



**HIGH DENSITY, HIGH PERFORMANCE & HIGH RELIABILITY PRODUCTS
FOR AEROSPACE & DEFENSE**

®



HIGH DENSITY, HIGH PERFORMANCE, & HIGH RELIABILITY PRODUCTS FOR AEROSPACE & DEFENSE

HOW SSDI FITS YOUR NEEDS

HERITAGE

MANUFACTURER OF HI-REL DISCRETES, ASSEMBLIES
AND POWER MODULES SINCE 1967

QUALITY: TWO JANS CERTIFIED /
ISO 9001 & AS9100 CERTIFIED FACILITIES



OEMs SUPPORTED

▪ Aerojet	▪ GE	▪ NASA
▪ Airbus	▪ General Dynamics	▪ Northrop Grumman
▪ BAE	▪ Honeywell	▪ Orbital / ATK
▪ Boeing	▪ L-3 Harris	▪ NEC
▪ Collins Aerospace	▪ Leonardo	▪ Raytheon
▪ DLA	▪ Lockheed Martin	▪ Thales
▪ FAA	▪ Mitsubishi Electric	▪ UTAS

PROGRAM HERITAGE

▪ A2100	▪ EFA	▪ JUNO	▪ PEGASUS
▪ AMRAAM	▪ EUROSTAR	▪ Longbow	▪ RADAR SAT
▪ AEGIS	▪ F-15, F-16, F-18,	▪ MAGELLAN	▪ SBIRS
▪ AEHF	▪ F-22, F-35	▪ MARS ROVER	▪ SEA LAUNCH
▪ AIM-9	▪ Globalstar	▪ MILSTAR	▪ SHUTTLE
▪ Atlas V	▪ GOES-R	▪ OMEGASAT	▪ SPACE BUS
▪ DAWN	▪ H-IIA	▪ ORION	▪ TELESTAR
▪ DELTA	▪ INTEL SAT	▪ PAC3	▪ TITAN IV
▪ Echostar	▪ ISS	▪ Patriot P1	▪ Tomahawk

WHAT IS YOUR APPLICATION'S TEMP?

INDUSTRIAL
-45°C TO +85°C

MILITARY
-55°C TO +125°C

SPACE
-65°C TO +175°C

LOW / MEDIUM POWER DISCRETES

RECTIFIERS

- 5 μ s - 4 ns
- 16 V - 25,000 V
- 20 mA - 3 A



SCHOTTKYS

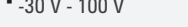
- 30 mA - 3 A
- 20 V - 300 V

SiC SCHOTTKYS

- 500 mA - 3 A
- 15 V - 600 V

JFETS

- 100 mW - 5 W
- 10 mA - 1 A
- -30 V - 100 V



BIPOLAR TRANSISTORS

- 200 mW - 6 W
- 10 mA - 10 A
- 10 V - 900 V



ZENERS

- 250 mW - 6 W
- 2.4 V - 510 V

TVS

- 150 W - 500 W
- 7.5 V - 510 V

HIGH POWER DISCRETES

RECTIFIERS

- 3.15 A - 120 A, 20 V - 15,000 V
- 25 μ s - 30 ns

SCHOTTKYS

- 4 A - 150 A, 25 V - 300 V

SiC SCHOTTKYS

- 4 A - 40 A, 200 V - 1,700 V
- POWER MOSFETS & SiC MOSFETS**
- 6 W - 830 W, -110 A - 350 A
- -200 V - 1,200 V

POWER IGBTs

- 6 W - 300 W, 10 A - 200 A
- 600 V - 1,800 V

BIPOLAR TRANSISTORS

- 10 W - 600 W, 0.5 A - 200 A
- 40 V - 450 V

GaN POWER FETS

- 10.4 W - 125 W, 6.3 A - 90 A
- 40 V - 1,000 V

ZENERS

- 8 W - 50 W, 2.4 V - 510 V

TVS

- 1 kW - 120 kW, 5.6 V - 510 V

HYBRIDS

HALF-BRIDGE N-CHANNEL MOSFET POWER HYBRIDS

- 12 A - 32 A, 700 V - 1,000 V

ADJ. OUTPUT SYNCHRONOUS STEP DOWN DC-DC CONVERTERS

- 3.5 A, V_{IN} = 3.9 V - 36 V
- 40 A, V_{IN} = 1.5 V - 16 V

HV BRIDGES & ASSEMBLIES

- Utilizes hermetic components
- Standard and custom designs available
- HiRel testing / screening
- Typ. applications: Radar, TWT Communication, ECM, Pulsed Energy, Voltage Multipliers, HV Power Supplies, etc.



