena, resulting in weak solder joints.

Ni-Pd-Au (thin gold) is optimum for both wire-bonding and soldering to PCB boards. A thin layer of gold covers palladium (Pd) on the lead-frame for a strong wire bond. The thin gold eliminates concern about Black Pad phenomena when soldering the package onto ENIG PC Boards.

How To Order:

Contact TopLine for all of your open-cavity plastic packaging needs. We look forward to discussing your technical needs. Packages are in stock and will be on the way to you immediately.

Flat Lid:

We offer a full range of flat lids (covers) to seal your cavity packages. Sizes are standard 3x3mm to 12x12mm. We also make custom sizes. We offer a variety of materials including: Semiconductor Grade EMC, BT, Rogers RO4003C and glass. Lids are available with and without B-Stage adhesive.

Dome Lid:

We offer a full range of dome cavity lids (covers) to seal packages with tall (thick) die. Sizes are standard 3x3mm to 12x12mm. We make custom sizes too. We offer a variety of materials including: Semiconductor Grade EMC, BT, Rogers RO4003C and glass. Lids are available with and without B-Stage adhesive.

Customized Packages & Lids:

We welcome your inquiries for customized packages and lids.

Contact:

TopLine Corporation

95 Highway 22 W.
Milledgeville, GA 31061 USA

Tel: +1-800-776-9888

Email: info @TopLine.tv

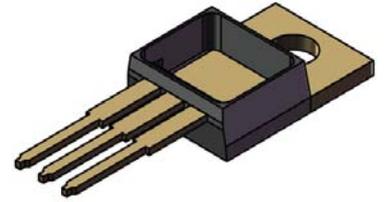
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We accept credit cards:



Ready to assist you.

3L TO220 Open (Air) Cavity Plastic Package



Nbr Pins	Size D x E	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
3L	10x16mm	2.54mm	Ni-Au	4.5x8.6mm	3.0mm	10	M-TO220-G3	122203	OT

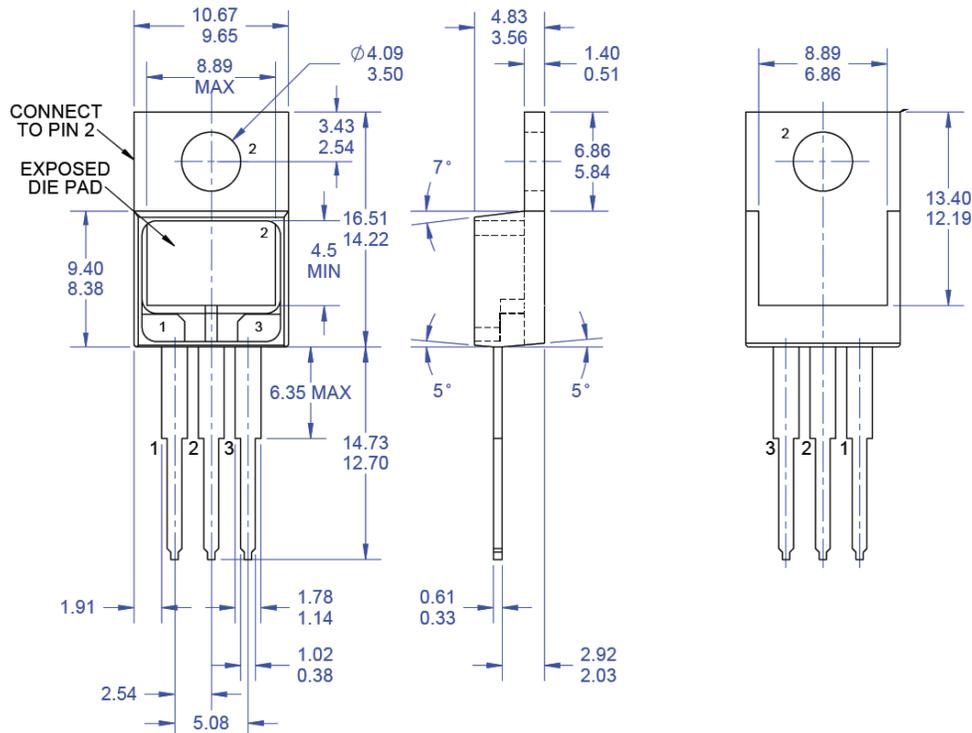
Road Map Notes: OT=Open Tool

Pad Plating		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6 Au 1.0~2.0	Ni 100~300 Au 40~80

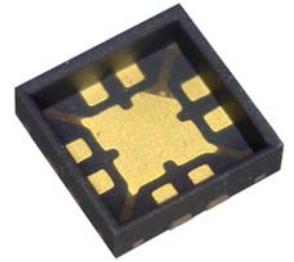
Package Specification	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID T-LID	Black Black	EMC G770H BT	No
U-LID B-LID	Black Black	EMC G770H BT	Yes

Lids: 9.7 x 8.2mm



8L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
8L	3x3mm	0.65mm	Ni-Au	1.4mm	0.6mm	25	M-QFN8M.65-G3	460833	OT
						100	M-QFN8W.65-G3	460830	OT
						256	M-QFN8T.65-G3	460834	OT
			Ni-Pd-Au	1.2mm	0.6mm	100	M-QFN8W.65-G6	460860	2026
						256	M-QFN8T.65-G6	460864	2026
					1.0mm	100	H-QFN8W.65-G6	460862	2026
256	H-QFN8T.65-G6	460861	2026						

Road Map Notes: OT=Open Tool

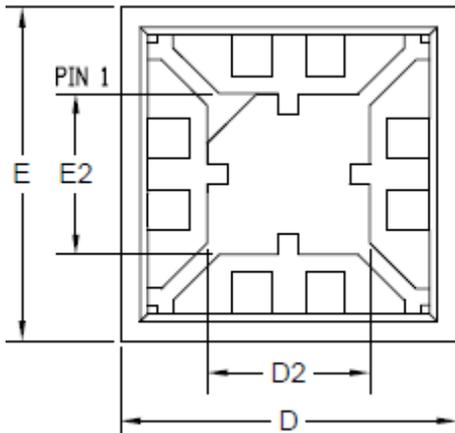
Pad Plating		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6 Au 1.0~2.0	Ni 100~300 Au 40~80
G6	Ni 0.50~2.0 Pd 0.02~0.15 Au 0.003~0.01	Ni 20~80 Pd 0.8~6.0 Au 0.12~0.40

Package Specification	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Pages 26

TOP VIEW

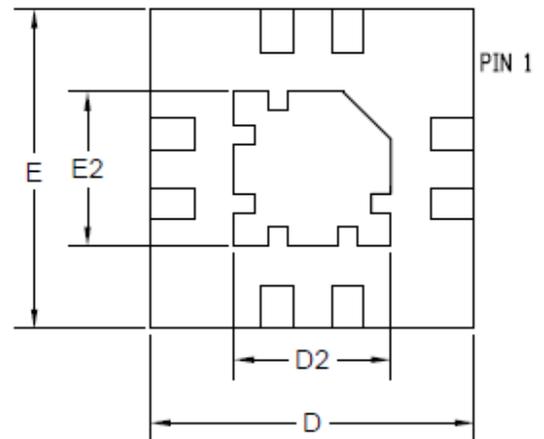


SIDE VIEW

Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



12L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
12L	3x3mm	0.5mm	Ni-Au	1.4mm	0.6mm	25	M-QFN12M.5-G3	451233	OT
						100	M-QFN12W.5-G3	451230	OT
						256	M-QFN12T.5-G3	451234	OT
			Ni-Pd-Au	1.2mm	0.6mm	100	M-QFN12W.5-G6	451260	OT
						256	M-QFN12T.5-G6	451264	OT
					1.0mm	100	H-QFN12W.5-G6	451262	OT
256	H-QFN12T.5-G6	451261	OT						
12L	3x3mm	0.65mm	Ni-Au	1.4mm	0.6mm	25	M-QFN12M.65-3MM-G3	461333	OT
						100	M-QFN12W.65-3MM-G3	461330	OT
						256	M-QFN12T.65-3MM-G3	461234	OT
			Ni-Pd-Au	1.2mm	0.6mm	100	M-QFN12W.65-3MM-G6	461360	2026
						256	M-QFN12T.65-3MM-G6	461364	2026
					1.0mm	100	H-QFN12W.65-3MM-G6	461362	2026
256	H-QFN12T.65-3MM-G6	461361	2026						
12L	4x4mm	0.65mm	Ni-Pd-Au	1.2mm	0.6mm	64	M-QFN12W.65-4MM-G6	461260	2026
						196	M-QFN12T.65-4MM-G6	461264	2026
					1.0mm	64	H-QFN12W.65-4MM-G6	461262	2026
						196	H-QFN12T.65-4MM-G6	461261	2026
12L	4x4mm	0.8mm	Ni-Pd-Au	2.0mm	0.6mm	64	M-QFN12W.8-G6	481260	2026
						196	M-QFN12T.8-G6	481264	2026
					1.0mm	64	H-QFN12W.8-G6	481262	2026
						196	H-QFN12T.8-G6	481261	2026

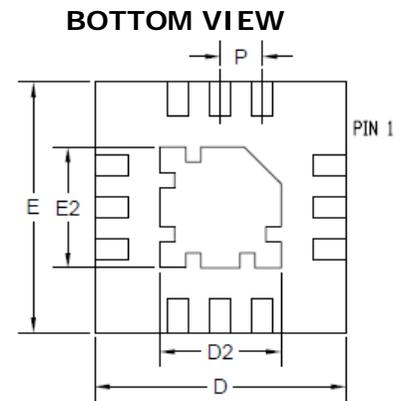
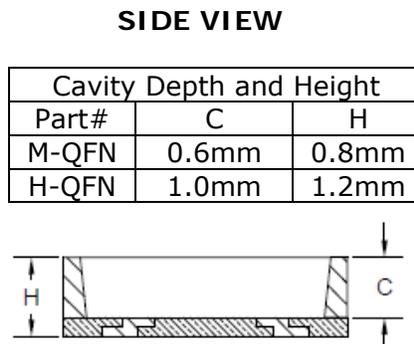
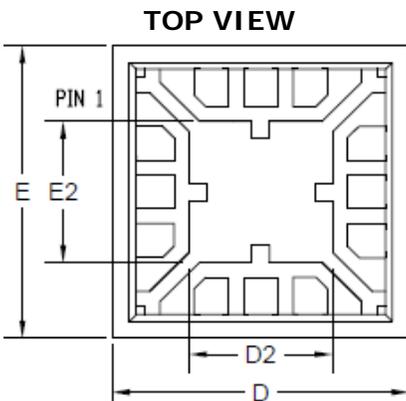
Road Map Notes: OT=Open Tool

Surface Plating Specification		
Code	um	Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

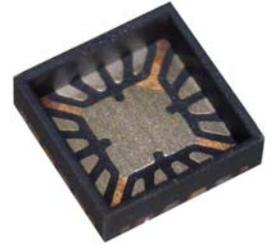
Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Page 26-27



16L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
16L	3x3mm	0.5mm	Ni-Au	1.4mm	0.6mm	25	M-QFN16M.5-G3	451633	OT
						100	M-QFN16W.5-G3	451630	OT
						256	M-QFN16T.5-G3	451634	OT
			Ni-Pd-Au	1.2mm	0.6mm	100	M-QFN16W.5-G6	451660	OT
						256	M-QFN16T.5-G6	451664	OT
					1.0mm	100	H-QFN16W.5-G6	451662	OT
256	H-QFN16T.5-G6	451661	OT						
16L	4x4mm	0.65mm	Ni-Au	2.4mm	0.6mm	25	M-QFN16M.65-G3	461633	OT
						64	M-QFN16W.65-G3	461630	OT
						196	M-QFN16T.65-G3	461634	OT
			Ni-Pd-Au	2.0mm	0.6mm	64	M-QFN16W.65-G6	461660	2026
						196	M-QFN16T.65-G6	461664	2026
					1.0mm	64	H-QFN16W.65-G6	461662	2026
196	H-QFN16T.65-G6	461661	2026						
16L	5x5mm	0.8mm	Ni-Au	3.4mm	0.6mm	36	M-QFN16W.8-G3	481630	OT
						144	M-QFN16T.8-G3	481634	OT
						36	M-QFN16W.8-G6	481660	2026
			Ni-Pd-Au	3.0mm	1.0mm	144	M-QFN16T.8-G6	481660	2026
						36	H-QFN16W.8-G6	481662	2026
					1.0mm	144	H-QFN16T.8-G6	481661	2026

Road Map Notes: OT=Open Tool

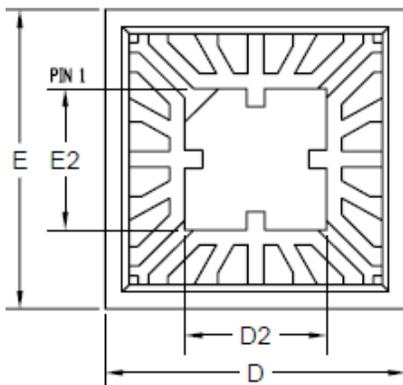
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

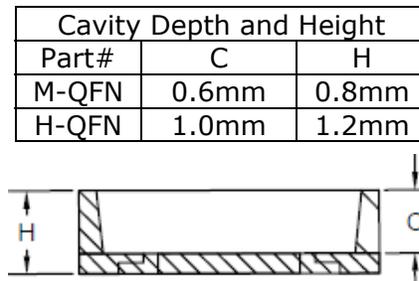
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Page 26-38

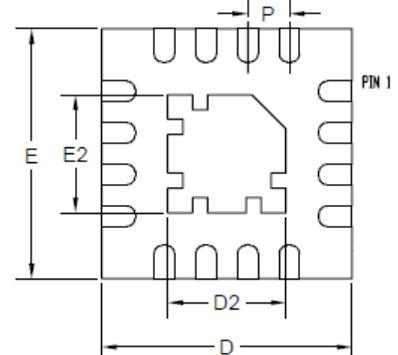
TOP VIEW



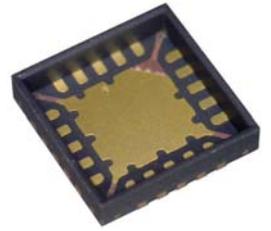
SIDE VIEW



BOTTOM VIEW



20L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map	
20L	3x3mm	0.4mm	Ni-Pd-Au	1.2mm	0.6mm	100	M-QFN20W.4-G6	442060	2026	
						256	M-QFN20T.4-G6	442064	2026	
					1.0mm	100	H-QFN20W.4-G6	442062	2026	
						256	H-QFN20T.4-G6	442061	2026	
20L	4x4mm	0.5mm	Ni-Au	2.4mm	0.6mm	25	M-QFN20M.5-G3	452033	OT	
						64	M-QFN20W.5-G3	452030	OT	
						196	M-QFN20T.5-G3	452034	OT	
						64	M-QFN20W.5-G6	452060	2026	
			Ni-Pd-Au	2.0mm	0.6mm	196	M-QFN20T.5-G6	452064	2026	
						64	H-QFN20W.5-G6	452062	2026	
						1.0mm	196	H-QFN20T.5-G6	452061	2026
							64	H-QFN20W.5-G6	452062	2026
20L	5x5mm	0.65mm	Ni-Au	3.4mm	0.6mm	25	M-QFN20M.65-G3	462033	OT	
						36	M-QFN20W.65-G3	462030	OT	
						144	M-QFN20T.65-G3	462034	OT	
						36	M-QFN20W.65-G6	462060	2026	
			Ni-Pd-Au	3.0mm	0.6mm	144	M-QFN20T.65-G6	462064	2026	
						1.0mm	36	H-QFN20W.65-G6	462062	2026
							144	H-QFN20T.65-G6	462061	2026
						0.6mm	36	M-QFN20W.8-G6	482060	2026
1.0mm	144	M-QFN20T.8-G6	482064	2026						
	36	H-QFN20W.8-G6	482062	2026						
144	H-QFN20T.8-G6	482061	2026							

