



POWER PACKAGE: OVERVIEW



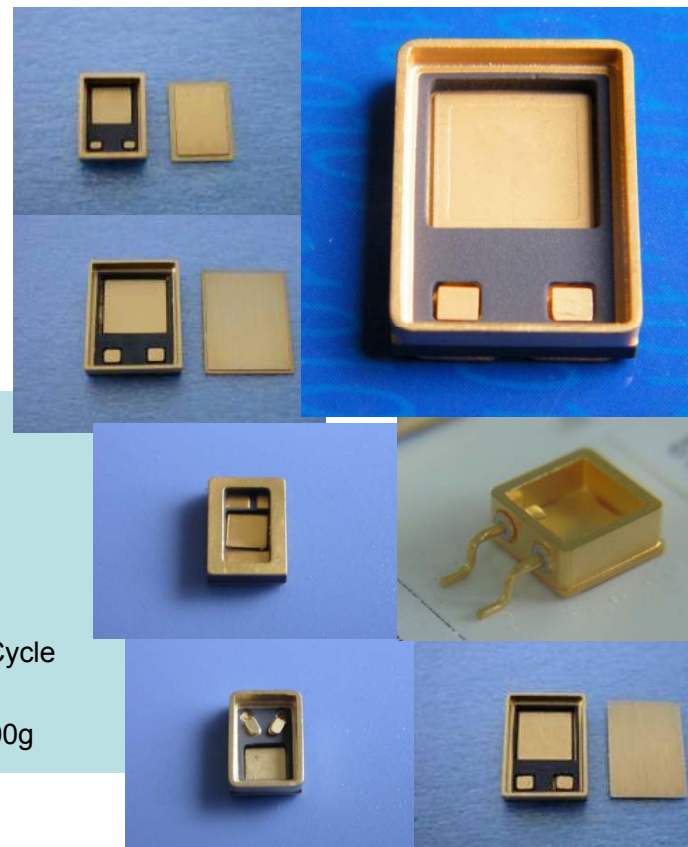
Manufacturing Standard: China Military Standard GJB923A-2004
and Screened per MIL-PRF-38354

General Information:

- 1: Raw Material: OHFC, Tungsten Copper, Molybdenum, Al₂O₃ Ceramic
- 2: High Reliability, used at high temperature of 450°C
- 3: Manufacturing Standard: China Military Standard GJB923A-2004 and Screened per MIL-PRF-38354

Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ m Gold: $\geq 1.27\mu$ m
3. LEAD Resistance: $\leq 4\text{m}\Omega$
4. Isolation Resistance: $\geq 10^9\Omega$
5. Temp Cycle: -65-+175°C 500 times.
6. Thermal Shock: -65~150°C 15times
7. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle
8. Mechanical Environment Test per China Military Standard GJB923A:
Mechanical shock: 1500g Sweep vibration: 20g Constant acceleration: 20000g





