



# 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 (2.5x2.0mm & Tristate)	33 = 3.3V	A = ±25PPM	S = -10°C to +70°C I = -40°C to +85°C
	25 = 2.8V	B = ±50PPM	
	18 = 1.8V	C = ±100PPM	

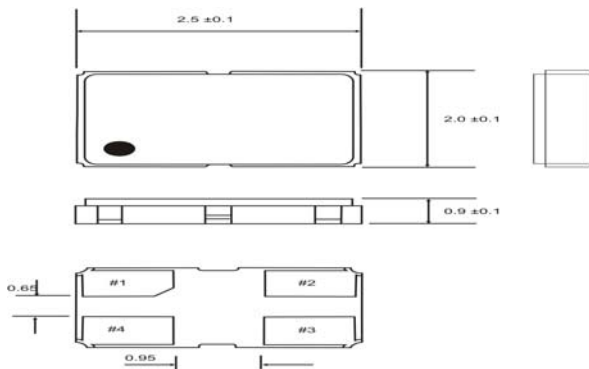
### Operating Conditions

Storage Temp Range	-55°C to +125°C
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### 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" Level		0.33V Max.	0.25V Max.	0.36V Max.
	(V <sub>OH</sub> ) "1" Level		2.97V Min.	2.25Min.	1.44Min.
Rise Time	(T <sub>R</sub> ) 10% to 90% V <sub>DD</sub>		6nS Max.		5nS Max
Fall Time	(T <sub>F</sub> ) 90% to 10% V <sub>DD</sub>		6nS Max.		5nS 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" (V <sub>IH</sub> ≥ 70%V <sub>DD</sub> )	Active
"0" (V <sub>IL</sub> ≤ 30%V <sub>DD</sub> )	High Z

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