Road Map Notes: OT=Open Tool

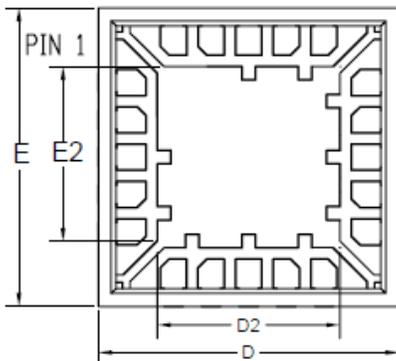
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6 Au 1.0~2.0	Ni 100~300 Au 40~80
G6	Ni 0.50~2.0 Pd 0.02~0.15 Au 0.003~0.01	Ni 20~80 Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

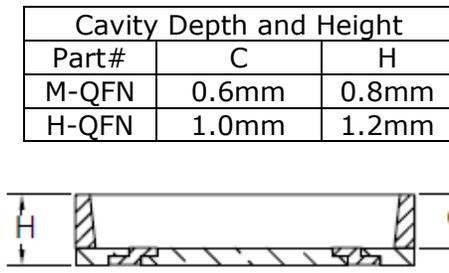
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Page 26-28

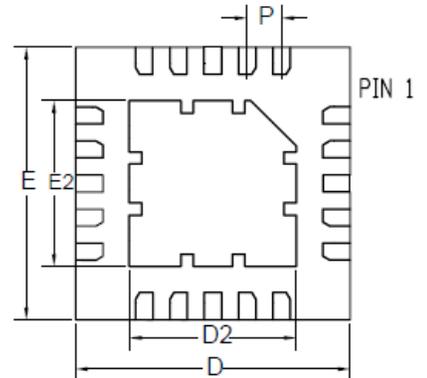
TOP VIEW

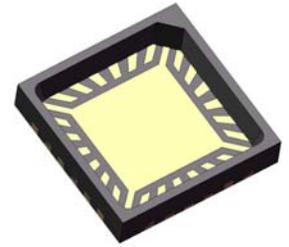


SIDE VIEW



BOTTOM VIEW





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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
24L	4x4mm	0.5mm	Ni-Au	2.4mm	0.6mm	25	M-QFN24M.5-G3	452433	OT
						64	M-QFN24W.5-G3	452430	OT
						196	M-QFN24T.5-G3	452434	OT
			Ni-Pd-Au	2.0mm	0.6mm	64	M-QFN24W.5-G6	452460	OT
						196	M-QFN24T.5-G6	452464	OT
						64	H-QFN24W.5-G6	452462	OT
196	H-QFN24T.5-G6	452461	OT						
24L	5x5mm	0.65mm	Ni-Au	3.4mm	0.6mm	25	M-QFN24M.65-G3	462433	OT
						36	M-QFN24W.65-G3	462430	OT
						144	M-QFN24T.65-G3	462434	OT
			Ni-Pd-Au	3.0mm	0.6mm	36	M-QFN24W.65-G6	462460	2026
						144	M-QFN24T.65-G6	462464	2026
						36	H-QFN24W.65-G6	462462	2026
144	H-QFN24T.65-G6	462461	2026						
24L	6x6mm	0.8mm	Ni-Pd-Au	4.0mm	0.6mm	25	M-QFN24W.8-G6	482460	2026
						121	M-QFN24T.8-G6	482464	2026
					1.0mm	25	H-QFN24W.8-G6	482462	2026
						121	H-QFN24T.8-G6	482461	2026

Road Map Notes: OT=Open Tool

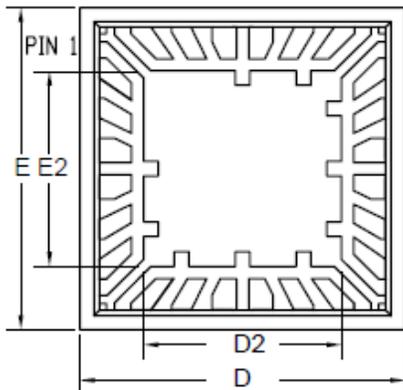
Surface Plating Specification		
Code	um	Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black/White	BT RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Page 27-29

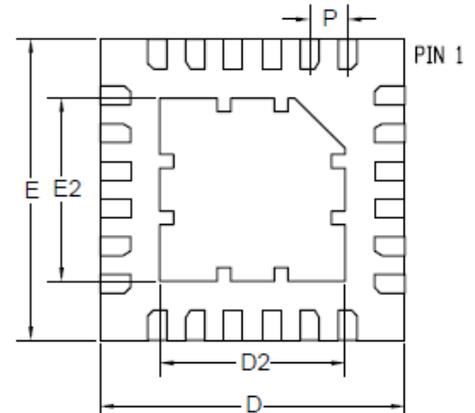
TOP VIEW



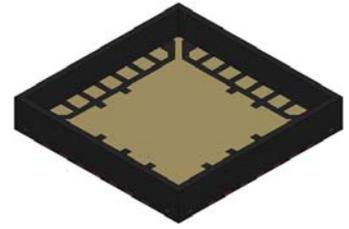
SIDE VIEW

Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm

BOTTOM VIEW



28L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
28L	4x4mm	0.4mm	Ni-Au	2.4mm	0.6mm	25	M-QFN28M.4-G3	442833	OT
						64	M-QFN28W.4-G3	442830	OT
						196	M-QFN28T.4-G3	442834	OT
			Ni-Pd-Au	2.0mm	0.6mm	64	M-QFN28W.4-G6	442860	2026
						196	M-QFN28T.4-G6	442864	2026
					1.0mm	64	H-QFN28W.4-G6	442862	2026
196	H-QFN28T.4-G6	442861	2026						
28L	5x5mm	0.5mm	Ni-Au	3.4mm	0.6mm	25	M-QFN28M.5-G3	452833	OT
						36	M-QFN28W.5-G3	452830	OT
						144	M-QFN28T.5-G3	452834	OT
			Ni-Pd-Au	3.0mm	0.6mm	36	M-QFN28W.5-G6	452860	2026
						144	M-QFN28T.5-G6	452864	2026
					1.0mm	36	H-QFN28W.5-G6	452862	2026
144	H-QFN28T.5-G6	452861	2026						
28L	6x6mm	0.65mm	Ni-Au	4.3mm	0.6mm	25	M-QFN28M.65-G3	462833	OT
						121	M-QFN28T.65-G3	462834	OT
						25	M-QFN28W.65-G6	462860	2026
			Ni-Pd-Au	4.0mm	0.6mm	121	M-QFN28T.65-G6	462864	2026
						25	H-QFN28W.65-G6	462862	2026
					1.0mm	121	H-QFN28T.65-G6	462861	2026
28L	7x7mm	0.8mm	Ni-Pd-Au	5.0mm	0.6mm	81	M-QFN28T.8-G6	482864	2026
					1.0mm	81	H-QFN28T.8-G6	482861	2026

Road Map Notes: OT=Open Tool

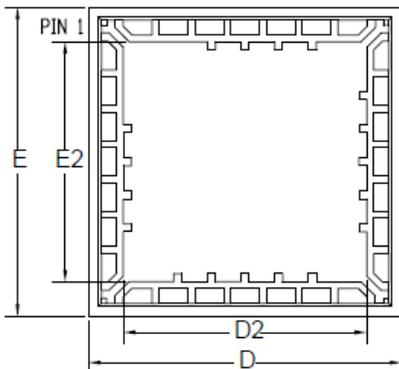
Surface Plating Specification		
Code	um	Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID			

Lids: Page 27-30

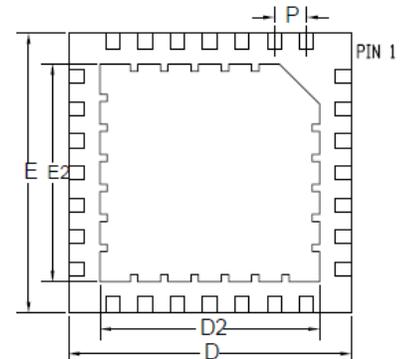
TOP VIEW



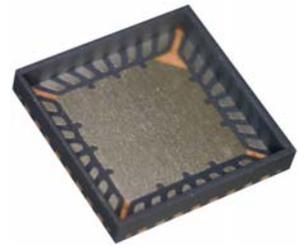
SIDE VIEW

Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm

BOTTOM VIEW



32L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map	
32L	4x4mm	0.4mm	Ni-Pd-Au	2.0mm	0.6mm	64	M-QFN32W.4-G6	443260	2026	
						196	M-QFN32T.4-G6	443264	2026	
					1.0mm	64	H-QFN32W.4-G6	443262	2026	
						196	H-QFN32T.4-G6	443261	2026	
32L	5x5mm	0.5mm	Ni-Au	3.4mm	0.6mm	25	M-QFN32M.5-G3	453233	OT	
						36	M-QFN32W.5-G3	453230	OT	
						144	M-QFN32T.5-G3	453234	OT	
			Ni-Pd-Au	3.0mm	0.6mm	36	M-QFN32W.5-G6	453260	OT	
						144	M-QFN32T.5-G6	453264	OT	
					1.0mm	36	H-QFN32W.5-G6	453262	OT	
						144	H-QFN32T.5-G6	453261	OT	
32L	7x7mm	0.65mm	Ni-Au	5.3mm	0.6mm	25	M-QFN32M.65-G3	463233	OT	
						121	M-QFN32T.65-G3	463234	OT	
			Ni-Pd-Au	5.0mm	0.6mm	25	M-QFN32W.65-G6	463260	2026	
						121	M-QFN32T.65-G6	463264	2026	
					1.0mm	25	H-QFN32W.65-G6	463262	2026	
						121	H-QFN32T.65-G6	463261	2026	
32L	8x8mm	0.8mm	Ni-Pd-Au	6.0mm	0.6mm	16	M-QFN32W.8-G6	483260	2026	
						64	M-QFN32T.8-G6	483264	2026	
					1.0mm	16	H-QFN32W.8-G6	483262	2026	
						64	H-QFN32T.8-G6	483261	2026	

Road Map Notes: OT=Open Tool

Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15	Pd 0.8~6.0
	Au 0.003~0.01	Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

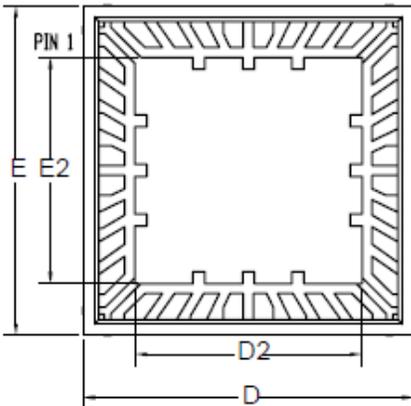
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Page 27-31

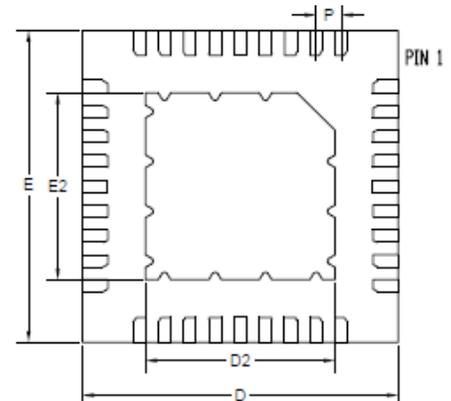
TOP VIEW

SIDE VIEW

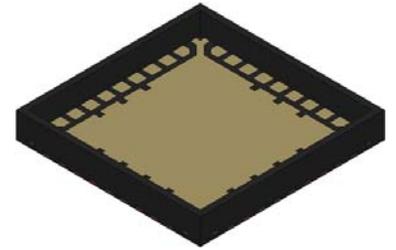
BOTTOM VIEW



Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



36L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
36L	5x5mm	0.4mm	Ni-Pd-Au	3.0mm	0.6mm	36	M-QFN36W.4-G6	443660	2026
						144	M-QFN36T.4-G6	443664	2026
					1.0mm	36	H-QFN36W.4-G6	443662	2026
						144	H-QFN36T.4-G6	443661	2026
36L	6x6mm	0.5mm	Ni-Au	4.3mm	0.6mm	25	M-QFN36M.5-G3	453633	OT
						121	M-QFN36T.5-G3	453634	OT
			Ni-Pd-Au	4.0mm	0.6mm	25	M-QFN36W.5-G6	453660	OT
						121	M-QFN36T.5-G6	453664	OT
					1.0mm	25	H-QFN36W.5-G6	453662	OT
						121	H-QFN36T.5-G6	453661	OT

Road Map Notes: OT=Open Tool

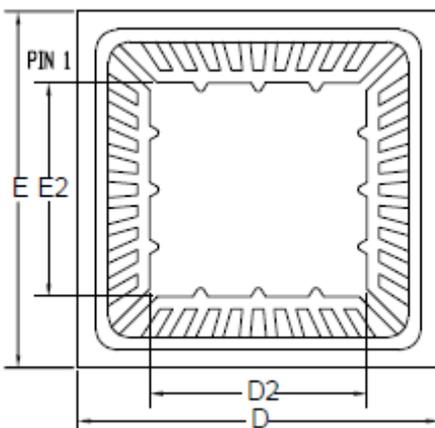
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15	Pd 0.8~6.0
	Au 0.003~0.01	Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

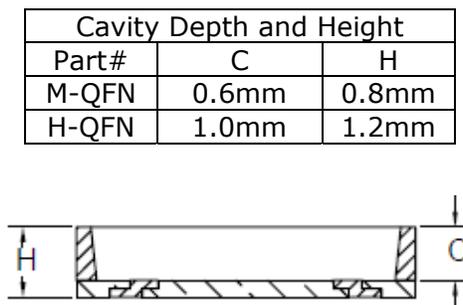
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: Page 28-29