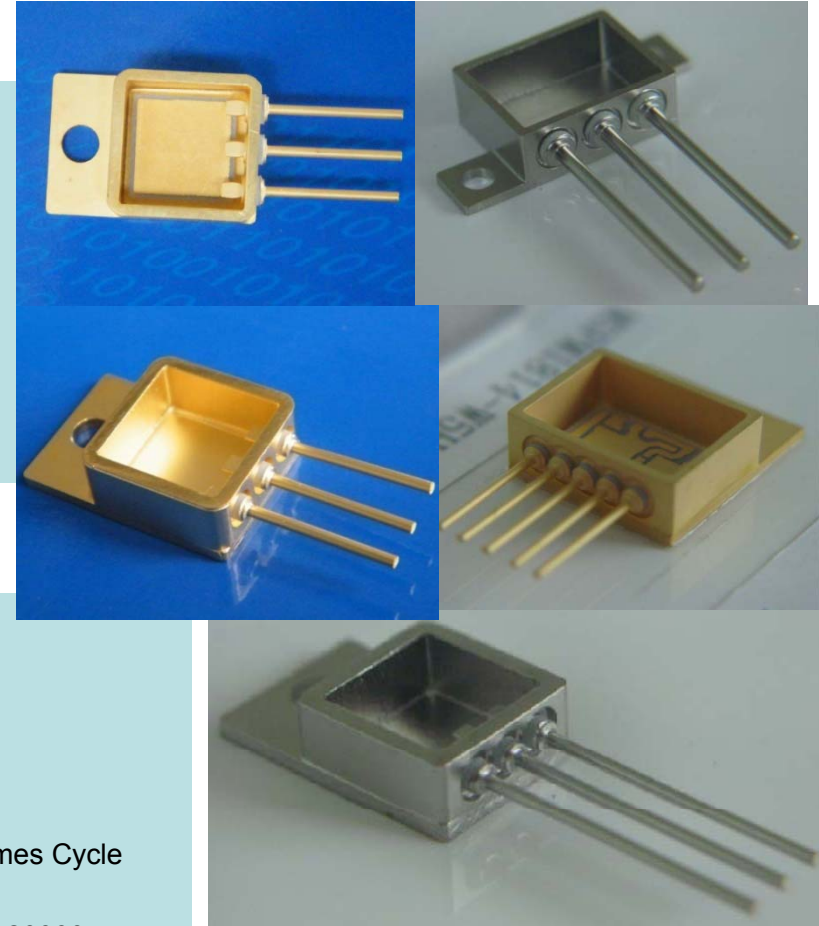
POWER PACKAGE: TO25X Package

General Information:

- 1: Raw Material: OFHC, Tungsten Copper, Molybdenum, GLIDCOP
Pin Material: Copper Cored Alloy52/Kovar, OFHC, ZrCu
- 2: BeO substrate Configuration: W85Cu15+BeO; W85Cu15+BeO+Mo.
OHFC+Mo+BeO+Mo.
- 3: High Reliability, used at high temperature of 450°C
- 4: Special Seal techniques, pin can be bent within 45 degree and go back to its original position without causing any reliability issue.
- 5: Manufacturing Standard: China Military Standard GJB923A-2004
and Screened per MIL-PRF-38354

Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ m Gold: $\geq 1.27\mu$ m
3. LEAD Resistance: $\leq 6m\Omega$
4. Isolation Resistance: $\geq 10^9 \Omega$
5. Temp Cycle: -65-+175°C 500 times.
6. Thermal Shock: -65~150°C 15times
7. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle
8. Mechanical Environment Test per China Military Standard GJB923A:
Mechanical shock: 1500g Sweep vibration: 20g Constant acceleration: 20000g





POWER PACKAGE: Combinative Power Package

General Information:

- 1: Raw Material: OFHC, Tungsten Copper, Molybdenum, GLIDCOP
Pin Material: Copper Cored Alloy52/Kovar, OFHC, ZrCu
- 2: BeO substrate Configuration: W85Cu15+BeO; W85Cu15+BeO+Mo.
OHFC+Mo+BeO+Mo.
- 3: High Reliability, used at high temperature of 450°C
- 4: Special Seal techniques, pin can be sent within 45 degree and go back to its original position without causing any reliability issue.
- 5: Manufacturing Standard: China Military Standard GJB923A-2004
and Screened per MIL-PRF-38354



Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ m Gold: $\geq 1.27 \mu$ m
3. LEAD Resistance: $\leq 0.3 \text{ m}\Omega$ -2m Ω
4. Isolation Resistance: $\geq 10^9 \Omega$
5. Temp Cycle: -65-+175°C 500 times.
6. Thermal Shock: -65~150°C 15times
7. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle
8. Mechanical Environment Test per China Military Standard GJB923A:
Mechanical shock: 1500g Sweep vibration: 20g Constant acceleration: 20000g





POWER PACKAGE:

