

## **XOY53 Series Automotive Oscillators**

# 5.0 x 3.2mm, Wide Temp Automotive

# 1.25MHz to 50.0MHz

### **FEATURES**

- Femto second integrated phase jitter 150fs typical (12kHz to 20MHz)
- Superior phase noise performance: -155dBc/Hz at 10kHz and -160dBc at 100kHz offset
- Wide operating temperature available to -40° to +125°C
- Automotive grade





### **SPECIFICATION**

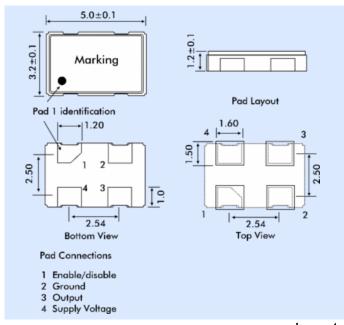
Model Number		XOY Series					
Frequency Range		1.250MHz to 50.000MHz					
Output Logic		LVCMOS					
Supply Voltage VDD		1.8 VDD ±10%	+2.5 VDD ±10%	+3.3 Vpp ±10%			
Logic High "1" (90% of V <sup>DD</sup> minimum) Logic Low "0" (10% of V <sup>DD</sup> maximum)		1.62V	2.25V	2.97V			
		0.18V	0.25V	0.33V			
Current Consumption	1.25~19.99MHz	2.0mA (max)	3.0mA (max)	4.0mA (max)			
	20~50.00MHz	4.0mA (max)	5.0mA (max)	6.0mA (max)			
Rise Time (Tr) / Fall Time (Tf)		10ns (max) measured 10% ~ 90% waveform					
Load		15pF					
Start-up Time		5ms (max)					
Duty Cycle		Standard: $50\%\pm10\%$ ; Option $50\%\pm5\%$ (Add "S" after the part number for this option)					
Tristate Function		Tristate function on Pad 1 is standard for XOY series oscillators 70% of VDD(min) Enable Output 30% of VDD(max) Disable Output					
Phase Jitter (RMS) [26MHz, 3.3V]		150 fs typical (12kHz to 20MHz integrated)					

SSB Phase Noise [25MHz, 3.3V]	Offset	10Hz	100Hz	1 kHz	10kHz	100kHz	1MHz	5MHz		
	dBc/Hz (typical)	-94	-127	-142	-156	-161	-163	-163		
Storage Temperature	-65° to +150°C									
Ageing at 25°C	±2ppm maximum for first year									
Solder Profile		260°C max.								

### **ORDERING/PART NUMBER GENERATION**

## Example: 20.000MHz XOY53050UKAS Frequency Series Designation XOY53 $025 = \pm 25$ ppm over $-40^{\circ}$ to $+85^{\circ}$ C $050 = \pm 50$ ppm over -40° to +85°C & Car Grade $100 = \pm 100$ ppm over -40° to +85°C & Car Grade (Car Grade $K = -40^{\circ}$ to $+ 125^{\circ}$ C) Output Universal (LVCMOS) Operating Temperature Range $C = -10^{\circ} \text{ to } +70^{\circ}C$ $I = -40^{\circ} \text{ to } + 85^{\circ}\text{C}$ $K = -40^{\circ} \text{ to } + 125^{\circ}\text{C}$ Supply Voltage A = 3.3 VoltsB = 2.5 VoltsC = 1.8 VoltsOption: Symmetry 50±5%

### **OUTLINE & DIMENSIONS**



Issue 4