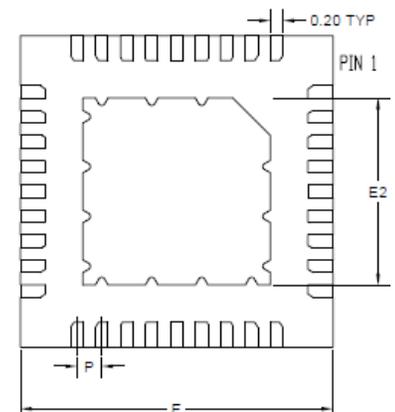
TOP VIEW



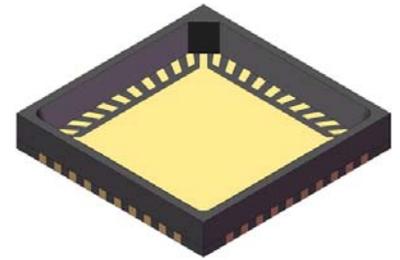
SIDE VIEW



BOTTOM VIEW



40L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
40L	5x5mm	0.4mm	Ni-Au	3.4mm	0.6mm	25	M-QFN40M.4-G3	444033	OT
						36	M-QFN40W.4-G3	444030	OT
						144	M-QFN40T.4-G3	444034	OT
			Ni-Pd-Au	3.0mm	0.6mm	36	M-QFN40W.4-G6	444060	2026
						144	M-QFN40T.4-G6	444064	2026
					1.0mm	36	H-QFN40W.4-G6	444062	2026
144	H-QFN40T.4-G6	444061	2026						
40L	6x6mm	0.5mm	Ni-Au	4.3mm	0.6mm	25	M-QFN40M.5-G3	454033	OT
						121	M-QFN40T.5-G3	454034	OT
			Ni-Pd-Au	4.0mm	0.6mm	25	M-QFN40W.5-G6	454060	OT
						121	M-QFN40T.5-G6	454064	OT
					1.0mm	25	H-QFN40W.5-G6	454062	OT
						121	H-QFN40T.5-G6	454061	OT

Road Map Notes: OT=Open Tool

Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

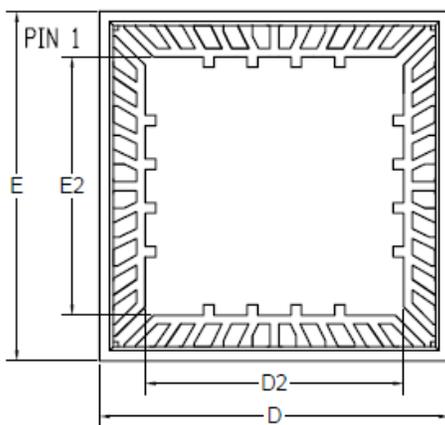
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID T-LID T-LID	Black Black White	EMC G770H BT RO-4003C	No
U-LID B-LID	Black Black	EMC G770H BT	Yes

Lids: Page 28-29

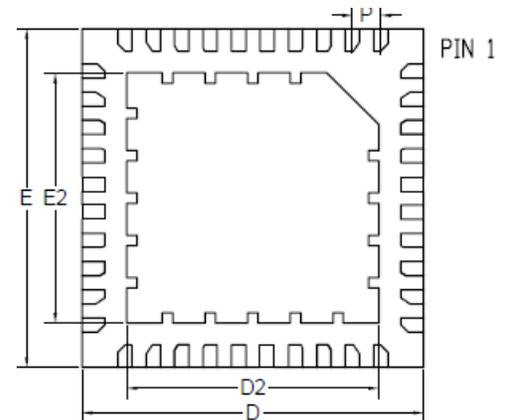
TOP VIEW

SIDE VIEW

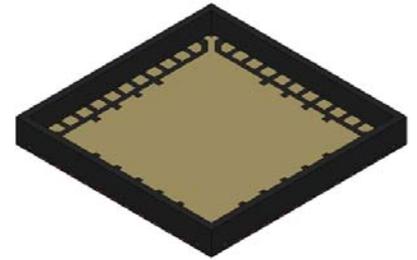
BOTTOM VIEW



Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



44L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
44L	7x7mm	0.5mm	Ni-Au	5.3mm	0.6mm	25	M-QFN44M.5-G3	454433	OT
						25	M-QFN44W.5-G3	454430	OT
						81	M-QFN44T.5-G3	454434	OT
			Ni-Pd-Au	5.0mm	0.6mm	25	M-QFN44W.5-G6	454460	2026
						81	M-QFN44T.5-G6	454464	2026
					1.0mm	25	H-QFN44W.5-G6	454462	2026
81	H-QFN44T.5-G6	454461	2026						
44L	8x8mm	0.65mm	Ni-Pd-Au	6.0mm	0.6mm	16	M-QFN44W.65-G6	464460	2026
						64	M-QFN44T.65-G6	464464	2026
					1.0mm	16	H-QFN44W.65-G6	464462	2026
						64	H-QFN44T.65-G6	464461	2026

Road Map Notes: OT=Open Tool

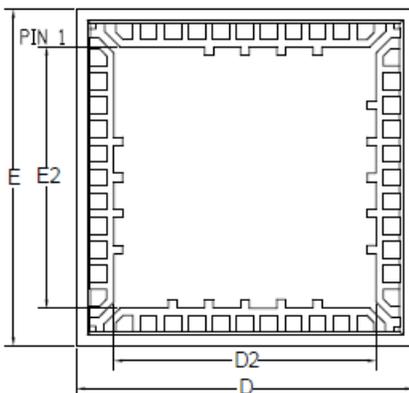
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

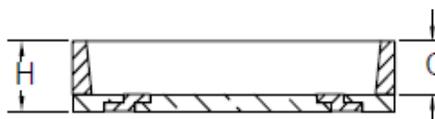
Lids: Page 30-31

TOP VIEW

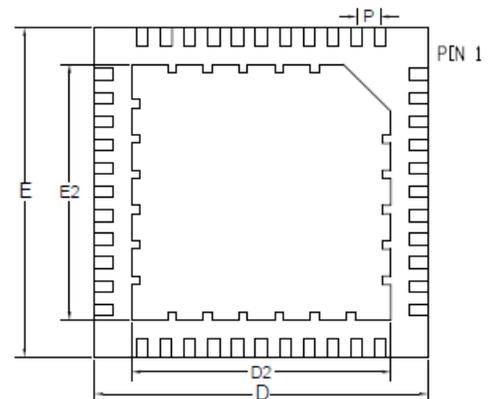


SIDE VIEW

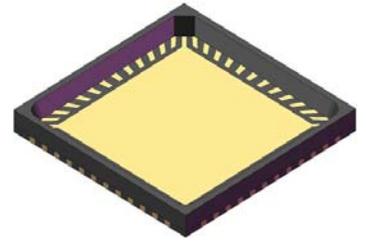
Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



48L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
48L	6x6mm	0.4mm	Ni-Au	4.3mm	0.6mm	25	M-QFN48M.4-G3	444833	OT
						25	M-QFN48W.4-G3	444830	OT
						121	M-QFN48T.4-G3	444834	OT
			Ni-Pd-Au	4.0mm	0.6mm	25	M-QFN48W.4-G6	444860	OT
						121	M-QFN48T.4-G6	444864	OT
					1.0mm	25	H-QFN48W.4-G6	444862	OT
121	H-QFN48T.4-G6	444861	OT						
48L	7x7mm	0.5mm	Ni-Au	5.3mm	0.6mm	25	M-QFN48M.5-G3	454833	OT
						25	M-QFN48W.5-G3	454830	OT
						81	M-QFN48T.5-G3	454834	OT
			Ni-Pd-Au	5.0mm	0.6mm	25	M-QFN48W.5-G6	454860	2026
						81	M-QFN48T.5-G6	454864	2026
					1.0mm	25	H-QFN48W.5-G6	454862	2026
81	H-QFN48T.5-G6	454861	2026						

Road Map Notes: OT=Open Tool

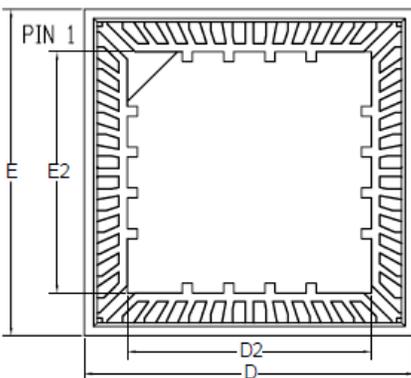
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15	Pd 0.8~6.0
	Au 0.003~0.01	Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H BT RO-4003C	No
T-LID	Black		
T-LID	White		
U-LID	Black Black	EMC G770H BT	Yes
B-LID			

Lids: See Page 29~30

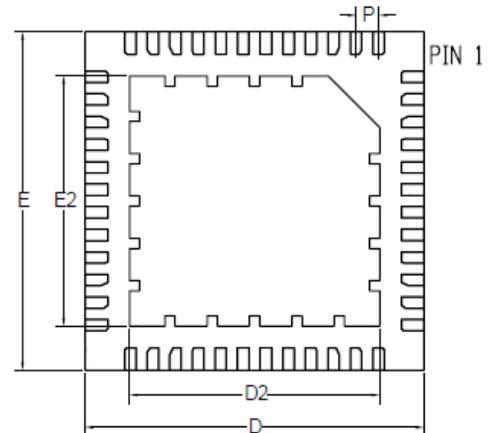
TOP VIEW



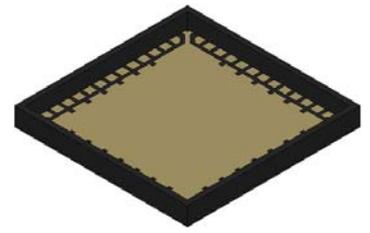
SIDE VIEW

Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm

BOTTOM VIEW



52L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
52L	7x7mm	0.4mm	Ni-Pd-Au	5.0mm	0.6mm	25	M-QFN52W.4-G6	445260	2026
						81	M-QFN52T.4-G6	445264	2026
					1.0mm	25	H-QFN52W.4-G6	445262	2026
						81	H-QFN52T.4-G6	445261	2026
52L	8x8mm	0.5mm	Ni-Pd-Au	6.0mm	0.6mm	16	M-QFN52W.5-G6	455260	2026
						64	M-QFN52T.5-G6	455264	2026
					1.0mm	16	H-QFN52W.5-G6	455262	2026
						64	H-QFN52T.5-G6	455261	2026

Road Map Notes: OT=Open Tool

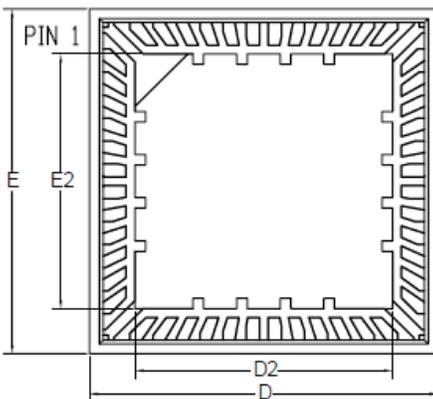
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0 ~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15	Pd 0.8~6.0
	Au 0.003~0.01	Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

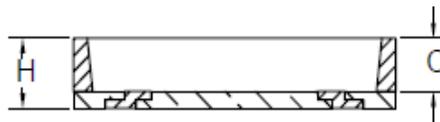
Lids: See Page 31

TOP VIEW

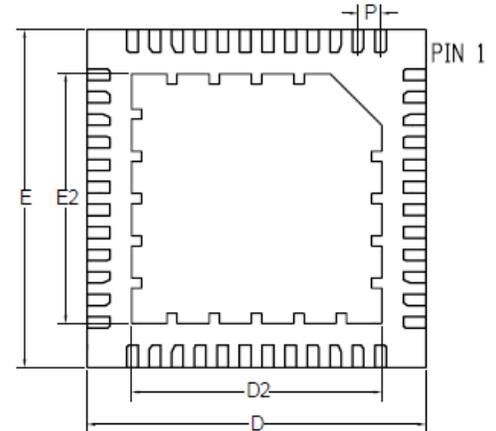


SIDE VIEW

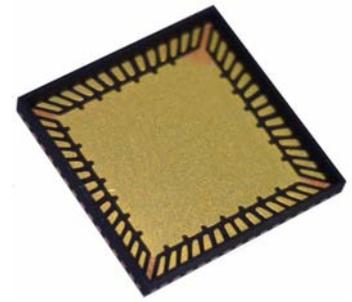
Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



56L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
56L	7x7mm	0.4mm	Ni-Pd-Au	5.0mm	0.6mm	25	M-QFN56W.4-G6	445660	2026
						81	M-QFN56T.4-G6	445664	2026
					1.0mm	25	H-QFN56W.4-G6	445662	2026
						81	H-QFN56T.4-G6	445661	2026
56L	8x8mm	0.5mm	Ni-Au	6.0mm	0.6mm	25	M-QFN56M.5-G3	455633	OT
						25	M-QFN56W.5-G3	455630	OT
					64	M-QFN56T.5-G3	455634	OT	
						Ni-Pd-Au	6.0mm	0.6mm	25
			64	M-QFN56T.5-G6	455664				2026
			1.0mm	25	H-QFN56W.5-G6			455662	2026
				64	H-QFN56T.5-G6			455661	2026

Road Map Notes: OT=Open Tool

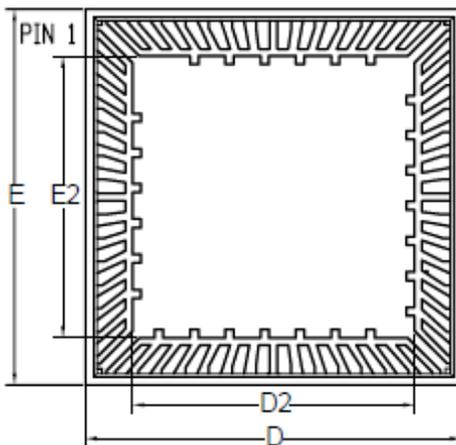
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: See Page 31

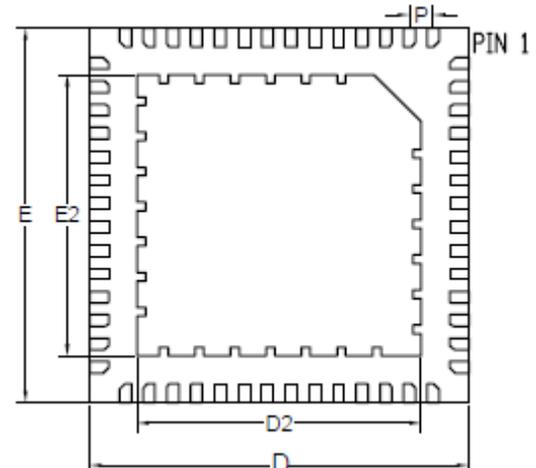
TOP VIEW



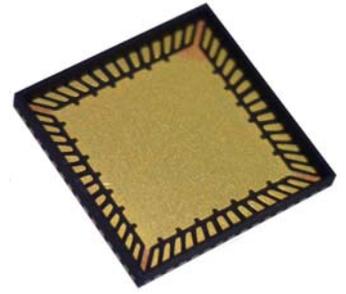
SIDE VIEW

Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm

BOTTOM VIEW



60L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
60L	7x7mm	0.4mm	Ni-Au	5.3mm	0.6mm	25	M-QFN60M.4-G3	446033	OT
						25	M-QFN60W.4-G3	446030	OT
						81	M-QFN60T.4-G3	446034	OT
			Ni-Pd-Au	5.0mm	0.6mm	25	M-QFN60W.4-G6	446060	2026
						81	M-QFN60T.4-G6	446064	2026
					1.0mm	25	H-QFN60W.4-G6	446062	2026
81	H-QFN60T.4-G6	446061	2026						

