

Building Partnerships in Innovation

About Us

Circuit-Tech Inc. is a customer focused, quick response, and highly complex technology manufacturer of precision printed circuit boards.

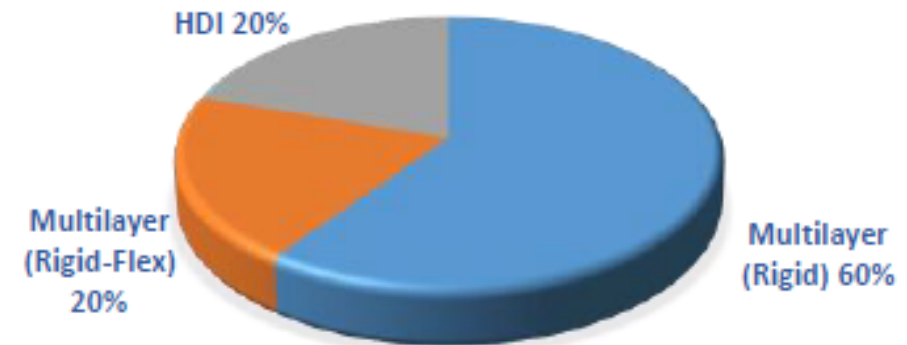
- Established in 1982, is one of the oldest and largest privately-held PCB manufacturer in Canada.
- Servicing both Original Equipment Manufacturer's and Electronic Manufacturing Service companies with prototypes, low and medium production volumes.
- Located outside Toronto in Markham, Ontario Canada. Occupies over 57,000 square feet of factory space with approximately 79 full-time employees.



ISO 9001:2015 & AS9100D Certified.

Technology

- Multilayers to 36+ Layers
- Flex Rigid to 18 Layers
- High Performance Dielectrics
- Blind & Buried Via
- Microvia Technology
- Cavity and Cut-outs
- Conductive & Non-Conductive Via Fill
- Controlled Impedance
- Heat Sink Bonding
- Metal Core Constructions
- Alternative Surface Finishes
- LDI Soldermask



Certifications & Accomplishments

- ISO 9001:2015 & AS9100D



- MIL-PRF-31032 Certified



- Controlled Goods Program Certified



- ITAR Compliant



- UL Approved



- IPC Member



- RoHS Lead Free Compliant



Services & Capabilities

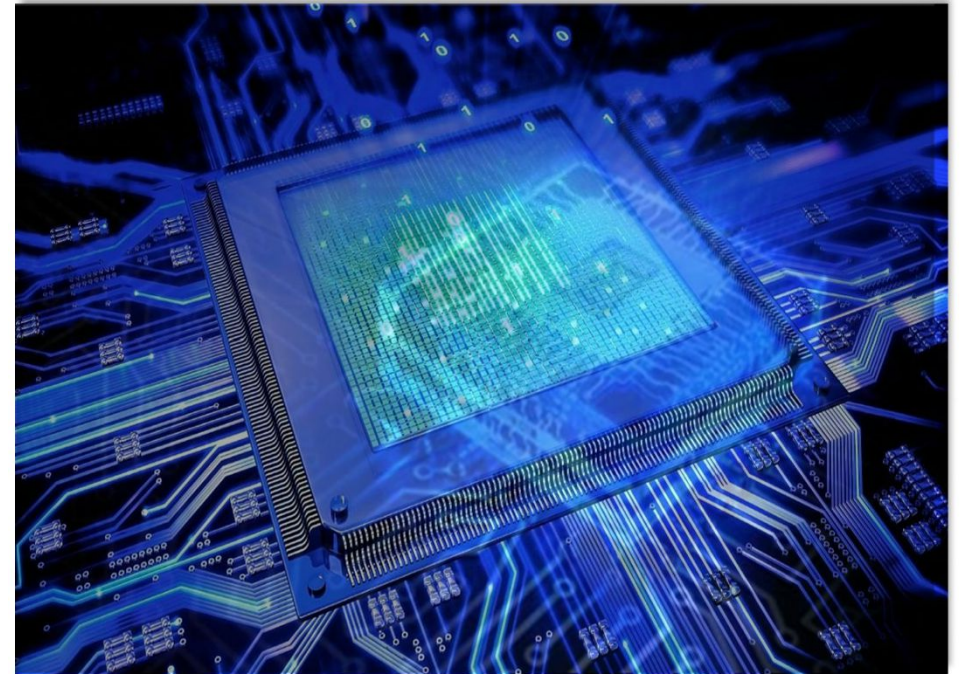
- NPI /Pilot Runs /Prototypes
- Low or Medium (L/M) Volume Productions
- KANBAN and VMI Program
- Impedance Modeling and TDR Testing
- Microsection and Detailed Analysis Reporting
- IST/HATS Analysis
- Electrical Testing (Fixture and Flying Probe)
- IPC-A-600 (Class 2 & 3), IPC 6012D /DS (3A)
- Quality Reporting- FAI & AS9102 FAIR