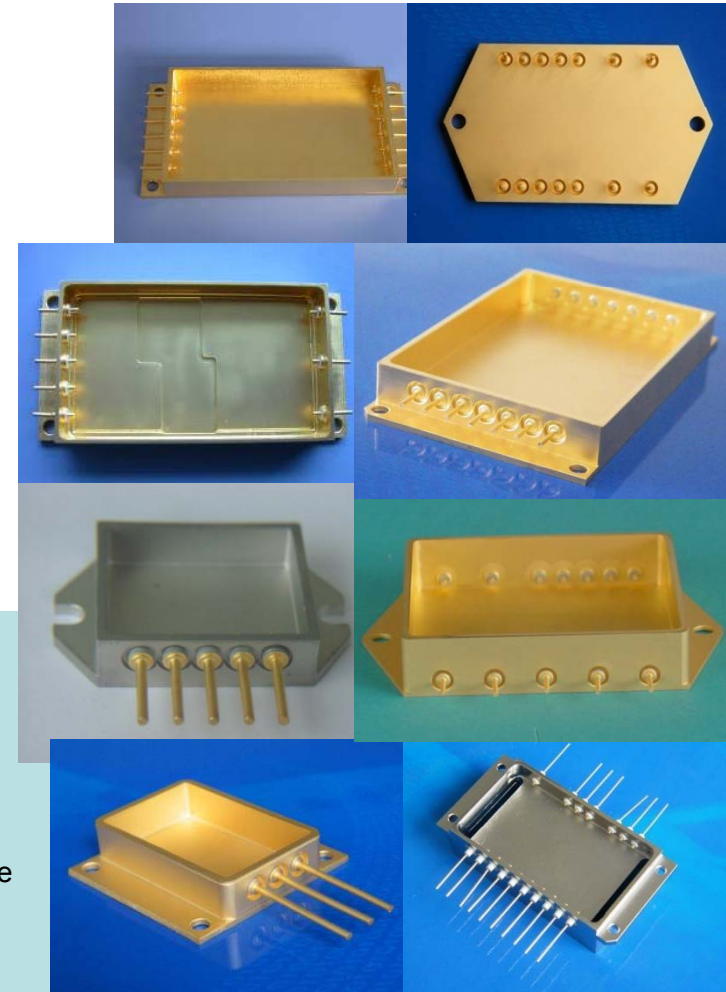
Thick Film Hybrid Circuit & Relay Package

General Information:

- 1: Raw Material: OFHC, Tungsten Copper, Molybdenum, GLIDCOP
Pin Material: Copper Cored Alloy52/Kovar, OFHC, ZrCu
- 2: BeO substrate Configuration: W85Cu15+BeO; W85Cu15+BeO+Mo.
OHFC+Mo+BeO+Mo.
- 3: High Reliability, used at high temperature of 450°C
- 4: Special Seal techniques, pin can be sent within 45 degree and go back to its original position without causing any reliability issue.
- 5: Manufacturing Standard: China Military Standard GJB923A-2004
and Screened per MIL-PRF-38354

Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ m Gold: $\geq 1.27\mu$ m
3. LEAD Resistance: $\leq 1 \text{ m}\Omega \sim 6 \text{ m}\Omega$
4. Isolation Resistance: $\geq 10^9 \Omega$
5. Temp Cycle: -65~+175°C 500 times.
6. Thermal Shock: -65~150°C 15times
7. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle
8. Mechanical Environment Test per China Military Standard GJB923A:
Mechanical shock: 1500g Sweep vibration: 20g Constant acceleration: 20000g





POWER PACKAGE:

Traditional Transistor Outline Package

General Information:

- 1: Raw Material: OFHC, Molybdenum, Al₂O₃ Ceramic, Kovar
Pin Material: Copper Cored Alloy52/Kovar, OFHC, ZrCu
2. BeO substrate Configuration: W85Cu15+BeO; W85Cu15+BeO+Mo, OHFC
- 3: High Reliability, used at high temperature of 450°C
- 4: Special Seal techniques, pin can be sent within 45 degree and go back to its original position without causing any reliability issue.
- 5: Manufacturing Standard: China Military Standard GJB923A-2004
and Screened per MIL-PRF-38354



Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ m Gold: $\geq 1.27\mu$ m
3. LEAD Resistance: $\leq 6m\Omega$
4. Isolation Resistance: $\geq 10^9 \Omega$
5. Temp Cycle: -65-+175°C 500 times.
6. Thermal Shock: -65~150°C 15times
7. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle
8. Mechanical Environment Test per China Military Standard GJB923A:
Mechanical shock: 1500g Sweep vibration: 20g Constant acceleration: 20000g