Road Map Notes: OT=Open Tool

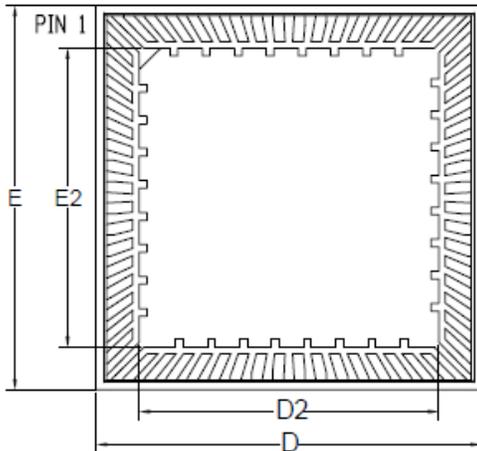
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6 Au 1.0 ~2.0	Ni 100~300 Au 40~80
G6	Ni 0.50~2.0 Pd 0.02~0.15 Au 0.003~0.01	Ni 20~80 Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

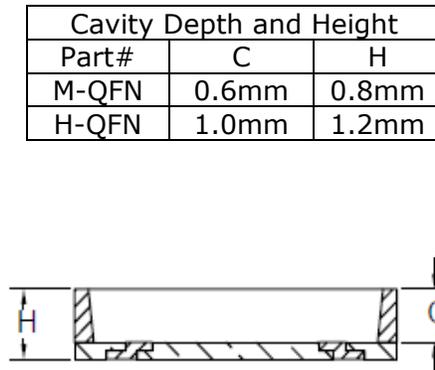
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID T-LID T-LID	Black Black White	EMC G770H BT RO-4003C	No
U-LID B-LID	Black Black	EMC G770H BT	Yes

Lids: See Page 30

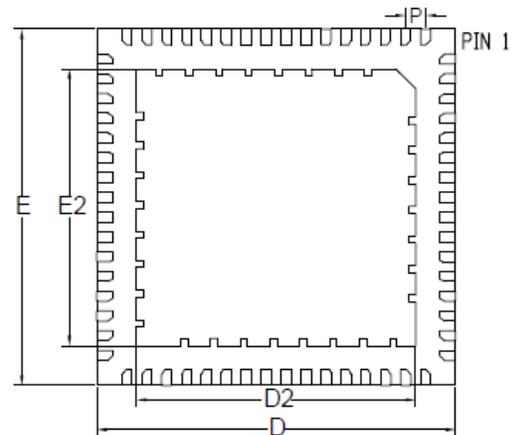
TOP VIEW



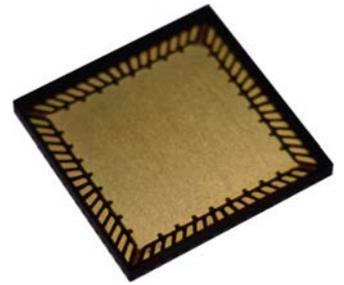
SIDE VIEW



BOTTOM VIEW



64L QFN Open (Air) Cavity Plastic Package



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64L QFN Open (Air) Cavity

Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
64L	8x8mm	0.4mm	Ni-Pd-Au	6.0mm	0.6mm	16	M-QFN64W.4-G6	446460	2026
						64	M-QFN64T.4-G6	446464	2026
					1.0mm	16	H-QFN64W.4-G6	446462	2026
						64	H-QFN64T.4-G6	446461	2026
64L	9x9mm	0.5mm	Ni-Au	7.1mm	0.6mm	25	M-QFN64M.5-G3	456433	OT
						16	M-QFN64W.5-G3	456430	OT
					0.6mm	49	M-QFN64T.5-G3	456434	OT
						7.0mm	0.6mm	16	M-QFN64W.5-G6
			49	M-QFN64T.5-G6	456464			2026	
			1.0mm	16	H-QFN64W.5-G6		456462	2026	
				49	H-QFN64T.5-G6		456461	2026	

Road Map Notes: OT=Open Tool

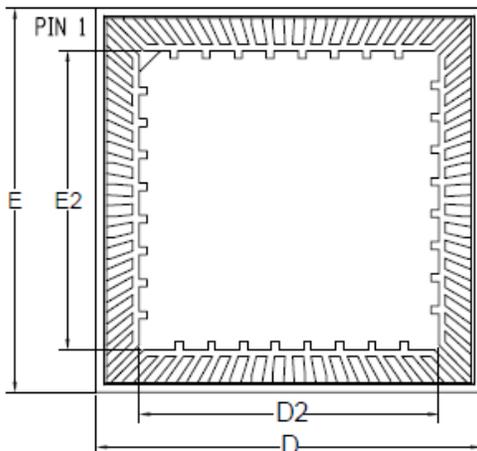
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6 Au 1.0~2.0	Ni 100~300 Au 40~80
G6	Ni 0.50~2.0 Pd 0.02~0.15 Au 0.003~0.01	Ni 20~80 Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	EMC G770H BT RO-4003C	Epoxy Preform
M-LID T-LID T-LID	Black Black White	EMC G770H BT	No
U-LID B-LID	Black Black	EMC G770H BT RO-4003C	Yes

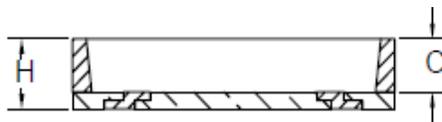
Lids: See Page 31~32

TOP VIEW

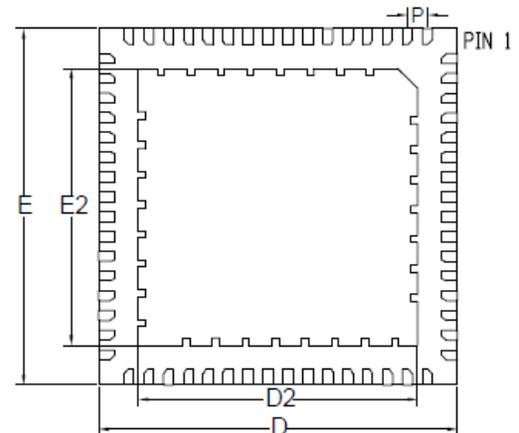


SIDE VIEW

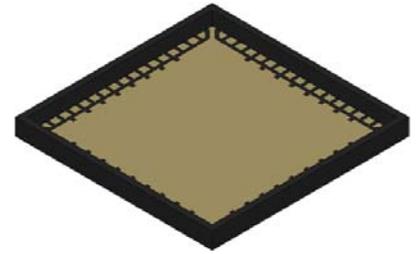
Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



68L QFN Open (Air) Cavity Plastic Package



Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
68L	8x8mm	0.4mm	Ni-Au	6.1mm	0.6mm	25	M-QFN68M.4-G3	446833	OT
						16	M-QFN68W.4-G3	446830	OT
						64	M-QFN68T.4-G3	446834	OT
			Ni-Pd-Au	6.0mm	0.6mm	16	M-QFN68W.4-G6	446860	2026
						64	M-QFN68T.4-G6	446864	2026
					1.0mm	16	H-QFN68W.4-G6	446862	2026
64	H-QFN68T.4-G6	446861	2026						
68L	10x10mm	0.5mm	Ni-Pd-Au	8.0mm	0.6mm	9	M-QFN68W.5-G6	456860	2026
						49	M-QFN68T.5-G6	456864	2026
					1.0mm	9	H-QFN68W.5-G6	456862	2026
						49	H-QFN68T.5-G6	456861	2026

Road Map Notes: OT=Open Tool

Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

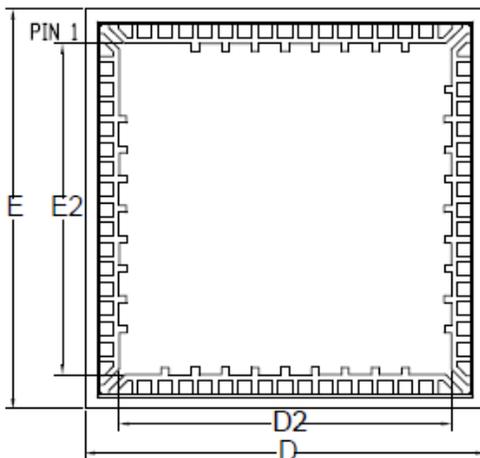
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: See Page 31~33

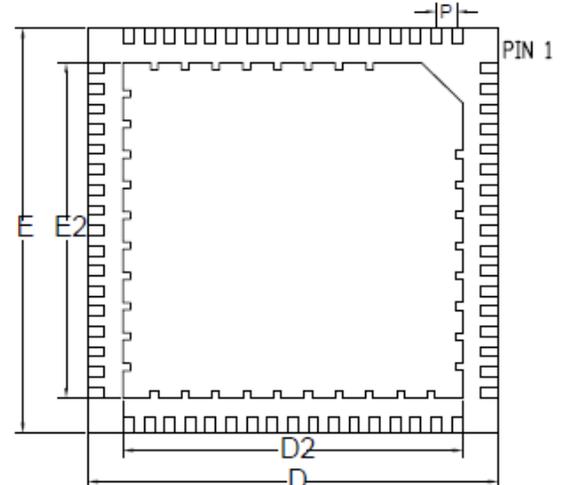
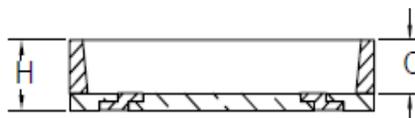
TOP VIEW

SIDE VIEW

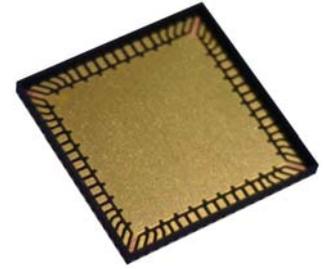
BOTTOM VIEW



Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



72L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
72L	9x9mm	0.4mm	Ni-Pd-Au	7.0mm	0.6mm	16	M-QFN72W.4-G6	447260	2026
						49	M-QFN72T.4-G6	447264	2026
					1.0mm	16	H-QFN72W.4-G6	447262	2026
						49	H-QFN72T.4-G6	447261	2026
72L	10x10mm	0.5mm	Ni- Au	7.8mm	0.6mm	25	M-QFN72M.5-G3	457233	OT
						9	M-QFN72W.5-G3	457230	OT
					0.6mm	49	M-QFN72T.5-G3	457234	OT
						8.0mm	0.6mm	9	M-QFN72W.5-G6
			49	M-QFN72T.5-G6	457264			2026	
			1.0mm	9	H-QFN72W.5-G6		457262	2026	
				49	H-QFN72T.5-G6		457261	2026	

Road Map Notes: OT=Open Tool

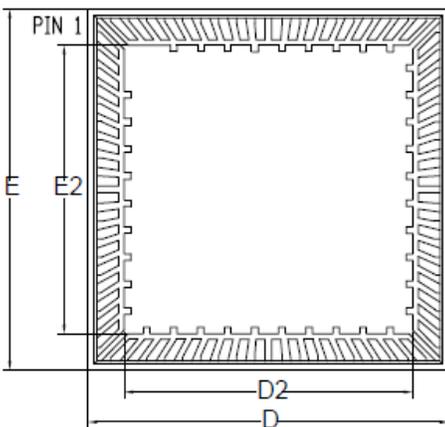
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0 ~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

Lids: See Page 32~33

TOP VIEW

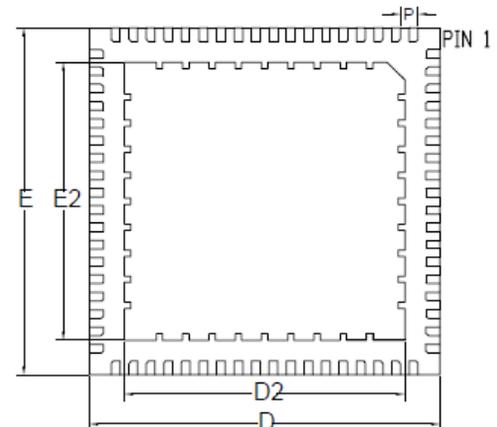


SIDE VIEW

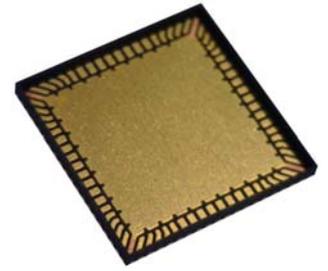
Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



76L QFN
Open (Air) Cavity
Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
76L	9x9mm	0.4mm	Ni-Pd-Au	7.0mm	0.6mm	16	M-QFN76W.4-G6	447660	2026
						49	M-QFN76T.4-G6	447664	2026
					1.0mm	16	H-QFN76W.4-G6	447662	2026
						49	H-QFN76T.4-G6	447661	2026

Road Map Notes: OT=Open Tool

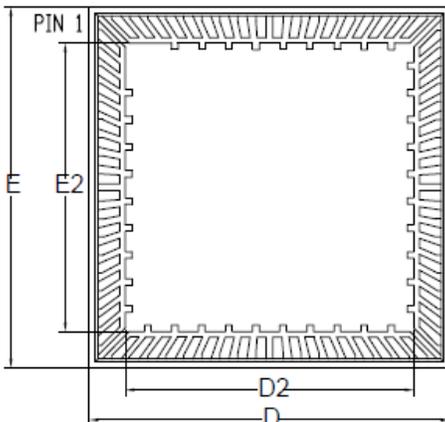
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0 ~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15	Pd 0.8~6.0
	Au 0.003~0.01	Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black	EMC G770H	No
T-LID	Black	BT	
T-LID	White	RO-4003C	
U-LID	Black	EMC G770H	Yes
B-LID	Black	BT	

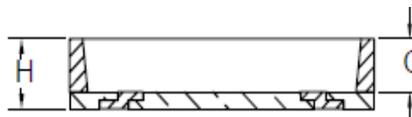
Lids: See Page 32

TOP VIEW

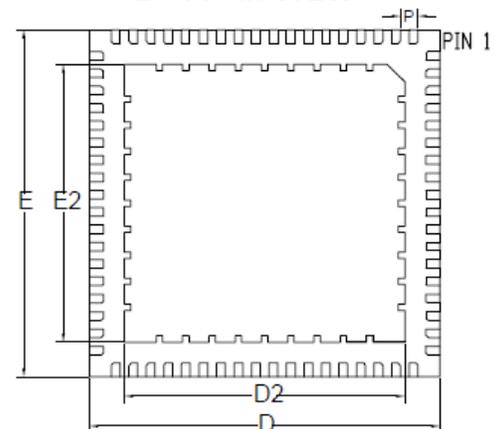


SIDE VIEW

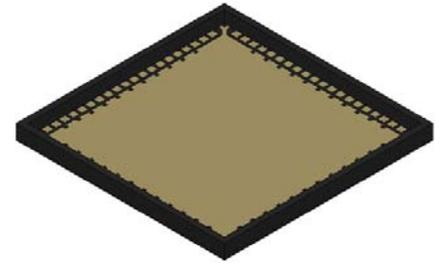
Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



