



HYBRID MICROCIRCUITS

THICK FILM HYBRID MICROCIRCUITS

Hybrid Microcircuits (HMC IC's) are custom-made circuit modules. Conductor, resistor, dielectric and overglaze pastes are screen printed and fired on a ceramic substrate building reliable multi-layer circuits. Precise value of resistors is achieved by laser trimming as per customer or circuit requirements. Extensive use of Surface Mount Devices makes the circuit compact and more reliable.

RANGE

- Custom Built Hybrid Microcircuits
- PTH (Plated Through Hole) Hybrids
- Standard Resistor Networks (Bussed, Isolated, Dual Terminator, R/2R Ladder Network)
- Custom Resistor Network
- High Voltage (Surge) Networks
- Capacitor/Resistor-Capacitor Network (RC Network)
- Diode Arrays
- Print, Fired and Trimmed (PFT) Substrates
- Heat Element (Conductor & Resistor printed on a Steel substrate)
- Sensors

BENEFITS

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| • Miniaturization | • Better Thermal Management |
| • Reduced Component count/Less Inventory | • Design Flexibility |
| • Improved reliability | • Faster Turnaround |
| • Functional modules | • Precision Resistors |
| | • Secrecy |

APPLICATION

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|---------------------|--------------|
| • Telecommunication | • Automotive |
| • Consumer | • Industrial |
| • IT Products | • Defence |
| • Power | • Medical |

RoHS Complaint Hybrids Manufactured on demand

CAPABILITIES

Substrate	96% Alumina Max. Size: 152x 152 mm	
Conductors	PdAg, PtAg, Au	
Line Definition	300 microns Line width/spacing (Standard) 125 microns Line width/spacing (Special)	
Resistors	Value range	1 Ohm to 30 M Ohm
	Tolerance (Absolute)	down to 0.3%
	Tolerance (Matching)	down to 0.1%
	TCR	50 ppm/deg. C-available 100 ppm/deg. C-Standard
	TCR Tracking	Down to 20 ppm/deg. C
Add-on Components	Resistors	Chip and MELF
	Capacitors	Ceramic, Tantalum Chip capacitors
	Inductors	Chip inductors & Miniature coils
	Thermistors	NTC and PTC types
	Semiconductors	SOT, SO, PLCC, QFP and other Packages
Packing	Styles	Single in Line Dual in Line Printed substrates
	Protection	Overglaze, Epoxy, Durez Resin, Printed Organic Conformal Coat
	Terminals (Phosphor-Bronze/Steel)	2.54 mm Pitch (Special Pitch on Request)
	Standards	MIL-STD 883D, BS 9450, JSS 51400
	Capacity	4.50 Million Square Inches

MAIN RESOURCES

- HMC Layout Softwares VISULA, orCAD
- DEK 248 Screen printers (2 Nos.), DEK 1762RS Screen Printers (3 Nos.), EMS SP 20/20U, DEK 1202
- Micro Scan from Cyber Optics (Thickness measurement)
- DEK 1209 IR Driers (2 Nos.)
- BTU 7 Zone Furnaces (2Nos.)
- Laser Trimmer (CLS - 960)
- Placement System MYDATA TP9-1, SAMSUNG CP45FV, JUKI Fx1, JUKI KE-2020L, MDC ECM96L
- BTU VIP70 Reflow Furnaces (2Nos.), EMS GALLANT
- HP ATE (Functional Testing)