

SENSITRON SEMICONDUCTOR

Powered by Sensitron



CUSTOM HYBRIDS

*For use in all Hi-Rel Applications-
Space, Military, Medical, Aerospace*

Sensitron Semiconductor · 221 West Industry Court · Deer Park, NY 11729-4681
Phone (631) 586 7600 · Fax (631) 242 9798 · www.sensitron.com · sales@sensitron.com

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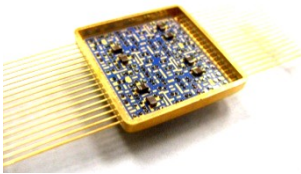
Hermetic Custom Hybrids

Sensitron's Hermetic Custom Hybrid Devices offer the highest performance to space ratio, and are superior to competing technologies. Dependent on your space and size constraints, Sensitron offers Custom Hybrids specific to your design requirements. Sensitron is positioned as a world leader in the advanced technology industry, with products that are designed, manufactured, tested, and qualified for applications where size, weight, and reliability are critical to mission success. Sensitron is a qualified MIL-STD-38534 Class H & Class K Facility.

Product Features:

- ✓ **Superior thermal performance and high power density**
- ✓ **Flexible design configurations and various power device options**
- ✓ **Best performance/space ratio over competing technologies**
- ✓ **Sophisticated advanced simulation and modeling tools with an R&D team**

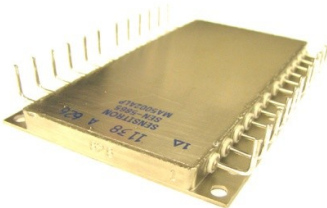
Chip & Wire



Small Signal Hybrid

- ✓ **Flexible packaging options**
- ✓ **High electrical conductivity**
- ✓ **Power semiconductor construction capable**
- ✓ **Flexible bare chips and chip parts selection**
- ✓ **Automation friendly**

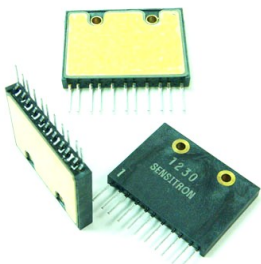
Hermetic Power Hybrid Packaging



Half-Bridge IGBT Module

- ✓ **Electrically isolated package**
- ✓ **Mechanical strength**
- ✓ **Metal shielding**
- ✓ **Thermal resistivity**

Baseless Packaging



Ultrafast 3-Phase Bridge

- ✓ **Lower profile and light weight**
- ✓ **Lowest possible thermal resistance**
- ✓ **Higher temperature applications**
- ✓ **Lower cost**
- ✓ **Automation friendly**

Hermetic Custom Hybrids

Integrated Heat Sink Packaging



Half-Bridge Motor Module

- ✓ High transient power capability
- ✓ Very compact package
- ✓ Thermal resistivity
- ✓ Multilayer structure capable
- ✓ Integrated, cross-hatched heat sink for greater efficiency


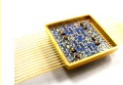



Small Area Devices



Space Level Diode Array

- ✓ Electrically isolated package
- ✓ Flexible bare chip and die selection
- ✓ Mechanical strength
- ✓ Power semiconductor construction capable
- ✓ Automation friendly

Attribute Comparison by Hybrid Design

	Description	Baseless	Chip & Wire	Int Heat Sink	Power Hybrid	Small Area Devices
						
1	Electrically isolated package	✓		✓	✓	✓
2	Flexible packaging options	✓	✓	✓	✓	
3	Multilayer structure capable	✓		✓	✓	
4	Flexible bare chips selection	✓	✓		✓	✓
5	Flexible chip parts selection	✓	✓		✓	
6	Automation friendly	✓	✓			✓
7	Metal shielding		✓		✓	
8	High electrical conductivity	✓	✓	✓	✓	
9	Power semiconductor construction capable	✓	✓		✓	✓
10	Fine line pattern	✓	✓	✓	✓	✓
11	Lead wire bond ability and strength		✓			
12	Thermal resistivity	✓		✓	✓	
13	Resistance range of resistor	✓		✓	✓	
14	Resistor trimming	✓	✓	✓	✓	✓
15	Freedom of resistor trimming		✓	✓		
16	Flatness	✓	✓	✓		✓
17	Dimensional accuracy	✓	✓	✓	✓	✓
18	Mechanical strength		✓		✓	✓

Product Development Tools & Capabilities

MTBF Computational Tool

- Relx Architect 2008

Rapid Prototyping Tool

- ZCorp 3D Plus



Mathematical Tools

- MathCAD 14
- Visual Basic
- APDL
- C++
- Origin 8.1

Software Tools

- AutoCAD 2005
- Inventor 9
- Solidworks 2010
- Design Modeler
- ANSYS Mechanical v.13
- CFX v.13

Product Development Equipment

- 4 Dual quadcore simulation workstations
- Dukane ultrasonic welder
- SST DAP sealer
- SSEC seam welder
- Sonix ultrasonic scanner
- BTU belt reflow furnaces
- Orthodyne 360 fully automatic wirebonder
- K&S 4526 semi-automatic wirebonder
- Dage bond pull tester
- Polaris percussion welder
- Trebor eutectic die bonder
- Trebor epoxy pick & place
- K&S semi-automatic pick & place
- ESPEC thermal cycling machine

Visit online at: www.sensitron.com

About Sensitron: Sensitron is a leading manufacturer of high reliability power electronic solutions including motor controllers, diodes, smart power management and conversion, voltage protection components and embedded boards, with over 40 years heritage serving space, aerospace, and defense markets.