80L QFN
Open (Air) Cavity
Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
80L	12x12mm	0.5mm	Ni- Au	9.3mm	0.6mm	25	M-QFN80M.5-G3	458033	OT
						9	M-QFN80W.5-G3	458030	OT
						36	M-QFN80T.5-G3	458034	OT
			Ni-Pd-Au	10mm	0.6mm	9	M-QFN80W.5-G6	458060	2026
						36	M-QFN80T.5-G6	458064	2026
						9	H-QFN80W.5-G6	458062	2026
36	H-QFN80T.5-G6	458061	2026						

Road Map Notes: OT=Open Tool

Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6 Au 1.0 ~2.0	Ni 100~300 Au 40~80
G6	Ni 0.50~2.0 Pd 0.02~0.15 Au 0.003~0.01	Ni 20~80 Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

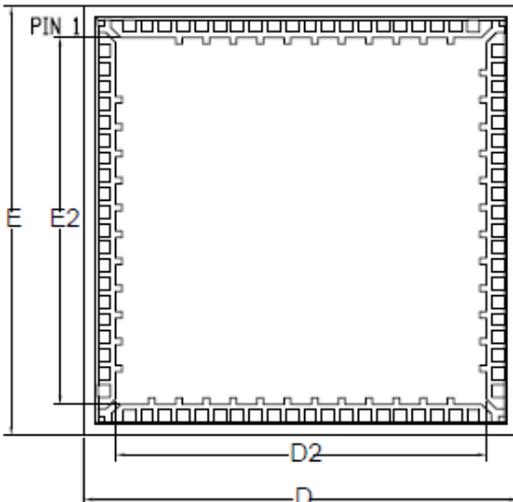
Optional Flat Lids			
Lid Series	Color	EMC G770H BT RO-4003C	Epoxy Preform
M-LID T-LID T-LID	Black Black White	EMC G770H BT RO-4003C	No
U-LID B-LID	Black Black	EMC G770H BT	Yes

Lids: See Page 34

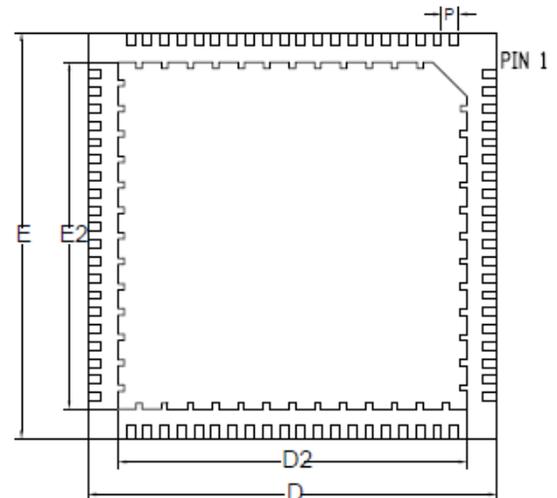
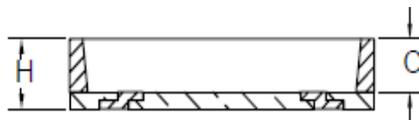
TOP VIEW

SIDE VIEW

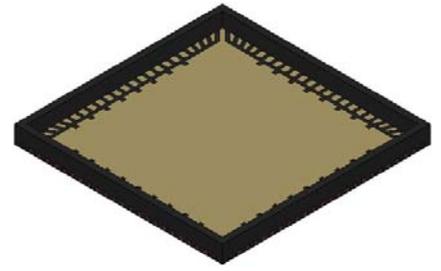
BOTTOM VIEW



Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



88L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
88L	10x10mm	0.4mm	Ni- Au	7.8mm	0.6mm	25	M-QFN88M.4-G3	448833	OT
						9	M-QFN88W.4-G3	448830	OT
						49	M-QFN88T.4-G3	448834	OT
			Ni-Pd-Au	8.0mm	0.6mm	9	M-QFN88W.4-G6	448860	OT
						49	M-QFN88T.4-G6	448864	OT
					1.0mm	9	H-QFN88W.4-G6	448862	OT
49	H-QFN88T.4-G6	448861	OT						

Road Map Notes: OT=Open Tool

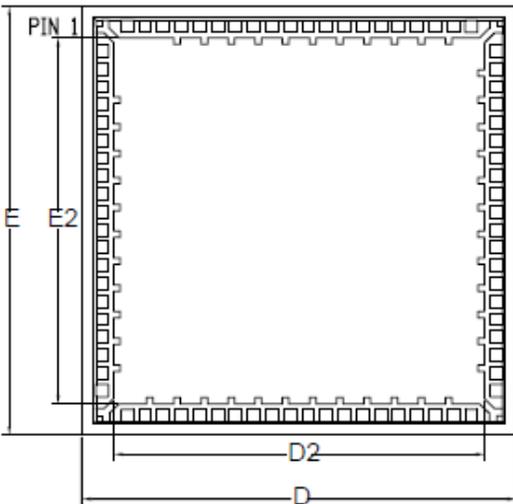
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0 ~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID	Black Black White	EMC G770H BT RO-4003C	No
T-LID			
T-LID			
U-LID	Black Black	EMC G770H BT	Yes
B-LID			

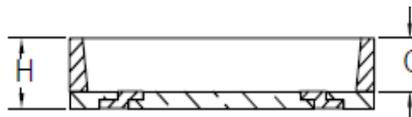
Lids: See Page 33

TOP VIEW

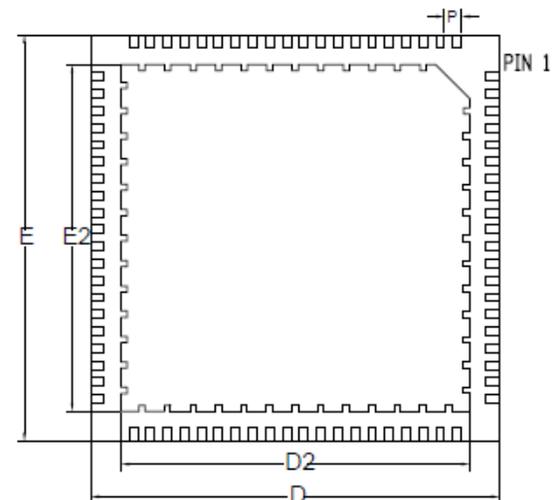


SIDE VIEW

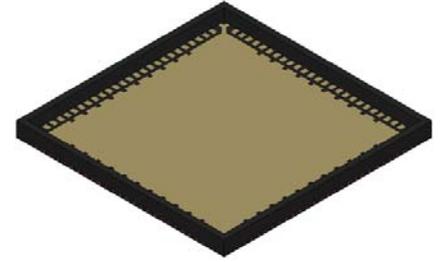
Cavity Depth and Height		
Part#	C	H
M-QFN	0.6mm	0.8mm
H-QFN	1.0mm	1.2mm



BOTTOM VIEW



100L QFN Open (Air) Cavity Plastic Package



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Nbr Pins	Size (D/E)	Pitch (P)	Pad Plating	Die Pad (D2/E2)	Cavity Depth (C)	QTY	Part Number	DWG Nbr	Road Map
100L	12x12mm	0.4mm	Ni- Au	9.3mm	0.6mm	25	M-QFN100M.4-G3	449933	OT
						9	M-QFN100W.4-G3	449930	OT
						36	M-QFN100T.4-G3	449934	OT
			Ni-Pd-Au	10mm	0.6mm	9	M-QFN100W.4-G6	449960	OT
						36	M-QFN100T.4-G6	449964	OT
						1.0mm	9	H-QFN100W.4-G6	449962
36	H-QFN100T.4-G6	449961	OT						

Road Map Notes: OT=Open Tool

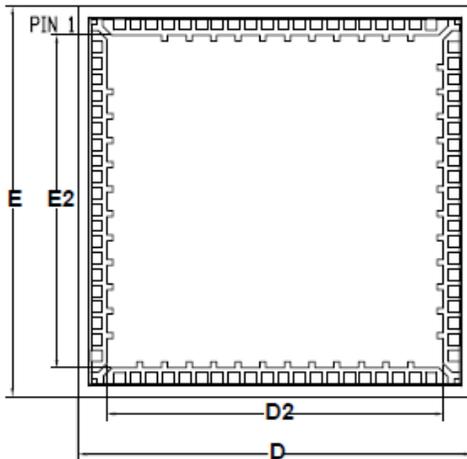
Surface Plating Specification		
Code	Metric um	Inch Micro-inch
G3	Ni 2.5~7.6	Ni 100~300
	Au 1.0~2.0	Au 40~80
G6	Ni 0.50~2.0	Ni 20~80
	Pd 0.02~0.15 Au 0.003~0.01	Pd 0.8~6.0 Au 0.12~0.40

Package Spec	
Molding Compound	G770H
MSL	3
Lead Frame	194FH
JEDEC	MO-220
RoHS Lead Free	Yes
Die Attach	Adhesive
Wire Bonding Temp	180°C max
Peak Reflow Temp	260°C max

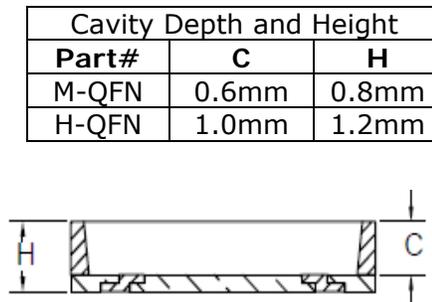
Optional Flat Lids			
Lid Series	Color	Material	Epoxy Preform
M-LID T-LID T-LID	Black Black White	EMC G770H BT RO-4003C	No
U-LID B-LID	Black Black	EMC G770H BT	Yes

Lids: See Page 34

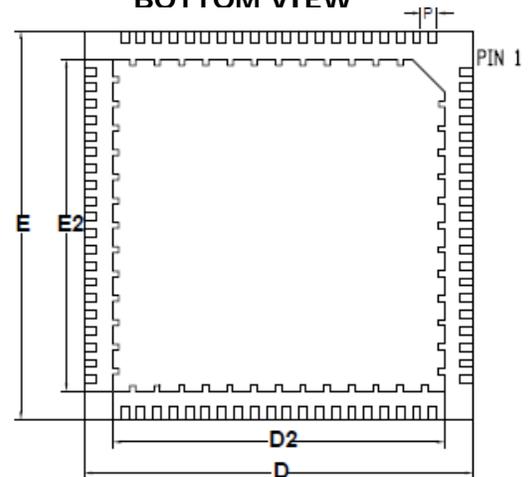
TOP VIEW



SIDE VIEW



BOTTOM VIEW





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3x3mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
3x3mm	None	BLACK	BT	0.20mm	2"	100	T-LID3W-BLACK	203102
					4"	256	T-LID3T-BLACK	203402
		BLACK	EMC	0.25mm	2"	100	M-LID3W-BLACK	203152
					4"	256	M-LID3T-BLACK	203452
		WHITE	RO4003	0.20mm	2"	100	T-LID3W-WHITE	203942
					4"	256	T-LID3T-WHITE	203442
	Clear	Borosilicate Glass	0.5~0.7mm	2"	100	G-LID3W-GLASS	203022	
				4"	256	G-LID3T-GLASS	203422	
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	100	B-LID3W-BLACK	203103
					4"	256	B-LID3T-BLACK	203403
		BLACK	EMC	0.25mm	2"	100	U-LID3W-BLACK	203151
					4"	256	U-LID3T-BLACK	203451

3x3mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
3x3mm	None	BLACK	BT	0.8mm	0.5mm	2"	100	R-CAP3W-BLACK	203100
						4"	256	R-CAP3T-BLACK	203400
		BLACK	EMC	0.8mm	0.6mm	2"	100	M-CAP3W-BLACK	203154
						4"	256	M-CAP3T-BLACK	203454
		WHITE	RO4003	0.8mm	1.0mm	2"	100	H-CAP3W-BLACK	203155
						4"	256	H-CAP3T-BLACK	203455
3x3mm	Adhesive B-Stage Preform	BLACK	BT	0.8mm	0.5mm	2"	100	P-CAP3W-BLACK	203107
						4"	256	P-CAP3T-BLACK	203407
		BLACK	EMC	0.8mm	0.6mm	2"	100	U-CAP3W-BLACK	203156
						4"	256	U-CAP3T-BLACK	203456
		BLACK	EMC	1.2mm	1.0mm	2"	100	W-CAP3W-BLACK	203159
						4"	256	W-CAP3T-BLACK	203459
		BLACK	LCP	1.0mm	0.7mm	Bulk	-	B-CAP3B1.0K-BLACK	-
						4"	256	B-CAP3T1.0K-BLACK	-

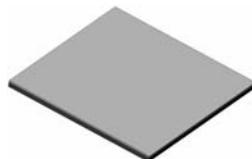
See page 35 for Lid Materials Properties



Flat Lids

Without Adhesive

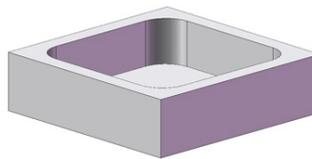
T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)



Flat Lids

With Adhesive

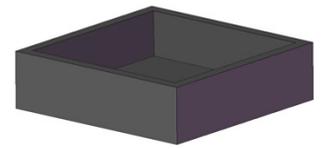
B-LID (BT-Black)
U-LID (EMC-Black)



Dome Cavity Lids

Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)



Dome Cavity Lids

With Adhesive

B-CAP (LCP) / P-CAP (BT)
U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)



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4x4mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
4x4mm	None	BLACK	BT	0.20mm	2"	64	T-LID4W-BLACK	204102
					4"	196	T-LID4T-BLACK	204402
		BLACK	EMC	0.25mm	2"	64	M-LID4W-BLACK	204152
					4"	196	M-LID4T-BLACK	204452
		WHITE	RO4003	0.20mm	2"	64	T-LID4W-WHITE	204942
					4"	196	T-LID4T-WHITE	204442
		Clear	Borosilicate Glass	0.5~0.7 mm	2"	64	G-LID4W-GLASS	204022
					4"	196	G-LID4T-GLASS	204422
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	64	B-LID4W-BLACK	204103
					4"	196	B-LID4T-BLACK	204403
		BLACK	EMC	0.25mm	2"	64	U-LID4W-BLACK	204151
					4"	196	U-LID4T-BLACK	204451

