

Mu Chip Data Sheet

1. Basic Specifications

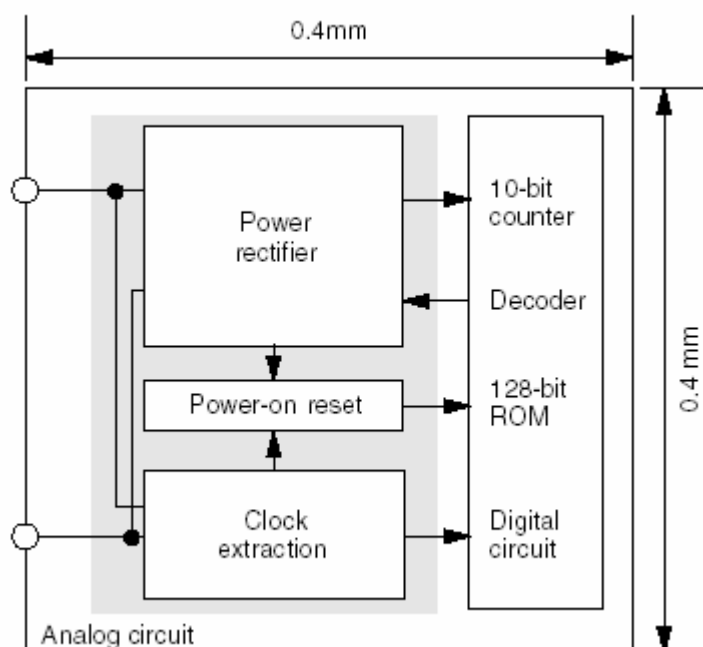
| Parameter | Value |
|--|--|
| Carrier Frequency | 2.45 GHz |
| Frequency Bandwidth | 2.400 – 2.4835 |
| Chip Size | 0.4mm x 0.4mm |
| Chip Thickness | 0.06mm – 0.15mm |
| Chip Technology | 0.18 μm CMOS |
| Metallization | 3 layer aluminium |
| Memory Capacity | 128 bit |
| Data transfer rate | 12.5 kbps |
| Minimum Operating Voltage | 0.5V |
| Antenna Connection | Anisotropic Conductive film |
| Input Impedance | 60 Ω |
| Power Supply Method | Rectified Electromagnetic Energy |
| Capacitance of power supply | 100 pF |
| Minimum required current | 3 μA |
| Clock Signal | 100 KHz |
| Reading Distance | Up to 400mm according to reader power |
| Minimum level of Input Energy | 3.5 dBm |
| Memory Power dissipation | 0.06 μA |
| Operational Temperature (also depends on inlet type) | -20 ° C – 100 ° C |
| ROM ID number format | Header: 1 – 6 bits Service id: 10 – 36 bits (according to class A – d) Application Data: 62 – 88 bits (according to service id) EDC Code: 24 bits |
| Modulation Style | ASK |
| | |

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2. Inlet Specifications

| Parameter | Value |
|--------------------------------------|---|
| Optimised External Antenna Length | ~ 54 mm |
| Optimised External Antenna width | 1.5 mm |
| Optimised External Antenna Thickness | 0.22 mm |
| Antenna Material | COA style – Aluminium foil TCP style – Copper foil |
| Antenna substrate | Polyimide or PEN film |
| Delivery Format | On Tape reel (around 20,000 per reel) |

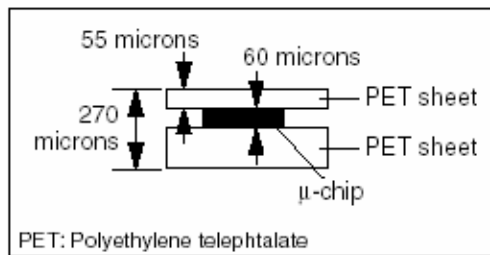
3. Circuit Block Diagram



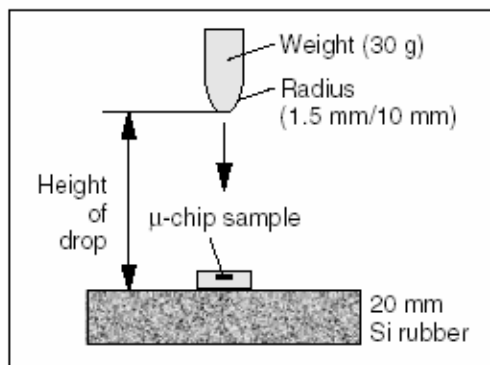
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4. Mechanical Strength of the Mu Chip

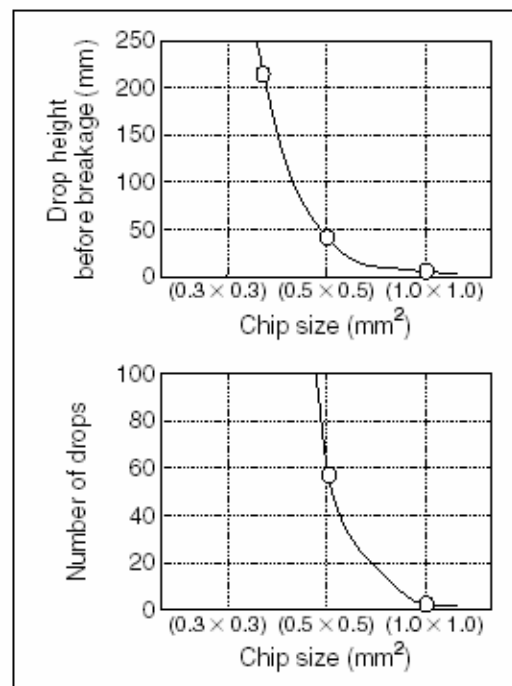
Sample structure (cross section) (a), test condition (b), results (c)



(a)



(b)



(c)