

For Fundamental oscillation Low phase noise type KH9709ALx

Overview

KH9709ALx is composed of an oscillation amplifier, a frequency divider and a three-state output buffer. The amplifier is featured with damping resistor to reduce crystal drive current and suppress frequency deviation with VDD varying. ESD and latch-up test have complied with AEC-Q100 standard.

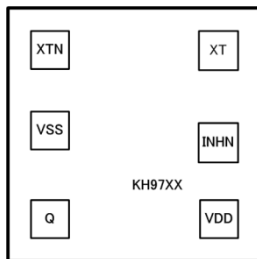
Features

| | | |
|-------------------------------------|----------------|---------------------|
| Oscillation frequency (Fundamental) | | 4 to 60MHz |
| Operating Voltage | fo≤60MHz | 2.25 to 5.5V |
| | fo≤80MHz | 2.7 to 5.5V |
| Operating Temperature | | -40 to 85°C |
| Standby Mode | INH="L" | Q Output "Hi-z" |
| | | Oscillation Stopped |
| INH Input Voltage Level | | C-MOS |
| Q Output Duty Level | | C-MOS |
| Q Output Current | | 8mA (VDD=2.7V) |
| Q Output Load (Drive Capacity) | 2.25V≤VDD≤5.5V | 30pF (≤60MHz) |
| | 2.7V≤VDD≤5.5V | 50pF (≤60MHz) |
| | | 30pF (≤80MHz) |

Device Selection Table

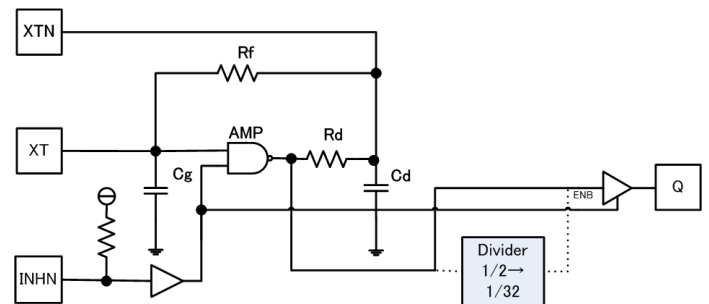
| Version | Output frequency |
|-----------|------------------|
| KH9709AL1 | fo |
| KH9709AL2 | fo/2 |
| KH9709AL3 | fo/4 |
| KH9709AL4 | fo/8 |
| KH9709AL5 | fo/16 |
| KH9709AL6 | fo/32 |

PAD Locations



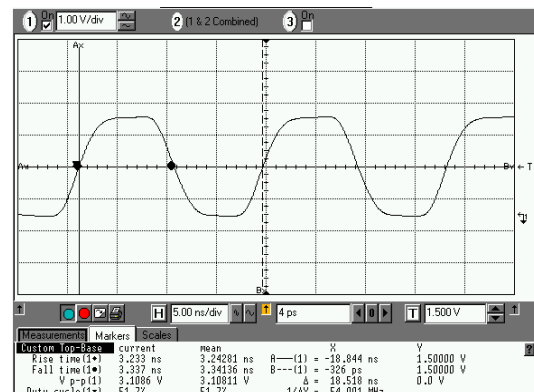
| | |
|----------------|-------------|
| Chip Size | 0.80×0.80mm |
| PAD Size | 90×90um |
| Chip Thickness | 200±20um |
| Chip Base | VSS Level |

Block Diagram



Output waveform

KH9709AL1 54MHz CL=32pF VDD=3.0V



Reliability

| Test Model | | Performance Values |
|------------|--------------|--------------------|
| ESD | HBM | >4000V |
| | MM | >400V |
| | FI-CDM | >1000V |
| Latch-up | Current Test | >200mA |
| | Voltage Test | >8.3V |

Notes: The document is a brief data sheet of the products.
Please contact with us by email for detailed data sheet, when needed.