



CAK39 Military Standard Wet Tantalum Capacitor

(Tantalum case with glass-to-tantalum hermetic seal, high reliability)

Datasheet



❖ Brief Introduction and Feature

- CAK39, Tantalum case ,hermetic seal, with insulation sleeve wet tantalum electrolytic capacitors.
- With polar, axial leads through hole, in stable and excellent performances.
- High reliability.long life,high ripple current,low ESR and low DC leakage current (DCL)..
- Widely used in electronic equipment for military applications such as telecommunication, aerospace and aviation.

Meet standard: GJB733A-96,QJ/PWV319-2002

Cross: MIL-PRF-39006/25 CLR81

❖ General Characteristics

Operating Temperature Range: -55℃~+125℃(>125℃ with voltage derating);

Capacitance range: 6.8μF~2200μF

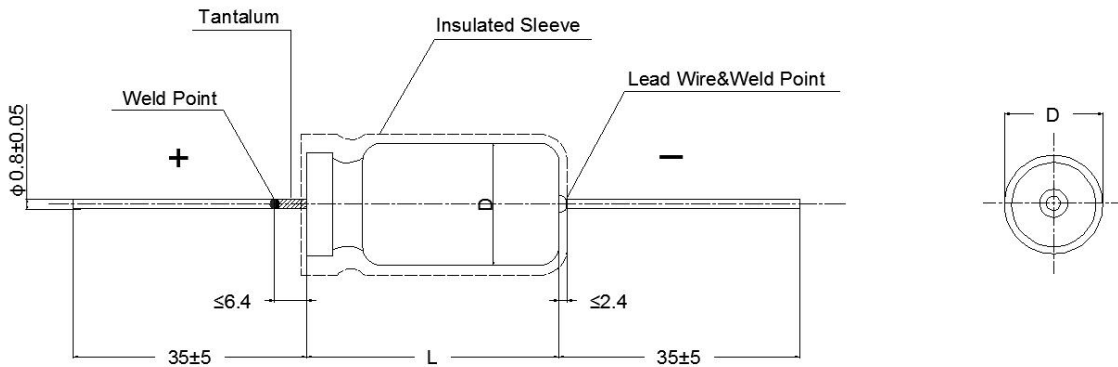
Ripple current: 700mA~2300mA

Capacitance Tolerance: K=±10% ,M=±20%

Voltage: 6V~125V

Reverse voltage capability: 3V

❖ Drawing,Case Dimension and Max. Weight



| Code | Max. weight (g) | Without sleeve | | With sleeve | |
|------|-----------------|----------------|------------|-------------|------------|
| | | D±0.4 (mm) | L±0.8 (mm) | D±0.4 (mm) | L±0.8 (mm) |
| T1 | 3 | 4.78 | 11.51 | 5.58 | 14.31 |
| T2 | 7 | 7.14 | 16.28 | 7.94 | 19.08 |
| T3 | 12 | 9.52 | 19.46 | 10.32 | 22.26 |
| T4 | 18 | 9.52 | 26.97 | 10.32 | 29.77 |



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❖ Electric Performance Characteristics of CAK39 series.

