



# 2.5x2.0mm SMD Oscillators - Type KF1

Pb-Free & RoHS Compliant

Model Designator Key & Specifications

| Base Model                    | Input Voltage | Freq Stability | Operating Temp. Range                    |
|-------------------------------|---------------|----------------|--|
| KF1<br>(2.5x2.0mm & Tristate) | 33 = 3.3V     | A = ±25PPM     | S = -10°C to +70°C<br>I = -40°C to +85°C |
|                               | 25 = 2.8V     | B = ±50PPM     |  |
|                               | 18 = 1.8V     | C = ±100PPM    |  |

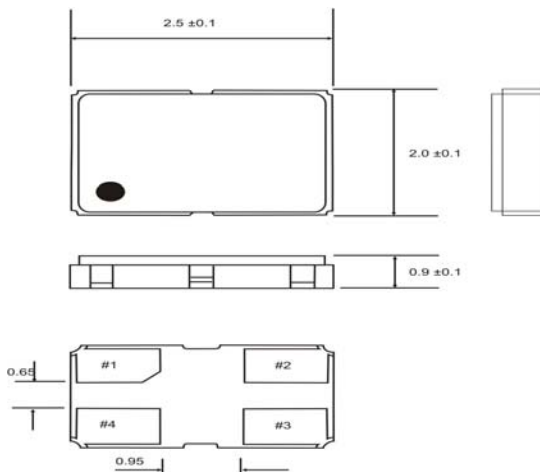
### Operating Conditions

|                    |                 |
|--------------------|-----------------|
| Storage Temp Range | -55°C to +125°C |
|--------------------|-----------------|

### Electrical Characteristics (Ta = -20°C to +70°C, V<sub>DD</sub> = 3.3V, 2.5V, & 1.8V, CL = 15pF)

| Parameter                        | Condition             | Frequency Range (MHz) | Specifications             |             |            |  |
|----------------------------------|-----------------------|-----------------------|----------------------------|-------------|------------|--|
|                                  |                       |                       | KF1-33                     | KF1-25      | KF1-18     |  |
| Input Current (I <sub>DD</sub> ) | 15pF Load             | 1.800 to 50.000       | 20.0mA Max.                | 12.0mA Max. | 7.0mA Max. |  |
| Symmetry                         | @ 50% V <sub>DD</sub> | 1.80 ~ 50.00          | 45/55%                     |             |            |  |
| Output Voltage                   | (V <sub>OL</sub> )    |                       | 0.33V Max.                 | 0.25V Max.  | 0.36V Max. |  |
|                                  | (V <sub>OH</sub> )    |                       | 2.97V Min.                 | 2.25Min.    | 1.44Min.   |  |
| Rise Time                        | (T <sub>R</sub> )     |                       | 10% to 90% V <sub>DD</sub> | 6nS Max.    |            |  |
| Fall Time                        | (T <sub>F</sub> )     |                       | 90% to 10% V <sub>DD</sub> | 6nS Max.    |            |  |
| Output Current                   | (I <sub>OL</sub> )    |                       | "0"- Level                 | 2mA Max     |            |  |
|                                  | (I <sub>OH</sub> )    |                       | "1"- Level                 | 2mA Min.    |            |  |
| Stand-By Current                 | at "0"-Level          |                       |                            | 10µA Max.   |            |  |
| Load                             | Cmos                  |                       |                            | 15pF        |            |  |
| Start-Up Time                    | 0V to V <sub>DD</sub> |                       |                            | 5mS Max.    |            |  |

### Dimensions (mm)



| Enable/Disable Function |                 |
|-------------------------|-----------------|
| Control (Pin #1)        | OUTPUT (Pin #3) |
| Open                    | Active          |
| "1" (VIH ≥ 70%VDD)      | Active          |
| "0" (VIL ≤ 30%VDD)      | High Z          |

| Pin Connections |     |
|-----------------|-----|
| #1              | E/D |
| #2              | VSS |
| #3              | OUT |
| #4              | VDD |

