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## Crystal Oscillators IC AN8958SSM

## ■ Overview

The AN8958SSM is a low-voltage operating IC for crystal oscillator. With a built-in stabilized power supply, oscillator circuit and output buffer, this IC facilitates construction of crystal oscillator circuitry.

## ■ Features

- Broad power supply voltage range: 2.6 V to 5.5 V
- SSMini 5-pin package: $1.6 \mathrm{~mm} \times 1.6 \mathrm{~mm}$ (incl. lead)


## Applications

- Crystal oscillators for mobile communication equipment



## Block Diagram



| Pin No. | Function |
| :---: | :---: |
| 1 | Oscillator input |
| 2 | GND |
| 3 | Oscillator feedback |
| 4 | Output |
| 5 | Power supply |

Absolute Maximum Ratings

| Parameter | Symbol | Rating | Unit | Note |
| :---: | :---: | :---: | :---: | :---: |
| Storage temperature | $\mathrm{T}_{\text {stg }}$ | -55 to +125 | ${ }^{\circ} \mathrm{C}$ | 1 |
| Operating ambient temperature | $\mathrm{T}_{\text {opr }}$ | -30 to +80 | ${ }^{\circ} \mathrm{C}$ | 1 |
| Supply voltage | $\mathrm{V}_{\mathrm{CC}}$ | 6.5 | V |  |
| Supply current | $\mathrm{I}_{\mathrm{CC}}$ | - | mA |  |
| Power dissipation | $\mathrm{P}_{\mathrm{D}}$ | 54 | mW | 2 |

Note) 1. All items are at $\mathrm{T}_{\mathrm{a}}=25^{\circ} \mathrm{C}$, except for the operating ambient temperature and storage temperature parameters.
2. $\mathrm{T}_{\mathrm{a}}=80^{\circ} \mathrm{C}$

## Recommended Operating Range

| Supply voltage | $\mathrm{V}_{\mathrm{CC}}$ | 2.3 V to 5.5 V |
| :---: | :---: | :---: |

Electrical Characteristics $\left(\mathrm{T}_{\mathrm{a}}=25^{\circ} \mathrm{C} \pm 2^{\circ} \mathrm{C}, \mathrm{V}_{\mathrm{CC}}=2.7 \mathrm{~V}\right.$ unless otherwise specified)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Supply current | $\mathrm{I}_{\mathrm{CC}}$ |  | 1.15 | 1.39 | 1.63 | mA |
| OSCB-pin voltage | $\mathrm{V}_{\mathrm{OB}}$ |  | 1.23 | 1.48 | 1.73 | V |
| OSCE-pin voltage | $\mathrm{V}_{\mathrm{OE}}$ |  | 540 | 730 | 920 | mV |
| OSCC-pin current | $\mathrm{I}_{\mathrm{OC}}$ |  | 1.40 | 1.80 | 2.20 | mA |

■ Electrical Characteristics (Reference Data for Designing)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Crystal oscillator frequency | FOSC | $\mathrm{f}_{\mathrm{OSC}}=26 \mathrm{MHz}$ | -50 | - | +50 | PPM |
| Crystal oscillator amplitude | $\mathrm{V}_{\mathrm{PP}}$ | $\mathrm{f}_{\mathrm{OSC}}=26 \mathrm{MHz}$ | 0.8 | - | - | $\mathrm{V}[\mathrm{p}-\mathrm{p}]$ |
| Oscillation circuit negative <br> resistance | RN | $\mathrm{f}_{\mathrm{OSC}}=26 \mathrm{MHz}$ | 100 | - | - | $\Omega$ |
| Change in oscillator frequency <br> with load | FOSCL | $\mathrm{R}_{\mathrm{L}}, \mathrm{C}_{\mathrm{L}}= \pm 10 \%$ | -0.2 | - | +0.2 | PPM |
| Change in oscillator frequency <br> with supply voltage | FOSCV | $\mathrm{V}_{\mathrm{CC}}= \pm 0.1 \mathrm{~V}$ | -0.2 | - | +0.2 | PPM |
| Output amplitude duty ratio | DUTY | Base on GND |  |  |  |  |

[^0]

## Package Power Dissipation




[^0]:    Note) * The above characteristics are reference values for designing and not guaranteed values.