| Rated Voltage (V) | Voltage Derating (V) | Case size | Capacitance (μF) | DCL (μA)Max. | | IMP. (Ω) -55℃ 100Hz | AC ripple 85℃ 40kHz (mA) | tgδ(%) 25℃ 100Hz |
|-------------------|----------------------|-----------|------------------|--------------|-------------|------------------------|--------------------------------|------------------------|
| | | | | 25℃ | 85℃ 125℃ | | | |
| 6 | 4 | T1 | 220 | 2 | 9 | 36 | 1000 | 50 |
| | | T2 | 820 | 3 | 14 | 18 | 1500 | 155 |
| | | T3 | 1500 | 5 | 20 | 18 | 1900 | 172 |
| | | T4 | 2200 | 6 | 24 | 13 | 2300 | 170 |
| 8 | 5 | T1 | 180 | 2 | 9 | 45 | 1000 | 41 |
| | | T2 | 680 | 3 | 14 | 22 | 1500 | 130 |
| | | T3 | 1500 | 5 | 20 | 18 | 1900 | 170 |
| | | T4 | 1800 | 7 | 25 | 14 | 2300 | 138 |
| 10 | 7 | T1 | 150 | 2 | 9 | 54 | 900 | 34 |
| | | T2 | 560 | 3 | 16 | 27 | 1450 | 106 |
| | | T3 | 1200 | 5 | 20 | 18 | 1850 | 137 |
| | | T4 | 1500 | 7 | 25 | 15 | 2300 | 114 |
| 15 | 10 | T1 | 100 | 2 | 9 | 72 | 900 | 30 |
| | | T2 | 390 | 3 | 16 | 31 | 1450 | 74 |
| | | T3 | 820 | 6 | 24 | 22 | 1800 | 111 |
| | | T4 | 1000 | 8 | 32 | 17 | 2300 | 92 |
| 25 | 15 | T1 | 68 | 2 | 9 | 90 | 850 | 22 |
| | | T2 | 270 | 3 | 16 | 33 | 1400 | 55 |
| | | T3 | 560 | 7 | 20 | 24 | 1750 | 76 |
| | | T4 | 680 | 8 | 32 | 19 | 2100 | 63 |
| 30 | 20 | T1 | 56 | 2 | 9 | 100 | 800 | 22 |
| | | T2 | 220 | 3 | 16 | 36 | 1200 | 42 |
| | | T3 | 470 | 8 | 32 | 25 | 1500 | 64 |
| | | T4 | 560 | 9 | 36 | 20 | 2000 | 55 |
| 50 | 30 | T1 | 33 | 2 | 9 | 135 | 700 | 12.3 |
| | | T2 | 120 | 4 | 24 | 49 | 1200 | 22.5 |
| | | T3 | 270 | 8 | 32 | 29 | 1450 | 37 |
| | | T4 | 330 | 9 | 36 | 22 | 1900 | 38 |
| 60 | 40 | T1 | 27 | 3 | 12 | 144 | 700 | 10.2 |
| | | T2 | 100 | 4 | 20 | 54 | 1100 | 19 |
| | | T3 | 220 | 8 | 32 | 29 | 1400 | 30 |
| | | T4 | 270 | 9 | 36 | 23 | 1850 | 27 |
| 75 | 50 | T1 | 22 | 3 | 12 | 157 | 600 | 8.5 |
| | | T2 | 82 | 4 | 24 | 63 | 1000 | 15.2 |
| | | T3 | 180 | 9 | 36 | 30 | 1380 | 24.4 |
| | | T4 | 220 | 10 | 40 | 24 | 1800 | 37 |



| Rated Voltage (V) | Voltage Derating (V) | Case size | Capacitance (μF) | DCL (μA)Max | | IMP. (Ω) -55°C 100Hz | AC ripple 85°C 40kHz (mA) | tgδ(%) 100Hz |
|-------------------|----------------------|-----------|------------------|-------------|---------------|-------------------------|---------------------------------|-----------------|
| | | | | 25°C | 85°C 125°C | | | |
| 100 | 65 | T1 | 10 | 3 | 12 | 200 | 800 | 4.5 |
| | | T2 | 39 | 5 | 24 | 80 | 1300 | 10.4 |
| | | T3 | 68 | 10 | 40 | 40 | 1600 | 11.3 |
| | | T4 | 120 | 12 | 48 | 30 | 200 | 25 |
| 125 | 85 | T1 | 6.8 | 3 | 12 | 300 | 700 | 6 |
| | | T2 | 27 | 5 | 24 | 90 | 1200 | 7.2 |
| | | T3 | 47 | 10 | 40 | 50 | 1500 | 7.9 |
| | | T4 | 82 | 12 | 48 | 32 | 1900 | 17.4 |

❖ How to order

(GTCAP39-337K050T4)

| GT | CAK39 | 337 | K | 050 | T4 |
|------------|--|---|------------------|---|----------------------|
| Brand Name | Type | Capacitance | Tolerance | DC voltage | Size code |
| Green Tech | Military Wet Electrolytic Tantalum Capacitor | 337: 33×10^7 (pF) This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow. | K=±10% M=±20% | 6V=006 8V=008 10V=010 15V=015 25V=025 30V=030 50V=050 60V=060 75V=075 100V=100 125V=125 | T1 T2 T3 T4 |

Notes:

- Tantalum capacitors can't be measured by multimeter. (Easily cause irreversible damage and lead to reject when reversed polarity)
- Capacitance, DF measure frequency: 100Hz, DC offset voltage $U_0 = 2.2^{0.1} V$, Exchange offset voltage $U_1 = 1.0^{0.5} V$ (effective value), measure method is by series equivalent circuit.
- Measure the leakage current at 125°C, please use derated voltage. DCL read at 5 minute.
- Special size and big capacitance products, please negotiate with GTCAP.