4x4mm DOME Cavity CAP Lids

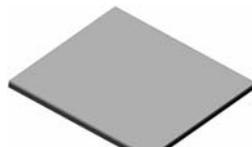
Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
4x4mm	None	BLACK	BT	0.8mm	0.5mm	2"	64	R-CAP4W-BLACK	204100
						4"	196	R-CAP4T-BLACK	204400
		BLACK	EMC	0.8mm	0.6mm	2"	64	M-CAP4W-BLACK	204154
						4"	196	M-CAP4T-BLACK	204454
				1.2mm	1.0mm	2"	64	H-CAP4T-BLACK	204155
						4"	196	H-CAP4T-BLACK	204455
		WHITE	RO4003	0.8mm	0.5mm	2"	64	R-CAP4W-WHITE	204940
						4"	196	R-CAP4T-WHITE	204440
		BLACK	LCP	1.0mm	0.7mm	Bulk	1	L-CAP4.1B1.0-BLACK	241780
						4"	196	L-CAP4.1T1.0-BLACK	241480
	Adhesive B-Stage Preform	BLACK	BT	0.8mm	0.5mm	2"	64	P-CAP4W-BLACK	204107
						4"	196	P-CAP4T-BLACK	204407
		BLACK	EMC	0.8mm	0.6mm	2"	64	U-CAP4W-BLACK	204156
						4"	196	U-CAP4T-BLACK	204456
				1.2mm	1.0mm	2"	64	W-CAP4W-BLACK	204159
						4"	196	W-CAP4T-BLACK	204459
BLACK	LCP	1.0mm	0.7mm	4"	196	B-CAP4.1T1.0K-BLACK	241487		

See page 35 for Lid Materials Properties



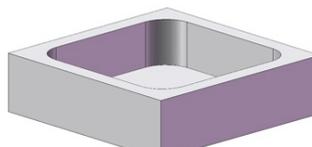
Flat Lids
Without Adhesive

T-LID (BT-Black RO4003C-White)
 M-LID (EMC) / G-LID (Glass)



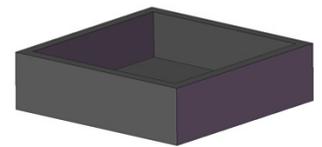
Flat Lids
With Adhesive

B-LID (BT-Black)
 U-LID (EMC-Black)



Dome Cavity Lids
Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
 R-CAP (BT-Black R4003C-White)



Dome Cavity Lids
With Adhesive

B-CAP (LCP) / P-CAP (BT)
 U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)



5x5mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
5x5mm	None	BLACK	BT	0.20mm	2"	36	T-LID5W-BLACK	205102
					4"	144	T-LID5T-BLACK	205402
		BLACK	EMC	0.25mm	2"	36	M-LID5W-BLACK	205152
					4"	144	M-LID5T-BLACK	205452
		WHITE	RO4003	0.20mm	2"	36	T-LID5W-WHITE	205942
					4"	144	T-LID5T-WHITE	205442
		Clear	Borosilicate Glass	0.5~0.7mm	2"	36	G-LID5W-GLASS	205022
					4"	144	G-LID5T-GLASS	205422
	Adhesive B-Stage Preform	BLACK	BT	0.30mm	2"	36	B-LID5W-BLACK	205103
					4"	144	B-LID5T-BLACK	205403
BLACK		EMC	0.35mm	2"	36	U-LID5W-BLACK	205151	
				4"	144	U-LID5T-BLACK	205451	

5x5mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
5x5mm	None	BLACK	BT	0.8mm	0.5mm	2"	36	R-CAP5W-BLACK	205100
						4"	144	R-CAP5T-BLACK	205400
		BLACK	EMC	0.8mm	0.6mm	2"	36	M-CAP5W-BLACK	205154
						4"	144	M-CAP5T-BLACK	205454
				1.2mm	1.0mm	2"	36	H-CAP5W-BLACK	205155
						4"	144	H-CAP5T-BLACK	205455
		WHITE	RO4003	0.8mm	0.5mm	2"	36	R-CAP5W-WHITE	205940
						4"	144	R-CAP5T-WHITE	205440
		BLACK	LCP	1.3mm	0.7mm	Bulk	1	L-CAP5.1B1.3-BLACK	250780
						4"	121	L-CAP5.1T1.3-BLACK	250480
	Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	36	U-CAP5W-BLACK	205156
						4"	144	U-CAP5T-BLACK	205456
		BLACK	EMC	1.2mm	1.0mm	2"	36	W-CAP5W-BLACK	205159
						4"	144	W-CAP5T-BLACK	205459
BLACK	LCP	1.3mm	0.7mm	4"	121	B-CAP5.1T1.3K-BLACK	250487		

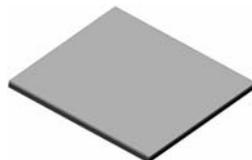
See page 35 for Lid Materials Properties



Flat Lids

Without Adhesive

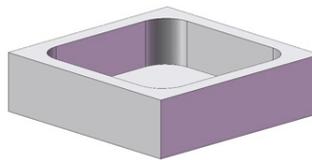
T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)



Flat Lids

With Adhesive

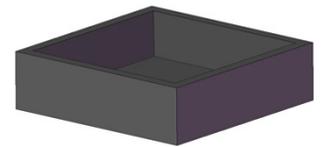
B-LID (BT-Black)
U-LID (EMC-Black)



Dome Cavity Lids

Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)



Dome Cavity Lids

With Adhesive

B-CAP (LCP) / P-CAP (BT)
U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)



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6x6mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
6x6mm	None	BLACK	BT	0.20mm	2"	25	T-LID6W-BLACK	206102
					4"	121	T-LID6T-BLACK	206402
		BLACK	EMC	0.25mm	2"	25	M-LID6W-BLACK	206152
					4"	121	M-LID6T-BLACK	206452
		WHITE	RO4003	0.20mm	2"	25	T-LID6W-WHITE	206942
					4"	121	T-LID6T-WHITE	206442
		Clear	Borosilicate Glass	0.5~0.7mm	2"	25	G-LID6W-GLASS	206022
					4"	121	G-LID6T-GLASS	206422
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	25	B-LID6W-BLACK	206103
					4"	121	B-LID6T-BLACK	206403
		BLACK	EMC	0.25mm	2"	25	U-LID6W-BLACK	206151
					4"	121	U-LID6T-BLACK	206451

6x6mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
6x6mm	None	BLACK	BT	0.8mm	0.5mm	2"	25	R-CAP6W-BLACK	206100
						4"	121	R-CAP6T-BLACK	206400
		BLACK	EMC	0.8mm	0.6mm	2"	25	M-CAP6W-BLACK	206154
						4"	121	M-CAP6T-BLACK	206454
				1.2mm	1.0mm	2"	25	H-CAP6W-BLACK	206155
						4"	121	H-CAP6T-BLACK	206455
		WHITE	RO4003	0.8mm	0.5mm	2"	25	R-CAP6W-WHITE	206940
		4"	121	R-CAP6T-WHITE	206440				
		BLACK	LCP	1.3mm	0.7mm	4"	121	L-CAP6T1.3-BLACK	TBD
		Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	25	U-CAP6W-BLACK
	4"						121	U-CAP6T-BLACK	206456
	1.2mm		1.0mm	2"	25	W-CAP6W-BLACK	206159		
				4"	121	W-CAP6T-BLACK	206459		
	BLACK	LCP	1.3mm	1.0mm	4"	121	B-CAP6T1.3K-BLACK	TBD	

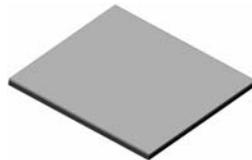
See page 35 for Lid Materials Properties



Flat Lids

Without Adhesive

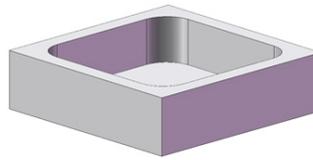
T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)



Flat Lids

With Adhesive

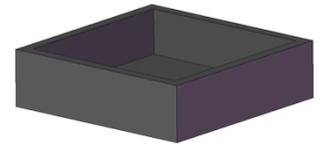
B-LID (BT-Black)
U-LID (EMC-Black)



Dome Cavity Lids

Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)



Dome Cavity Lids

With Adhesive

B-CAP (LCP) / P-CAP (BT)
U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)



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7x7mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
7x7mm	None	BLACK	BT	0.20mm	2"	25	T-LID7W-BLACK	207102
					4"	81	T-LID7T-BLACK	207402
		BLACK	EMC	0.25mm	2"	25	M-LID7W-BLACK	207152
					4"	81	M-LID7T-BLACK	207452
		WHITE	RO4003	0.20mm	2"	25	T-LID7W-WHITE	207942
					4"	81	T-LID7T-WHITE	207442
		Clear	Borosilicate Glass	0.5~0.7mm	2"	25	G-LID7W-GLASS	207022
					4"	81	G-LID7T-GLASS	207422
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	25	B-LID7W-BLACK	207103
					4"	81	B-LID7T-BLACK	207403
		BLACK	EMC	0.25mm	2"	25	U-LID7W-BLACK	207151
					4"	81	U-LID7T-BLACK	207451

7x7mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
7x7mm	None	BLACK	BT	0.8mm	0.5mm	2"	25	R-CAP7W-BLACK	207100
						4"	81	R-CAP7T-BLACK	207400
		BLACK	EMC	0.8mm	0.6mm	2"	25	M-CAP7W-BLACK	207154
						4"	81	M-CAP7T-BLACK	207454
				1.2mm	1.0mm	2"	25	H-CAP7W-BLACK	207155
						4"	81	H-CAP7T-BLACK	207455
		WHITE	RO4003	0.8mm	0.5mm	2"	25	R-CAP7W-WHITE	207940
						4"	81	R-CAP7T-WHITE	207440
		BLACK	LCP	1.3mm	0.7mm	Bulk	1	L-CAP7B1.3-BLACK	272780
						4"	64	L-CAP7T1.3-BLACK	272480
	Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	25	U-CAP7T-BLACK	207156
						4"	81	U-CAP7T-BLACK	207456
				1.2mm	1.0mm	2"	25	W-CAP7W-BLACK	207159
						4"	81	W-CAP7T-BLACK	207459
BLACK		LCP	1.3mm	0.7mm	4"	64	B-CAP7T1.3K-BLACK	272487	

See page 35 for Lid Materials Properties



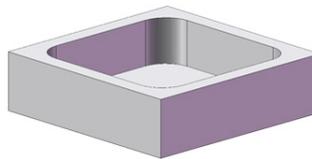
Flat Lids
Without Adhesive

T-LID (BT-Black RO4003C-White)
 M-LID (EMC) / G-LID (Glass)



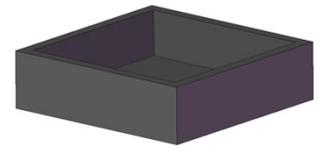
Flat Lids
With Adhesive

B-LID (BT-Black)
 U-LID (EMC-Black)



Dome Cavity Lids
Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
 R-CAP (BT-Black R4003C-White)



Dome Cavity Lids
With Adhesive

B-CAP (LCP) / P-CAP (BT)
 U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)



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8x8mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
8x8mm	None	BLACK	BT	0.20mm	2"	16	T-LID8W-BLACK	208102
					4"	64	T-LID8T-BLACK	208402
		BLACK	EMC	0.25mm	2"	16	M-LID8W-BLACK	208152
					4"	64	M-LID8T-BLACK	208452
		WHITE	RO4003	0.20mm	2"	16	T-LID8W-WHITE	208942
					4"	64	T-LID8T-WHITE	208442
		Clear	Borosilicate Glass	0.5~0.7mm	2"	16	G-LID8W-GLASS	208022
					4"	64	G-LID8T-GLASS	208422
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	16	B-LID8W-BLACK	208103
					4"	64	B-LID8T-BLACK	208403
		BLACK	EMC	0.25mm	2"	16	U-LID8W-BLACK	208151
					4"	64	U-LID8T-BLACK	208451

8x8mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
8x8mm	None	BLACK	BT	0.8mm	0.5mm	2"	16	R-CAP8W-BLACK	208100
						4"	64	R-CAP8T-BLACK	208400
		BLACK	EMC	0.8mm	0.6mm	2"	16	M-CAP8W-BLACK	208154
						4"	64	M-CAP8T-BLACK	208454
				1.2mm	1.0mm	2"	16	H-CAP8W-BLACK	208155
						4"	64	H-CAP8T-BLACK	208455
		WHITE	RO4003	0.8mm	0.5mm	2"	16	R-CAP8W-WHITE	208940
		4"	64	R-CAP8T-WHITE	208440				
		BLACK	LCP	1.3mm	1.0mm	4"	64	L-CAP8T1.3-BLACK	-
		Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	16	U-CAP8W-BLACK
	4"						64	U-CAP8T-BLACK	208456
	1.2mm		1.0mm	2"	16	W-CAP8W-BLACK	208159		
				4"	64	W-CAP8T-BLACK	208459		
	BLACK	LCP	1.3mm	1.0mm	4"	49	B-CAP8T1.3K-BLACK	-	

See page 35 for Lid Materials Properties



Flat Lids

Without Adhesive

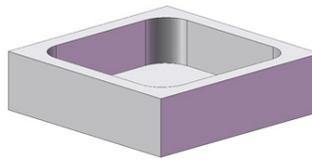
T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)



Flat Lids

With Adhesive

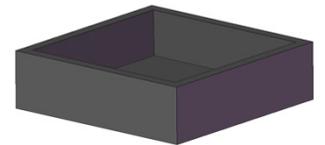
B-LID (BT-Black)
U-LID (EMC-Black)



Dome Cavity Lids

Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)



Dome Cavity Lids

With Adhesive

B-CAP (LCP) / P-CAP (BT)
U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)



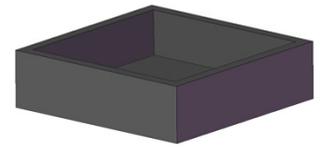
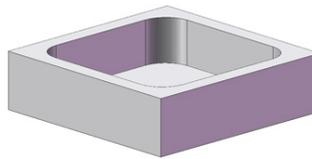
9x9mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
9x9mm	None	BLACK	BT	0.20mm	2"	16	T-LID9W-BLACK	209102
					4"	49	T-LID9T-BLACK	209402
		BLACK	EMC	0.25mm	2"	16	M-LID9W-BLACK	209152
					4"	49	M-LID9T-BLACK	209452
		WHITE	RO4003	0.20mm	2"	16	T-LID9W-WHITE	209942
					4"	49	T-LID9T-WHITE	209442
		Clear	Borosilicate Glass	0.5~0.7mm	2"	16	G-LID9W-GLASS	209022
					4"	49	G-LID9T-GLASS	209422
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	16	B-LID9W-BLACK	209103
					4"	49	B-LID9T-BLACK	209403
		BLACK	EMC	0.25mm	2"	16	U-LID9W-BLACK	209151
					4"	49	U-LID9T-BLACK	209451