POWER PACKAGE:

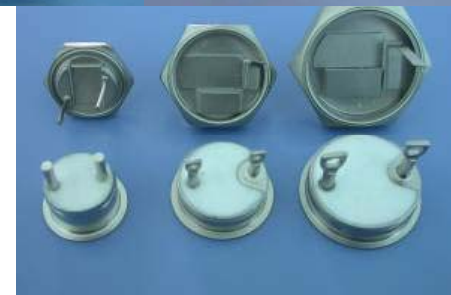
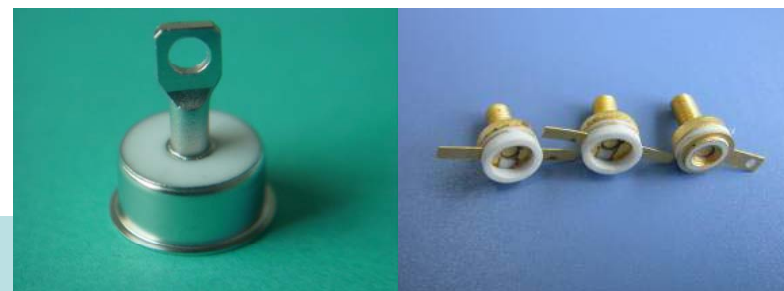
CERAMIC SEAL STUD PACKAGE

General Information:

- 1: Raw Material: OFHC, Molybdenum, Al₂O₃ Ceramic, Kovar
Pin Material: Copper Cored Alloy52/Kovar, OFHC, ZrCu
- 2: High Reliability, used at high temperature of 450°C
- 3: Manufacturing Standard: China Military Standard GJB923A-2004
and Screened per MIL-PRF-38354

Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ m Gold: $\geq 1.27 \mu$ m
3. LEAD Resistance: $\leq 6 \text{m}\Omega$
4. Isolation Resistance: $\geq 10^9 \Omega$
5. Temp Cycle: -65-+175°C 500 times.
6. Thermal Shock: -65~150°C 15times
7. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle



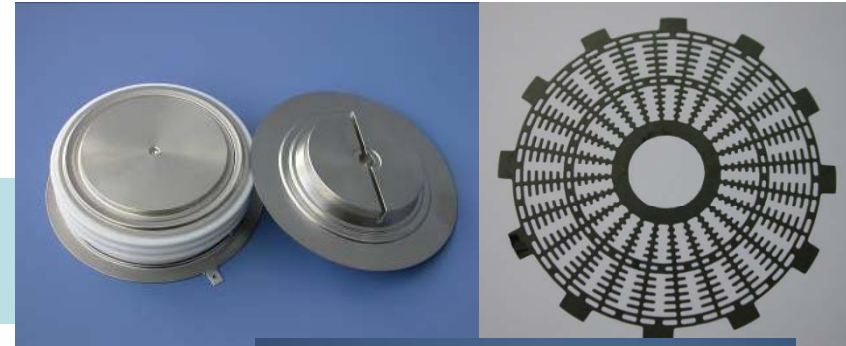


POWER PACKAGE:

HOCKEY PUK PACKAGE

General Information:

- 1: Package mainly used in Triode, Diode, SCR.
- 2: Manufacturing Standard: China Military Standard GJB923A-2004 and Screened per MIL-PRF-38354



Performance and Reliability:

1. Hermeticity: $\leq 1 \times 10^{-8}$ ATM(He) cc/Sec
2. Final Finish: Electrolytic Nickel 1.89-8.9 μ
3. Isolation Resistance: $\geq 10^9 \Omega$
4. Temp Cycle: -65~+175°C 500 times.
5. Thermal Shock: -65~150°C 15times
6. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle