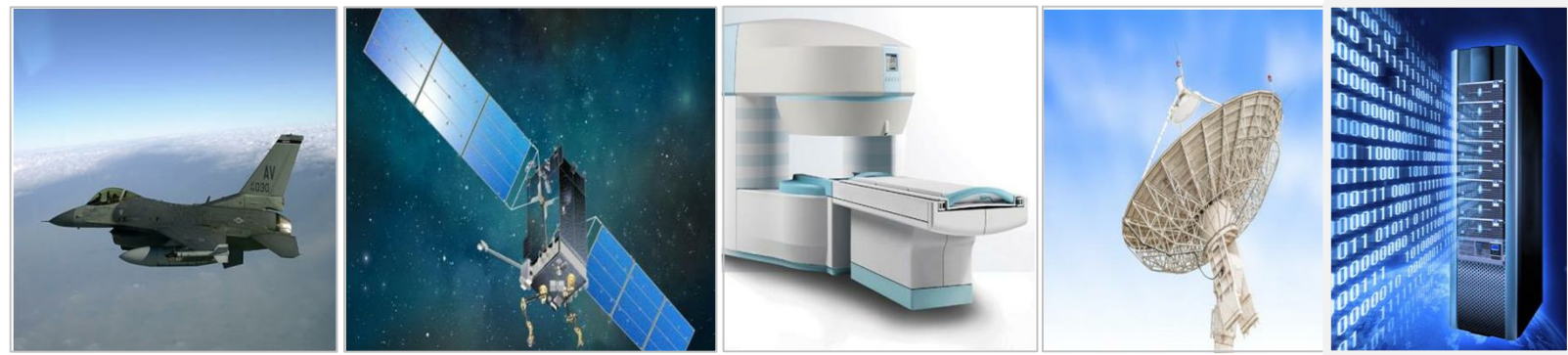
Technical Support

Engineering Services:

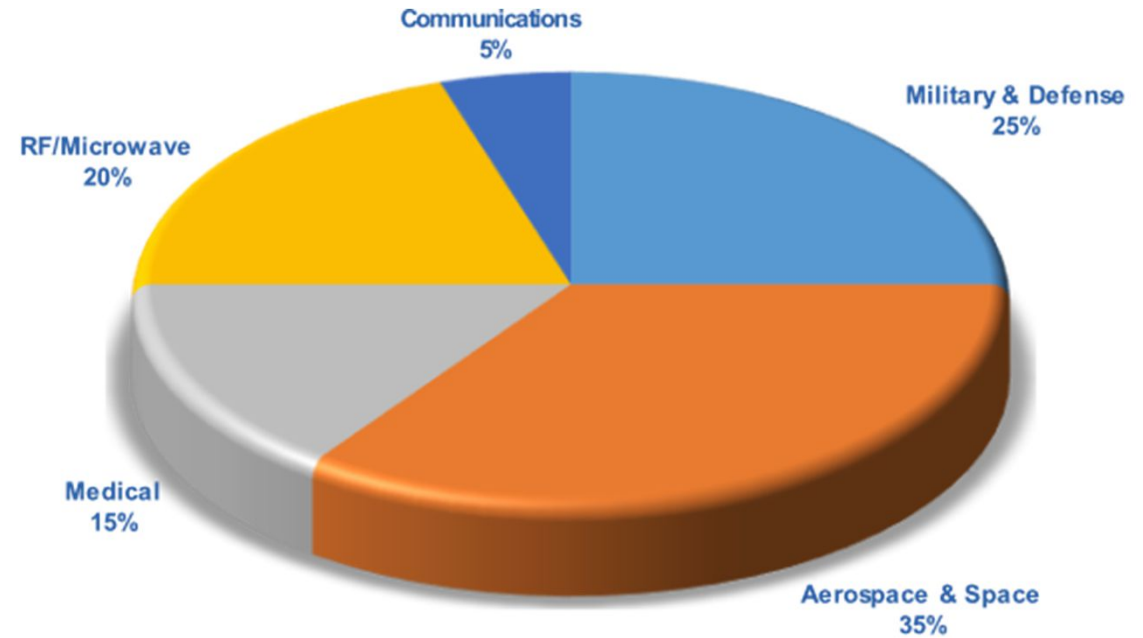
- DRC- Design Rules Check
- DFM- Design for Manufacturability
- Stack-up Data Reporting
- Cost Reduction Solutions- Value Engineering
- Frontline Genesis 2000 CAM Stations
- File Format: ODD++ or 274X



Our Markets



- Military & Defense
- Aerospace & Space
- Medical
- RF/Microwave
- Communications