DOORBELL RECTIFIERS

- Up to 15,000 V and 20 A

HV MULTIPLIERS

- Up to 20,000 V and 200 mA

HV POWER SUPPLIES

- Multiple configurations capable of operating up to a 1 kW (2) TWT tube missile application

HV MULTIPLE BRIDGES

- Used for powering TWT's in Airborne applications

HV STICK RECTIFIERS

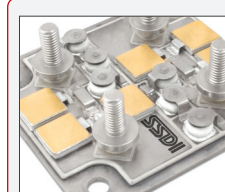
- Up to 15,000 V and 2 A

HV ZENERS

- Ref. voltage up to 12,500 V

MINIATURIZED, SPACE QUALIFIED, HV BRIDGE WITH VOLTAGE MULTIPLIER

POWER MODULES

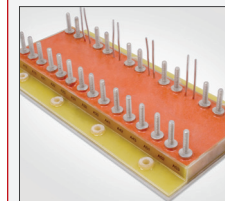


MATERIAL TECHNOLOGY

- Hermetic SMT components
- DBC substrate, 8 mil thick copper
- Rugged I/O connections
- Al/SiC base plate is electrically isolated

PERFORMANCE / FEATURES

- High thermal conductivity
- Layout optimized for circuitry and I/O
- Thermal stress relief
- Application specific solution
- Simplifies procurement with single item
- Includes power and passive components



SSDI SPACE LEVEL RECTIFIERS, SCHOTTKYS, ZENERS, & TVS

- Void free hermetically sealed ceramic frit glass construction
- Weldable solid silver leads (Axial / Flat leads)
- High temp. Category 1 metallurgical bond

CURRENT QPL

1N5811 SERIES

- 6 A, 30 ns, 50 V - 150 V
- Axial Leaded (QPL)

1N6519 SERIES

- 1.5 kV - 10 kV
- 0.5 A - 1.5 A
- Axial Leaded (QPL)

1N7068 SERIES

- 10 A, 30 ns Rectifiers
- 100 V - 200 V
- I_{FSM} = 250 A

SCHEDULED QPL

1N8257 SERIES

- 4 - 6 A, 30 ns Rectifiers
- 100 V - 200 V
- I_{FSM} = 125 A

1N6631 SERIES

- 1.8 - 2.3 A, 200 V - 1 kV

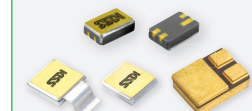
RADIATION DETECTORS

- SPD9441 & SPD9442
- I_p = 5 A, V_R = 100 V

SATISFIED WITH YOUR SUPPLIER?

CURRENT SOURCE NO
LONGER SUPPLYING
YOUR PART? NEED A
2ND SOURCE?

- SSDI offers cross references for most legacy devices
- Replacements often offer improved performance
- Samples / prototypes available



OBSOLESCENCE & SUSTAINMENT SUPPORT

- Die design
- Over 10,000,000 obsolete semiconductor finished goods and die in environmentally controlled inventory
- SSDI partners with world-class die foundries
- Purchase end of life die stock for long term commitment to your program
- Full traceability

- Build i.a.w. data sheet, your SCD, or SSDI-generated SCD
- Engineering support: upgrade to new package / technology, upgrade electrical performance, etc.

MIN ORDER QTY /
LEAD TIME ISSUES?

SSDI welcomes small quantities and works with customers to accommodate MOQ.

SSDI's strong relationships with world-class die foundries and parts suppliers facilitate small production runs and reasonable lead times

NEED UNIQUE PARTS?