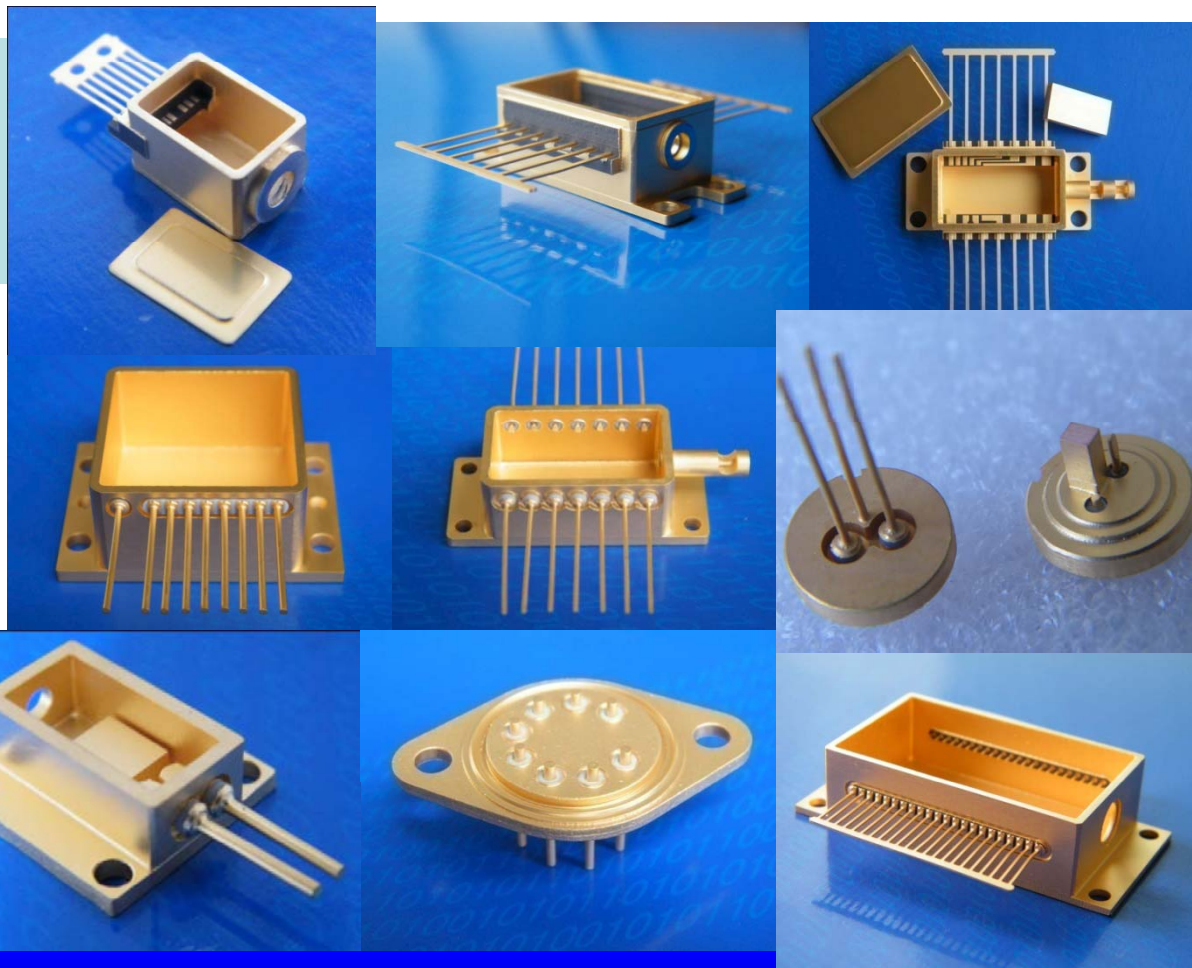
Photonics Packages

General Information:

- 1: Wide selection of package style in Ceramic Eyelet configuration, Glass Eyelet configuration, Multiple-layer HTCC configuration with the options of GPO, Window-lens integration
- 2: Manufacturing Standard: China Military Standard GJB923A-2004 , GJB548 or similar to MIL-STD 883/MIL-PRF-38354

Typical Packages:

1. Butterfly package with Ceramic Eyelet, HTCC Feedthrough, with GPO/Window-lens
2. HHL Package with Ceramic Eyelet, TO220 Packages, Full Copper 9mm Header
3. XMD TOSA 8, 9pin packages
4. TO header with glass Eyelet
5. Ceramic Eyelet Package for high power diode