9x9mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
9x9mm	None	BLACK	BT	0.8mm	0.5mm	2"	16	R-CAP9W-BLACK	209100
						4"	49	R-CAP9T-BLACK	209400
		BLACK	EMC	0.8mm	0.6mm	2"	16	M-CAP9W-BLACK	209154
						4"	49	M-CAP9T-BLACK	209154
				1.2mm	1.0mm	2"	16	H-CAP9W-BLACK	209155
						4"	49	H-CAP9T-BLACK	209455
		WHITE	RO4003	0.8mm	0.5mm	2"	16	R-CAP9W-WHITE	209940
						4"	49	R-CAP9T-WHITE	209440
		BLACK	LCP	1.9mm	1.4mm	Bulk	1	L-CAP8.9B1.9-BLACK	289780
						4"	49	L-CAP8.9T1.9-BLACK	289480
	Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	16	U-CAP9W-BLACK	209156
						4"	49	U-CAP9T-BLACK	209456
		1.2mm	1.0mm	2"	16	W-CAP9W-BLACK	209159		
				4"	49	W-CAP9T-BLACK	209459		
BLACK	LCP	1.9mm	1.3mm	4"	49	B-CAP8.9T1.9K-BLACK	289487		

See page 35 for Lid Materials Properties



Flat Lids Without Adhesive
T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)

Flat Lids With Adhesive
B-LID (BT-Black)
U-LID (EMC-Black)

Dome Cavity Lids Without Adhesive
L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)

Dome Cavity Lids With Adhesive
B-CAP (LCP) / P-CAP (BT)
U-CAP_(Cav 0.6)/W-CAP_(1.0)(EMC)



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10x10mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr
10x10 mm	None	BLACK	BT	0.2mm	2"	9	T-LID10W-BLACK	210102
					4"	49	T-LID10T-BLACK	210402
		BLACK	EMC	0.25mm	2"	9	M-LID10W-BLACK	210152
					4"	49	M-LID10T-BLACK	210452
		WHITE	RO4003	0.20mm	2"	9	T-LID10W-WHITE	210942
					4"	49	T-LID10T-WHITE	210442
		Clear	Borosilicate Glass	0.5~0.7mm	2"	9	G-LID10W-GLASS	210022
					4"	49	G-LID10T-GLASS	210422
	Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	9	B-LID10W-BLACK	210103
					4"	49	B-LID10T-BLACK	210403
		BLACK	EMC	0.25mm	2"	9	U-LID10W-BLACK	210151
					4"	49	U-LID10T-BLACK	210451

10x10mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr	
10x10 mm	None	BLACK	BT	0.8mm	0.5mm	2"	9	R-CAP10W-BLACK	210100	
						4"	49	R-CAP10T-BLACK	210400	
		BLACK	EMC	0.8mm	0.6mm	2"	9	M-CAP10W-BLACK	210154	
						4"	49	M-CAP10T-BLACK	210454	
				1.2mm	1.0mm	2"	9	H-CAP10W-BLACK	210155	
						4"	49	H-CAP10T-BLACK	210455	
		WHITE	RO4003	0.8mm	0.5mm	2"	9	R-CAP10W-WHITE	210940	
						4"	49	R-CAP10T-WHITE	210440	
		BLACK	LCP	1.9mm	1.4mm	Bulk	1	L-CAP10.2B1.9-BLACK	297780	
						4"	49	L-CAP10.2T1.9-BLACK	297480	
		Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	9	U-CAP10W-BLACK	210156
							4"	49	U-CAP10T-BLACK	210456
	1.2mm				1.0mm	2"	9	W-CAP10W-BLACK	210159	
						4"	49	W-CAP10T-BLACK	210459	
	BLACK	LCP	1.9mm	1.4mm	4"	49	B-CAP10.2T1.9K-BLACK	297487		

See page 35 for Lid Materials Properties



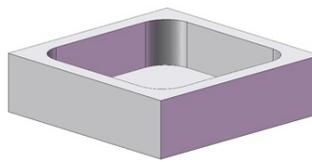
Flat Lids
Without Adhesive

T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)



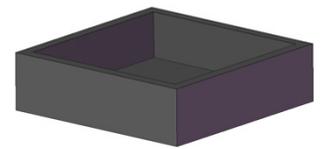
Flat Lids
With Adhesive

B-LID (BT-Black)
U-LID (EMC-Black)



Dome Cavity Lids
Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)



Dome Cavity Lids
With Adhesive

B-CAP (LCP) / P-CAP (BT)
U-CAP (Cav 0.6) / W-CAP (1.0) (EMC)



12x12mm FLAT Lids

Size (D/E)	Adhesive	Color	Material	Thick	Tray	QTY	Part Number	DWG Nbr	
12x12 mm	None	BLACK	BT	0.20mm	2"	9	T-LID12W-BLACK	212102	
					4"	36	T-LID12T-BLACK	212402	
		BLACK	EMC	0.25mm	2"	9	M-LID12W-BLACK	212152	
					4"	36	M-LID12T-BLACK	212452	
		WHITE	RO4003	0.20mm	2"	9	T-LID12W-WHITE	212942	
					4"	36	T-LID12T-WHITE	212442	
		Clear	Borosilicate Glass	0.5~0.7mm	2"	9	G-LID12W-GLASS	212022	
					4"	36	G-LID12T-GLASS	212422	
		Adhesive B-Stage Preform	BLACK	BT	0.20mm	2"	9	B-LID12W-BLACK	212103
						4"	36	B-LID12T-BLACK	212403
	BLACK		EMC	0.25mm	2"	9	U-LID12W-BLACK	212151	
					4"	36	U-LID12T-BLACK	212451	

12x12mm DOME Cavity CAP Lids

Size (D/E)	Adhesive	Color	Mat'l	High (H)	Cavity (C)	Tray	QTY	Part Number	DWG Nbr
12x12 mm	None	BLACK	BT	0.8mm	0.5mm	2"	9	R-CAP12W-BLACK	212100
						4"	36	R-CAP12T-BLACK	212400
		BLACK	EMC	0.8mm	0.6mm	2"	9	M-CAP12W-BLACK	212154
						4"	36	M-CAP12T-BLACK	212454
				1.2mm	1.0mm	2"	9	H-CAP12W-BLACK	212155
						4"	36	H-CAP12T-BLACK	212455
		WHITE	RO4003	0.8mm	0.5mm	2"	9	R-CAP12W-WHITE	212940
						4"	36	R-CAP12T-WHITE	212440
		BLACK	LCP	1.5mm	0.66mm	4"	36	L-CAP12.2T1.5-BLACK	291480
		Adhesive B-Stage Preform	BLACK	EMC	0.8mm	0.6mm	2"	9	U-CAP12W-BLACK
	4"						36	U-CAP12T-BLACK	212456
	1.2mm				1.0mm	2"	9	W-CAP12W-BLACK	212159
						4"	36	W-CAP12T-BLACK	212459
	BLACK		LCP	1.5mm	0.66mm	4"	36	B-CAP12.2T1.5K-BLACK	291487

See page 35 for Lid Materials Properties



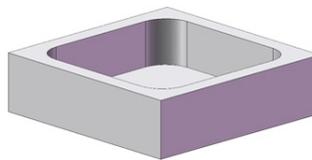
Flat Lids
Without Adhesive

T-LID (BT-Black RO4003C-White)
M-LID (EMC) / G-LID (Glass)



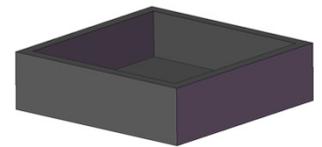
Flat Lids
With Adhesive

B-LID (BT-Black)
U-LID (EMC-Black)



Dome Cavity Lids
Without Adhesive

L-CAP (LCP)/M-CAP/H-CAP (EMC)
R-CAP (BT-Black R4003C-White)



Dome Cavity Lids
With Adhesive

B-CAP (LCP) / P-CAP (BT)
U-CAP(Cav 0.6)/W-CAP(1.0)(EMC)

Lid Material Properties							
Material	D _k	D _f	CTE X/Y < T _g	T _g	Volume Resistivity	Thermal Conductivity	Water Absorption
BT Semiconductor Grade	4.3 ε _r @1 GHz	0.008 δ @1 GHz	10ppm/°C	240°C	10 ¹⁶ Ω·cm	0.4 W/m·K	0.30%
EMC G770H	3.4 ε _r @ 1MHz	0.002 δ @ 1MHz	35ppm/°C	120°C	10 ¹¹ Ω·cm	0.7 W/m·K	0.15%
R4003C Rogers	3.55 ε _r @ 10 GHz	0.0027 δ @ 10GHz	17ppm/°C	280°C	1.7*10 ¹⁰ Ω·cm	0.7 W/m·K	0.06%
LPI	3.9 ε _r @1 MHz	0.036 δ @ 1 MHz	20ppm/°C	110°C	10 ¹³ Ω·cm	0.35 W/m·K	0.03%
Borosilicate Glass	4.6 ε _r @1 MHz	0.0037 δ @ 1 MHz	3.2ppm/°K	525°C	10 ¹⁴ Ω·cm	1.2 W/m·K	0%
Al ₂ O ₃ 90% BLACK	9.2 ε _r @1 GHz	0.0003 δ @1 GHz	6.6ppm/°K	2072°C	10 ¹⁴ Ω·cm	16.7 W/m·K	0%
Al ₂ O ₃ 96% White	9.0 ε _r @1 GHz	0.0002 δ @1 GHz	8.2ppm/°K	1600°C	10 ¹⁴ Ω·cm	21 W/m·K	0%

D_f= Dissipation Factor D_k= Dielectric Constant T_g= Glass Transition Temperature

Adhesive Preform Material Properties							
Material	D _k	D _f	Curing Temp	Curing Pressure		Spike Temp Max	Recommended Storage
LCA3000X	3.5 @1 KHz	0.085 @1 KHz	150°C @ 60 min	½ LBS Per Inch ²	0.345 N Per cm ²	285°C @ 3 min	< 5°C

Metals - Physical Properties							
Material	Density gm/cm ³	Young's Modulus	Electrical Resistance @ 20°C	Thermal Conductivity W/(m·°K)	CTE Coefficient Thermal Expansion	Tensile Strength	Magnetic Permeability
C194 FH Lead Frame	8.9	120 GPa	2.8 μΩ cm	260	17.6 ppm/°C	221 MPa	Non Magnetic
Alloy 42 (Ni-Fe)	8.1	145 GPa	63 μΩ cm	12.5	5~6 ppm/°C	500 MPa	Ferro magnetic
Nickel (Ni)	8.9	200 GPa	~7 μΩ cm	90	~13 ppm/°C	370 MPa	Ferro magnetic
Palladium (Pd)	12	121 GPa	~11 μΩ cm	71	11.8 ppm/°C	900 MPa	Non Magnetic
Gold (Au)	19.3	79	~2.2 μΩ cm	318	14.2 ppm/°C	120 MPa	Non Magnetic
Aluminum	2.7	69	~2.6 μΩ cm	235	23 ppm/°C	90~300	Non Magnetic



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Cavity QFN Package Part Numbering



Cavity Package Part Numbering

M	-	QFN	16	T	.5	-	G6
Cavity Package		Package Type	Nbr Pins	Packaging Code	Pin Pitch		Pad Plating
QFN Plastic Cavity Depth M = 0.6mm H = 1.0mm		QFN = Quad Side DFN = Dual Side	3 ~ 100	W = 2" Waffle T = 4" Waffle M = Tube J = JEDEC	.4 mm .5 mm .65 mm .8 mm 1.0 mm 1.27 mm		G3 = NiAu Thick Gold G6 = NiPdAu Thin Gold G1 = NiPdAu Ceramic Pkg
Ceramic: C = Ceramic		Other: TO220 Transistor SO = Small Outline SOL=Wide Outline DIP = Dual Inline					

Cavity QFN Package Drawing Number

Cavity Package Drawing Number

4	5	16	6	4
Package Type	Pin Pitch	Nbr Pins	Pad Plating	Package Cavity Depth
4 = QFN 5 = DFN 1 = SOIC	<u>Standard:</u> 4 = 0.4mm 5 = 0.5mm 6 = 0.65mm 8 = 0.8mm 2 = 1.27mm <u>Special:</u> 0 = None 1 = 1.0mm 3 = 2.54mm 7 = Special 9 = Special	3 ~ 100	3 = NiAu G3 Thick Gold 6 = NiPdAu G6 Thin Gold <u>Special:</u> G1 = NiPdAu Ceramic G5 = NiPdAu G7 = NiPdAu	M-QFN <u>Cavity 0.6mm</u> 0 = 2" Waffle Tray (W) 4 = 4" Waffle Tray (T) 3 = Tube (M) H-QFN <u>Cavity 1.0mm</u> 2 = 2" Waffle Tray (W) 1 = 4" Waffle Tray (T) 8 = JEDEC Tray (J)

Lid Part Numbering

T Lid Series	- LID Shape	12 Size	T Packing Code	- Options	BLACK Color
<p>Flat Lids <u>Without Adhesive</u> M-LID = EMC G770H (Black) T-LID = BT (Black) T-LID = RO4003C (White)</p> <p>Flat Lids <u>With Adhesive Preform</u> B-LID = BT (Full Array) U-LID = EMC G770 (Perimeter) C-LID = Ceramic (Perimeter)</p> <p>DOME CAP Cavity Lids <u>Without Adhesive</u> L-CAP = LCP (Black) H-CAP EMC G770 (1.0mm Cavity) M-CAP EMC G770 (0.6mm Cavity) R-CAP = BT (Black) R-CAP=RO4003C (White) Z-CAP Aluminum</p> <p>DOME CAP Cavity Lids <u>With Adhesive Preform</u> B-CAP = LCP (Perimeter) P-CAP = BT (Perimeter) W-CAP EMC G770H (1.0mm Cav) U-CAP EMC G770H (0.6mm Cav)</p>	<p>LID = FLAT</p> <p>CAP = Dome Cavity Cover</p>	<p>3 ~ 12mm Square</p> <p>Rectangular Example 6x8 = 6 x 8mm</p> <p>Other Sizes Available</p>	<p>W= 2" Waffle Tray T= 4" Waffle Tray</p> <p>Special: J = JEDEC Tray B = Bulk E= T&R</p>	<p><u>Blank</u> Flat Lid Without Adhesive Or standard Adhesive Thickness</p> <p>B-CAP Adhesive Preform: K= 125um Thin Adhesive Mount on M-QFN Cavity Package</p> <p>H= 250um Thick Adhesive Mount on PCB</p>	<p>BLACK WHITE GLASS ALUM</p>