- SCDs
- Reverse Engineering
- Product Development
- Special Packaging



WIDE RANGE OF PACKAGE OPTIONS

- Surface Mount
- Axial Leaded
- TO-25X Series
- Stud Mounts
- TO-CAN Types (i.e. TO-5)
- Assemblies
- Flatpacks
- Ceramic DIP
- Custom Packages



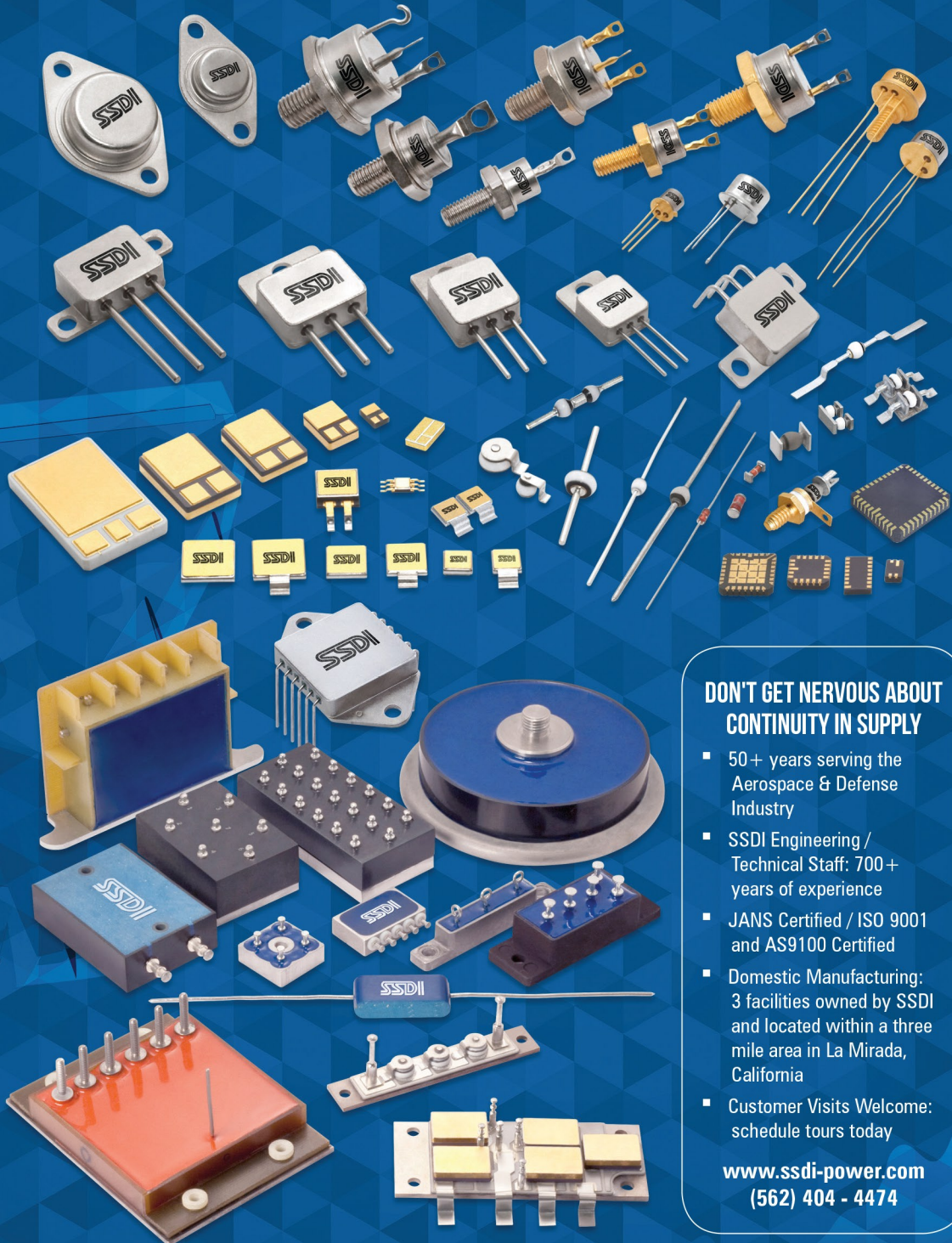
DESIGN CONTROL

IN-HOUSE CAPABILITIES

- Design
- Manufacturing
- Testing (TX, TXV, & S level screening based on MIL-PRF-19500)
- Wafer Fab
- 2 JANS certified facilities in La Mirada, California



EXAMPLES OF HERMETIC PACKAGING



DON'T GET NERVOUS ABOUT CONTINUITY IN SUPPLY

- 50+ years serving the Aerospace & Defense Industry
- SSDI Engineering / Technical Staff: 700+ years of experience
- JANS Certified / ISO 9001 and AS9100 Certified
- Domestic Manufacturing: 3 facilities owned by SSDI and located within a three mile area in La Mirada, California
- Customer Visits Welcome: schedule tours today

www.ssd-power.com
(562) 404 - 4474