



## POWER PACKAGE: OVERVIEW



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



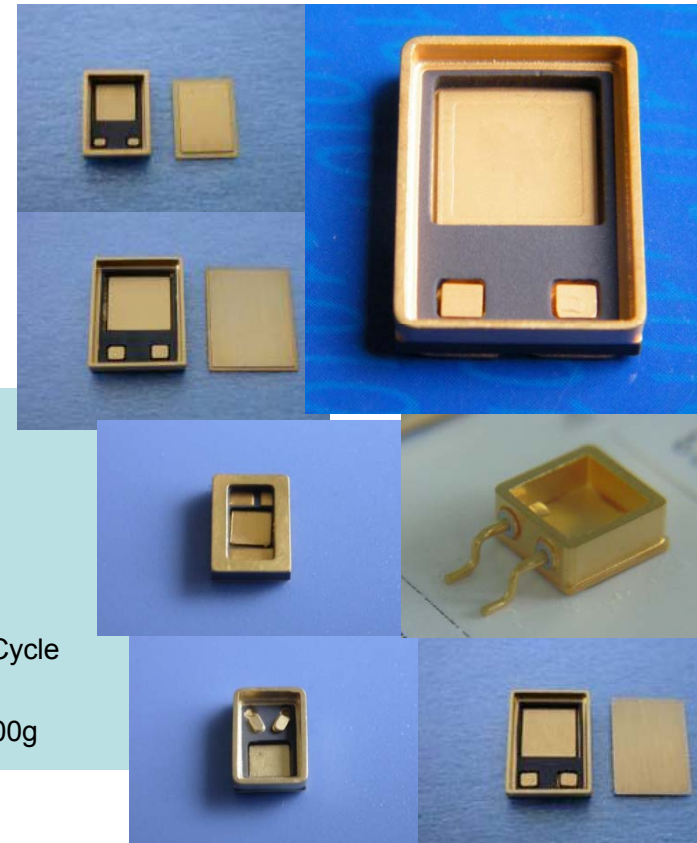
# POWER PACKAGE: SMD Package

## General Information:

- 1: Raw Material: OHFC, Tungsten Copper, Molybdenum, Al<sub>2</sub>O<sub>3</sub> 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 $\mu$ 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

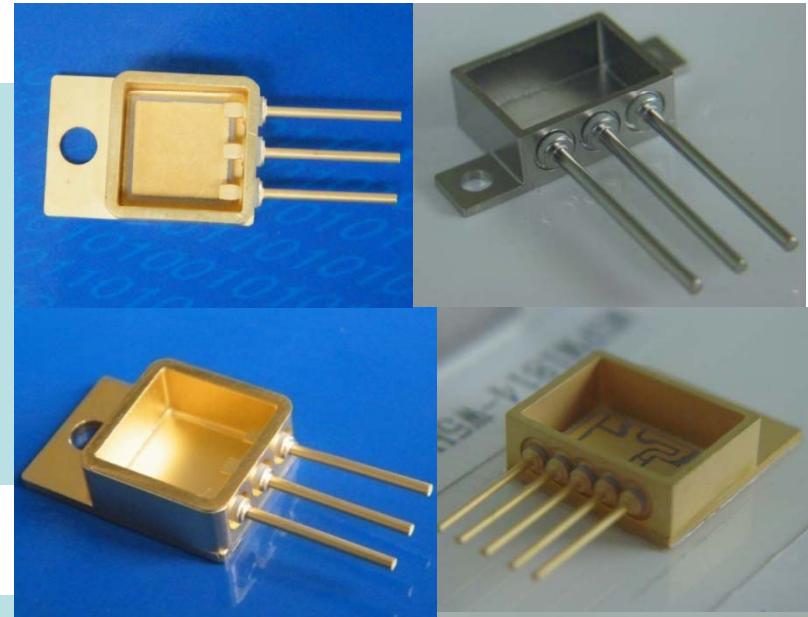




# POWER PACKAGE: TO25X Package

## 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 $\mu$ 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: Hybrid 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 $\mu$ m Gold:  $\geq 1.27\mu$ m
3. LEAD Resistance:  $\leq 0.3\text{m}\Omega$ -2m $\Omega$
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:

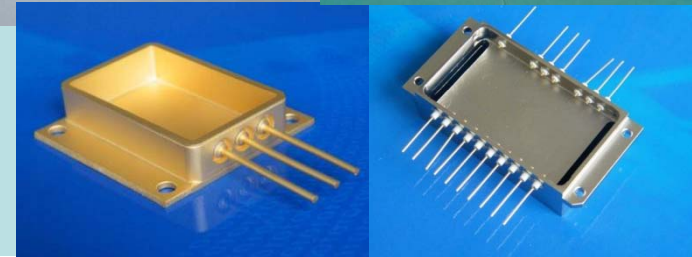
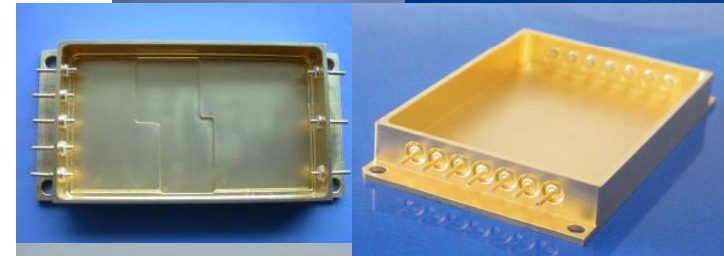
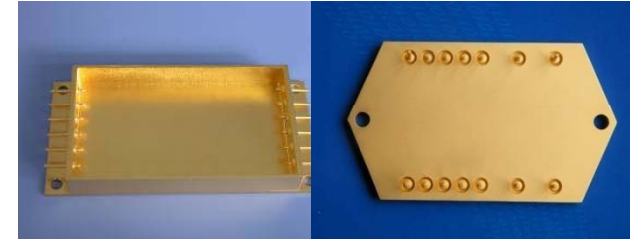
## Thick Film Hybrid Circuit & Relay Package

### 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 $\mu$ m Gold:  $\geq 1.27\mu$ m
3. LEAD Resistance:  $\leq 1$  m $\Omega$ ~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:

## Traditional Transistor Outline Package

### General Information:

- 1: Raw Material: OFHC, Molybdenum, Al<sub>2</sub>O<sub>3</sub> 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 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 $\mu$ 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



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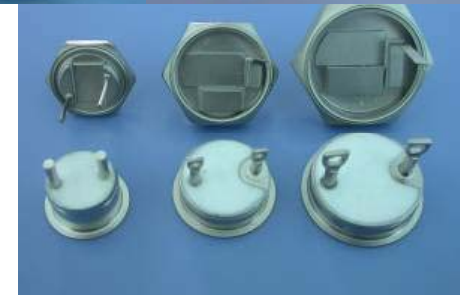
## CERAMIC SEAL STUD PACKAGE

### General Information:

- 1: Raw Material: OFHC, Molybdenum, Al<sub>2</sub>O<sub>3</sub> 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 $\mu$ 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



# 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 $\mu$
3. Isolation Resistance:  $\geq 10^9 \Omega$
4. Temp Cycle: -65-+175 $^{\circ}$ C 500 times.
5. Thermal Shock: -65~150 $^{\circ}$ C 15times
6. Moisture Proof Test: Comply with China Military Standard GJB548A 10 times Cycle