TECHNOLOGY ROADMAP

Attribute	Standard	Advanced	Special Capabilities or Limited
Line/Space			
½ oz Copper	> 0.005"/0.005"	0.004"/0.004"	< 0.003"/0.003"
1 oz Copper	0.006"/0.006"	0.005"/0.005"	< 0.004/0.004"
2 oz Copper	> 0.008"/0.008"	0.007"/0.007"	< 0.0065"/0.0065"
3 oz Copper	> 0.010"/0.010"	0.009"/0.009"	< 0.008"/0.008"
Clearances (Plane Layers)			
Knock-out Pads	> 0.012"	0.010"	< 0.008"
Split Planes	> 0.010"	0.008"	< 0.008"
Drilling			
Minimum Hole Diameter	0.008"	0.006"	0.005"
Maximum Hole Diameter	0.255"	--	--
Aspect Ratio (Thickness : Hole Diameter)	10:1	12:1	14:1
Minimum Laser Via Hole	0.005	0.004	--
Laser Via Aspect Ratio	2 : 1	1.5 : 1	1 : 1
Laser Via Land Size (Diameter Over Drill)	0.008"	0.006"	0.005"
Land Sizes			
Annular Ring (1-10 Layers)	> 0.006"	0.005"	< 0.004"
Annular Ring (< 12 Layers)	> 0.007"	0.006"	< 0.005"

TECHNOLOGY ROADMAP

Attribute	Standard	Advanced	Special Capabilities or Limited
Board Thickness			
Minimum Core Thickness	0.003"	0.002"	0.001"
Minimum Board Thickness	0.008"	0.005"	0.0025"
Maximum Board Thickness	0.125"	0.200"	0.250"
Thickness Tolerance	10%	7.5%	5%
Maximum Layer Count	28	32	36
Maximum Copper Weight Internal Layers (oz./ft ²)	4	5-6	>6
Maximum Copper Weight External Layers (oz./ft ²)	4	5-6	>6
Board Size			
Maximum Panel Size	18" x 24"		21" x 24"
Maximum Board Size	16" x 22"		18" x 22"
Pitch			
SMT	0.039"	0.031"	0.020"
BGA	> 0.020	0.016"-0.020"	< 0.016"
Soldermask Dams	0.004"	0.003"	0.002"
Soldermask Clearance	0.004"	0.003"	0.002"
Impedance			
Impedance Tolerance	± 10%	± 5%	<± 5%

TECHNOLOGY ROADMAP

Attribute	Standard	Advanced
Via Construction		
Through Hole	Yes	Yes
Blind (Mechanical) Sequential Lamination	Yes	Yes
Buried (Mechanical)	Yes	Yes
Laser <u>Microvias</u>	Yes	Yes
Back Drilling	Yes	Yes
Conical Drill	Yes	Yes
Via Fill		
Non-Conductive Via Fill	Yes	Yes
Conductive Via Fill	Yes	Yes
Copper Fill Laser Drill	No	Yes

TECHNOLOGY ROADMAP

High Tg FR4 > 170°C	Standard	Advance	Limited
Isola FR-406 (170°C Tg)	Yes	Yes	Yes
Isola 185HR (180°C Tg)	Yes	Yes	Yes
Isola IS-410 (180°C Tg)	Yes	Yes	Yes
Isola 370HR (180°C Tg)	Yes	Yes	Yes
ITEQ IT-180A (180°C Tg)	Yes	Yes	Yes
High Temperature Polyimide Materials			
Isola P95 And P96 (260°C Tg)	Yes	Yes	Yes
Arlon 85N (260°C Tg)	No	Yes	Yes
Arlon 85NT (250°C Tg/426°C Td)	No	Yes	Yes
Arlon 35N (250°C Tg)	No	Yes	Yes
Hitachi MCL-E-700G & 770G (Low CTE- 250°-270°C Tg/400°-440°C Td)	No	Yes	Yes
Arlon 55NT (250°C Tg)	No	Yes	Yes
Arlon 33N (250°C Tg)	No	Yes	Yes
High Frequency Materials			
Isola FR408 (180°C Tg)	Yes	Yes	Yes

TECHNOLOGY ROADMAP

High Frequency Materials	Standard	Advance	Limited
ITEQ 200LK (200°C Tg)	Yes	Yes	Yes
Isola FR408HR High Tg (190°C)/Low Dk 3.8	Yes	Yes	Yes
Nelco 4000-13 High Tg (210°C) /Low Dk 3.7	Yes	Yes	Yes
Rogers 3000, 4000, 5000 & 6000 Series	Yes	Yes	Yes
Arlon 25 and 49 Series	Yes	Yes	Yes
PTFE/Teflon® and Taconic	Yes	Yes	Yes
Panasonic Megtron4, 6 and 7	Yes	Yes	Yes
	Yes	Yes	Yes
Surface Finishes			
ENIG	Yes	Yes	Yes
ENEPIG	--	Yes	Yes
HASL (Eutectic Solder)	Yes	Yes	Yes
Lead-Free HAL (RoHS Approved)	Yes	Yes	Yes
Immersion Silver	Yes	Yes	Yes
Immersion Tin	Yes	Yes	Yes
Electrolytic Nickel/Gold	Yes	Yes	Yes

TECHNOLOGY ROADMAP

Attribute	Standard	Advanced
Qualifications		
Underwriters Laboratories, UL Listed 94-V0	Yes	Yes
MIL-PRF-31032 Certified (MIL-PRF-55110 Certified)	Yes	Yes
Canadian Controlled Goods Certified/ITAR	Yes	Yes
AS 9100D Certified/ISO 9001 Certified	Yes	Yes
IPC-A-600 , IPC 6012 E / ES	Yes	Yes

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