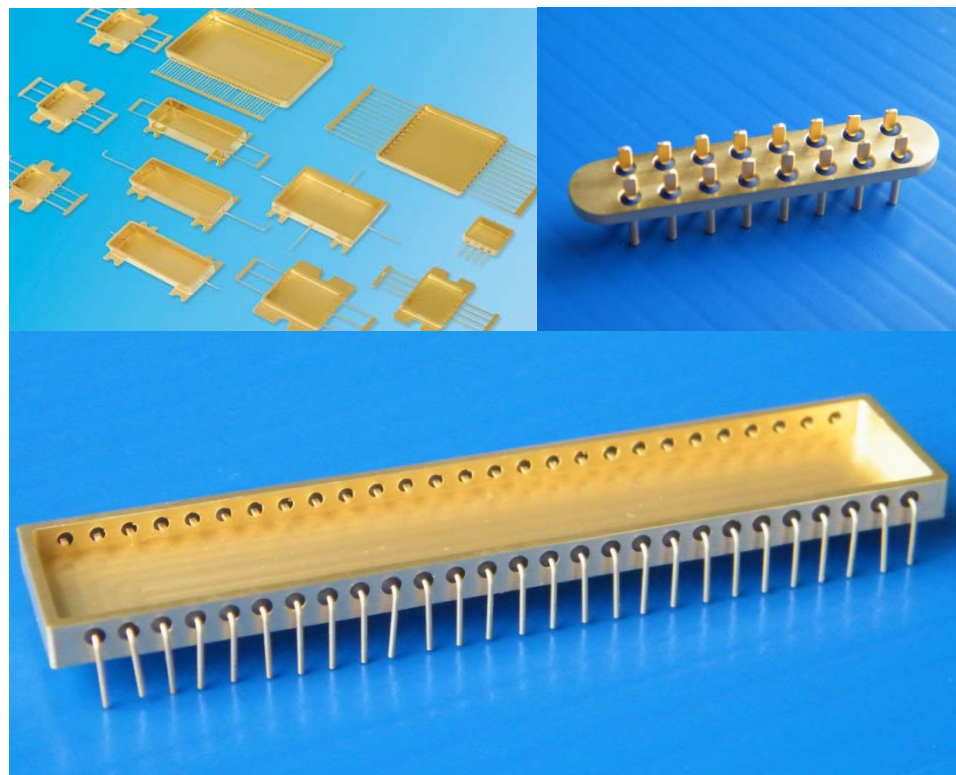
Glass Hybrid IC Package

General Information:

1. Material: Kovar, CRS1010, Alloy52
2. Option1 :
Au Plating 50 μ " min over 100 μ " nickel on pins only;
150 μ " nickel plated on the package
- Option2:
Au plating 50 μ " min over 100 μ " nickel.
3. Precision machining

Typical Packages:

1. DIL/DIP package
2. Flat-packages
3. Platform packages
4. Customized Hybrid packages



General Information:

1. Material: SS 316L, Kovar, Alloy52
2. Option1 :
Au Plating 50 μ " min over 100 μ " nickel on pins only;
chemical polishing on the header
Option2:
Au plating 50 μ " min over 100 μ " nickel.
3. Precision machining



Typical Packages:

1. 13mm, 19mm header.
2. To5 header, 6pin with central hole or with central tube
3. To8 header, 6pin with central hole or with central tube
4. Customized SS header



TO - Headers

Descriptions:

Types: **TO18, TO-46, TO-39, TO-5, TO-8, TO-3**

Materials: *Base:* Kovar, CRS, or 4J42

Pins: Kovar, 4J42

Finishing: Available in Gold, Nickel, or Silver Plating

Hermeticity: 1×10^{-8} cc/sec He

Applications: Optical Device (Laser Diodes, VCSEL, LED)
Sensor (Gas, Pressure, Humidity, and IR sensor)
Transistors, Resistors, Photodiodes,

Markets:

- Telecommunications
- Opto-Electronics
- Military
- Industries
- Automotives
- Aerospace