Lid Drawing Number

2	05	4	0	2
Lid Series	Body Size	Tray Code	Material	Lid Style
FLAT LID B-LID (BT) C-LID (Ceramic) G-LID (Glass) M-LID (EMC G770) T-LID (BT / RO4003C) U-LID (EMC G770) DOME LID Without Adhesive G-CAP (Glass) L-CAP (LCP) H-CAP (Cav 1.0mm) M-CAP (Cav 0.6mm) R-CAP (RO-4003C) Z-CAP (Aluminum) DOME LID With Adhesive B-CAP (LCP) P-CAP (BT) W-CAP (1.0mm) U-CAP (0.6mm)	SQUARE LID 03 = 3mm 04 = 4mm 05 = 5mm 06 = 6mm 07 = 7mm 08 = 8mm 09 = 9mm 10 = 10mm 12 = 12mm OTHER SIZES 20 ~ 99 See Codes Below	B-LID/M-LID T-LID/U-LID BLACK 1 = 2" Waffle Tray (W) 4 = 4" Waffle Tray (T) T-LID RO-4003C WHITE 9 = 2" Waffle Tray (W) 4 = 4" Waffle Tray (T) L-CAP / B-CAP / H-CAP M-CAP / P-CAP R-CAP / U-CAP / W-CAP 1 = 2" Waffle Tray (W) 4 = 4" Waffle Tray (T) 7 = BULK (B) G-LID / C-LID / Z-CAP 0 = 2" Waffle Tray (W) 4 = 4" Waffle Tray (T)	Semiconductor Grade 0 = BT (T-LID/B-LID Black) 5 = EMC G770H Black (M-LID, M-CAP, H-CAP, U-LID, U-CAP, W-CAP) Metal 1 = Cu-Ni Plated (H-CAP) 3 = Aluminum (Z-CAP) 9 = Cu-Ni Plated (F-CAP) RF Microwave 2 = Borosilicate Glass (G-LID) 4 = RO4003C (T-LID White) 6 = Ceramic (C-LID White) 7 = Ceramic (C-LID Black) 8 = LCP (L-CAP, B-CAP Black)	Flat Lid: B-LID, C-LID, G-LID M-LID, T-LID, U-LID 1 = Perimeter Adhesive 2 = Without Adhesive 3 = Full Area Adhesive DOME CAP: Without Adhesive: 0 = L-CAP, G-CAP, R-CAP 4 = M-CAP (0.6mm Cavity) 5 = H-CAP (1.0mm Cavity) DOME CAP (K): 5mil (0.125mm) Thick Preform Adhesive: 7 = B-CAP (LCP), P-CAP (BT) 6 = U-CAP (0.6mm Cavity) 9 = W-CAP (1.0mm Cavity) 8 = B-CAP LCP (H) 10mil Thick Adhesive

Lid Size Codes (O.D.) L x W x H

Code	Size (mm)	Code	Size (mm)	Code	Size (mm)	Code	Size (mm)	Code	Size (mm)
00		10	10x10x@	20	12.7x7.1x@	30		40	40x40x1.2
01		11	11x11.0x1.5	21		31		41	4.06x4.06x1.0
02		12	12x12x@	22		32		42	
03	3.0x3.0x@	13		23		33		43	4.30x4.30x1.2
04	4.0x4.0x@	14		24	12.7x7.1x@	34		44	
05	5.0x5.0x@	15		25		35		45	
06	6.0x6.0x@	16		26		36		46	
07	7.0x7.0x@	17		27		37		47	
08	8.0x8.0x@	18		28		38		48	
09	9.0x9.0x@	19	19x19x2.5	29		39		49	
50	5.08x5.08x1.3	60		70	7.0x7.0x1.6	80		90	
51	5.08x5.08x.25	61	6.0x6.0x1.3	71	7.0x7.0x1.5	81		91	12.2x12.2x1.5
52	5.08x5.08x1.9	62		72	7.0x7.0x1.3	82	23.5x23.5x9.2	92	9.3x9.3x1.5
53	5.08x5.08x2.5	63	6.3x6.3x1.9	73	7.0x7.0x2.2	83	8.4x8.4x1.5	93	12.2x12.2x1.7
54	5.08x5.08x3.8	64		74	11.4x11.4x2.5	84	22.5x22.5x11	94	14.0x9.0x1.9
55		65		75		85	5.5x4.2x1.5	95	11.4x11.4x1.9
56	5.60x5.60x0.9	66		76	7.6x7.6x1.1	86	5.08x5.08x1.5	96	12.7x12.7x1.9
57		67	6.76x6.76x 1.5	77	7.6x7.6x1.9	87		97	10.2x10.2x1.9
58	5.86x5.86x0.5	68	6.76x6.76x1.5	78	7.6x7.6x2.5	88	19x9.5x1.9	98	10.7x10.7x1.5
59		69		79		89	8.9x8.9x1.9	99	12.2x12.2x2.2

Note: @ = Height defined by Lid Series

Tray Waffle Pack

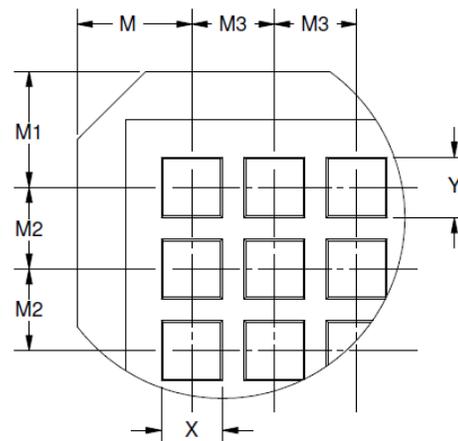
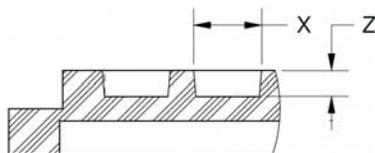


Example of Waffle Pack

Quantity Per Tray

D/E Package Size	2" Waffle Pack "W" Package Code		4" Waffle Pack "T" Package Code	
	M-QFN C=0.60mm H=0.80mm	H-QFN C=1.0mm H=1.2mm	M-QFN C=0.60mm H=0.80mm	H-QFN C=1.0mm H=1.2mm
3x3mm	100 pcs PART# 130003 H20-126-47-62C02 Pocket 3.2x3.2x1.2mm	100 pcs PART# 130035 H20-414-60-62C02 Pocket 3.5x3.5x1.5mm	256 pcs PART# 140003 H44-138-79-66C02 Pocket 3.5x3.5x2.0mm	256 pcs PART# 140003 H44-138-79-66C02 Pocket 3.5x3.5x2.0mm
4x4mm	64 pcs PART# 130004 H20-170-42-62C02 Pocket 4.3x4.3x1.07mm	64 pcs PART# 150004 H20-167171-66C02 Pocket 4.24x4.34x1.8mm	196 pcs PART# 140004 H44-N825602-66C02 Pocket 4.4x4.4x1.65mm	196 pcs PART# 140004 H44-N825602-66C02 Pocket 4.45x4.45x1.65mm
5x5mm	36 pcs PART# 130005 H20-225233-62C02 Pocket 5.7x5.9x1.07mm	36 pcs PART# 150005 H20-256-83-66C02 Pocket 6.5x6.5x2.1mm	144 pcs PART# 182268 H44-206-79-66C02 Pocket 5.2x5.2x2.0mm	144 pcs PART# 182268 H44-206-79-66C02 Pocket 5.23x5.23x2.0mm
6x6mm	25 pcs PART# 130007 H20-310-42-62C02 Pocket 7.8x7.8x1.07mm	25 pcs PART# 150006 H20-270-78-66C02 Pocket 6.8x6.8x2.0mm	121 pcs PART# 140006 H44-248-80-66C02 Pocket 6.3x6.3x2.0mm	121 pcs PART# 140006 H44-248-80-66C02 Pocket 6.3x6.3x2.0mm
7x7mm	25 pcs PART# 130007 H20-310-42-62C02 Pocket 7.8x7.8x1.07mm	25 pcs PART# 150007 H20-313-85-66C02 Pocket 7.95x7.95x2.2mm	81 pcs PART# 140007 H44-299-62C02 Pocket 7.6x7.6x1.27mm	81 pcs PART# 180007 H44-302-62C02 Pocket 7.6x7.6x3.7mm
8x8mm	16 pcs PART# 130009 H20-385-62C02 Pocket 9.8x9.8x1.14mm	16 pcs PART# 150091 H20-360-66C02 Pocket 9.1x9.1x1.4mm	64 pcs PART# 140008 H44-324-62-66C02 Pocket 8.28x8.28x1.6mm	64 pcs PART# 180008 H44-341-66C02 Pocket 8.66x8.66x2.54mm
9x9mm	16 pcs PART# 130009 H20-385-62C02 Pocket 9.8x9.8x1.14mm	16 pcs PART# 150091 H20-360-66C02 Pocket 9.1x9.1x1.4mm	49 pcs PART# 140009 H44-400-62C02 Pocket 10.2x10.2x2.5mm	49 pcs PART# 140009 H44-400-62C02 Pocket 10.2x10.2x2.54mm
10x10mm	9 pcs PART# 130010 H20-430-62C02 Pocket 10.9x10.9x1.4mm	9 pcs PART# 130010 H20-430-62C02 Pocket 10.9x10.9x1.4mm	49 pcs PART# 140010 H44-420-80-62C02 Pocket 10.6x10.6x2.0mm	49 pcs PART# 140010 H44-420-80-62C02 Pocket 10.6x10.6x2.0mm
12x12mm	9 pcs PART# 130012 H20-530-45-62C02 Pocket 13.4x13.4x1.1mm	9 pcs PART# 130013 H20-515-63-66C02 Pocket 13x13x1.6mm	36 pcs PART# 140012 H44-499-66C02 Pocket 12.7x12.7x2.5mm	36 pcs PART# 140012 H44-499-66C02 Pocket 12.7x12.7x2.5mm

Tray Pocket Placement Location



2-INCH WAFFLE PACK (IC-CHIP TRAY)

PKG Size	QFN Series	Tray DWG	Ref	DIMENSIONS (mm)								Array	Pockets
				Y	Y	Z	M	M1	M2	M3			
3x3mm	M-QFN	130003	H20-126-47-62C02	3.19	3.19	1.19	5.95	5.95	4.31	4.31	10x10	100	
	H-QFN	130035	H20-414-60-62C02	3.56	3.56	1.52	6.32	6.32	4.22	4.22			
4x4mm	M-QFN	130004	H20-170-42-66C02	4.32	4.32	1.07	6.22	6.22	5.46	5.46	8x8	64	
	H-QFN	150004	H20-167171-66C02	4.24	4.34	1.78	6.15	5.97	5.56	5.51			
5x5mm	M-QFN	130005	H20-225233-62C02	5.70	5.90	1.07	7.04	6.91	7.37	7.32	6x6	36	
	H-QFN	150005	H20-256-83-66C02	6.50	6.50	2.11	6.65	6.65	7.49	7.49			
6x6mm	M-QFN	130007	H20-310-42-62C02	7.85	7.85	1.07	7.87	7.87	8.74	8.74	5x5	25	
	H-QFN	150006	H20-270-78-66C02	6.86	6.86	1.98	8.13	8.13	8.64	8.64			
7x7mm	M-QFN	130007	H20-310-42-62C02	7.85	7.85	1.07	7.87	7.87	8.74	8.74	5x5	25	
	H-QFN	150007	H20-313-85-66C02	7.95	7.95	2.16	7.42	7.42	8.99	8.99			
8x8mm	M-QFN	130009	H20-385-66C02	9.78	9.78	1.14	8.69	8.69	11.10	11.10	4x4	16	
	H-QFN	150091	H20-360-66C02	9.14	9.14	1.40	9.02	9.02	10.92	10.92			
9x9mm	M-QFN	130009	H20-385-62C02	9.78	9.78	1.14	8.69	8.69	11.10	11.10	4x4	16	
	H-QFN	150091	H20-360-66C02	9.14	9.14	1.40	9.02	9.02	10.92	10.92			
10x10	M-QFN	130010	H20-430-62C02	10.90	10.90	1.40	12.67	12.67	12.66	12.66	3x3	9	
	H-QFN	130010	H20-430-62C02	10.90	10.90	1.40	12.67	12.67	12.66	12.66			
12x12	M-QFN	130012	H20-530-45-62C02	13.46	13.46	1.14	10.62	10.62	14.73	14.73	3x3	9	
	H-QFN	130013	H20-515-63-66C02	13.08	13.08	1.59	10.64	10.64	14.78	14.78			

4-INCH WAFFLE PACK (IC-CHIP TRAY)

PKG Size	QFN Series	Tray DWG	Ref	DIMENSIONS (mm)								Array	Pockets
				Y	Y	Z	M	M1	M2	M3			
3x3mm	M-QFN	140003	H44-138-79-66C02	3.50	3.50	2.00	9.55	9.55	5.51	5.51	16x16	256	
	H-QFN												
4x4mm	M-QFN	140004	H44-N825602-66C02	4.45	4.45	1.65	9.35	9.35	6.38	6.38	14x14	196	
	H-QFN												
5x5mm	M-QFN	182268	H44-206-79-66C02	5.23	5.23	2.00	10.44	10.44	7.34	7.34	12x12	144	
	H-QFN												
6x6mm	M-QFN	140006	H44-248-80-66C02	6.30	6.30	2.03	10.80	10.80	8.00	8.00	11x11	121	
	H-QFN												
7x7mm	M-QFN	140007	H44-299-62C02	7.60	7.60	1.27	12.67	12.67	9.50	9.50	9x9	81	
	H-QFN	180007	H44-302-62C02	7.67	7.67	3.68	11.53	11.53	9.78	9.78			
8x8mm	M-QFN	140008	H44-324-62-66C02	8.23	8.23	1.57	11.94	11.94	11.10	11.10	8x8	64	
	H-QFN	180008	H44-341-66C02	8.66	8.66	2.54	15.24	15.24	10.16	10.16			
9x9mm	M-QFN	140009	H44-400-62C02	10.16	10.16	2.54	15.60	15.60	11.73	11.73	7x7	49	
	H-QFN												
10x10	M-QFN	140010	H44-420-80-62C02	10.67	10.67	2.03	12.57	12.57	12.70	12.70	7x7	49	
	H-QFN												
12x12	M-QFN	140012	H44-499-66C02	12.70	12.70	2.54	15.88	15.88	13.97	13.97	6x6	36	
	H-QFN												

ACCESSORIES CLIPS & COVERS FOR WAFFLE PACK (IC-CHIP TRAY)

Tray Size	Cover		Clips		Tyvek Interleaf	
	DWG	Ref	DWG	Ref	DWG	Ref
2-inch	167859	H20-02-66C02	120002	H20-04B-67C02	120006	H20-001D
4-inch	140020	H44-02-62C02	140022	H44-04-61C02	140500	H44-001D

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Open (Air) Cavity Plastic Packages

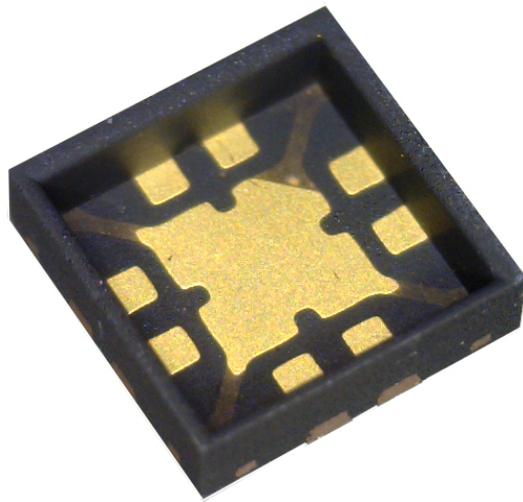
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