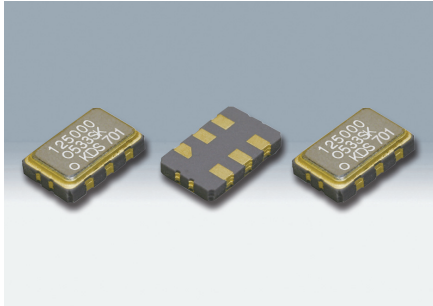


SMD Differential Output Crystal Oscillators

DSO533SK/DSO533SJ



Actual size

Features

- 5032 size, 1.1mm height
- 2.5V/3.3V operating voltage, High speed type(13.5 to 212.5MHz)
- 3-state function
- LV-PECL output (DSO533SK)
- LVDS output (DSO533SJ)

Applications

- Sever, SONET/SDH, PC



Standard Specification

Item	Type	Legend	DSO533SK	DSO533SJ
Output Specification	-	-	LV-PECL	LVDS
Output Frequency Range	f_0	-	13.5 to 212.5MHz	
Supply Voltage	V_{CC}	-	$+2.5V \pm 0.125V / +3.3V \pm 0.165V$	
Frequency Tolerance (Includes frequency tolerance at room temperature.)	f_{tol}	-	$\pm 50 \times 10^{-6}$ max., $\pm 100 \times 10^{-6}$ max.	
Storage Temperature Range	T_{stg}	-	-40 to +85°C	
Operating Temperature Range	T_{use}	-	-10 to +70°C, -40 to +85°C	
Current Consumption	I_{CC}	-	45mA max. ($f_0 \leq 170$ MHz), 50mA max. (170 MHz $< f_0 \leq 212.5$ MHz)	20mA max.
Stand-by Current (#1 pin "L" Level)	I_{std}	-	10 μ A max.	
Load Condition	Load-R	-	50 Ω to $V_{CC}-2V$	100 Ω (Output-OutputN)
Symmetry	SYM	-	45 to 55% [at outputs cross point]	
0 Level Output Voltage	V_{OL}	-	$V_{CC}-1.81$ to $V_{CC}-1.62V$	-
1 Level Output Voltage	V_{OH}	-	$V_{CC}-1.025$ to $V_{CC}-0.88V$	-
Rise and Fall Time	t_r, t_f	-	0.5ns max. [20 to 80% Output, OutputN]	0.4ns max. [20 to 80% Output-OutputN]
Differential Output Voltage	V_{OD1}, V_{OD2}	-	-	0.247 to 0.454V
Change to V_{OD}	ΔV_{OD}	-	-	50mV [$\Delta V_{OD} = V_{OD1} - V_{OD2} $]
Offset Voltage	V_{OS}	-	-	1.125 to 1.375V
Offset to V_{OS}	ΔV_{OS}	-	-	50mV
OE Pin 0 Level Input Voltage	V_{IL}	-	$V_{CC} \times 0.3$ max.	
OE Pin 1 Level Input Voltage	V_{IH}	-	$V_{CC} \times 0.7$ min.	
Output Disable Time	t_{PLZ}	-	200ns	
Output Enable Time	t_{PZL}	-	2ms	
Period Jitter (1)	t_{RMS}	-	5ps typ. (13.5MHz $\leq f_0 < 27$ MHz) / 2.5ps typ. (27MHz $\leq f_0 \leq 212.5$ MHz) (σ)	
	t_{p-p}	-	33ps typ. (13.5MHz $\leq f_0 < 27$ MHz) / 22ps typ. (27MHz $\leq f_0 \leq 212.5$ MHz) (Peak to peak)	
Total Jitter (1)	t_{TL}	-	50ps typ. (13.5MHz $\leq f_0 < 27$ MHz) / 35ps typ. (27MHz $\leq f_0 \leq 212.5$ MHz) [$t_{DJ} + n \times t_{RJ}$ n=14.1 (BER=1 $\times 10^{-12}$) (2)]	
Phase Jitter	t_{pj}	-	1.5ps max. (13.5MHz $\leq f_0 < 27$ MHz) / 1ps max. (27MHz $\leq f_0 \leq 212.5$ MHz) [13.5MHz $\leq f_0 < 40$ MHz, f_0 offset: 12kHz to 5MHz $f_0 \geq 40$ MHz, f_0 offset: 12kHz to 20MHz]	
Packing Unit (3)	-	-	1000pcs./reel (ϕ 180)	

- (1) Measured WAVECREST DTS-2075
- (2) t_{DJ} : Deterministic jitter t_{RJ} : Random jitter
- (3) Moisture prevention packing is unnecessary.
Moisture Sensitivity Level: Level 1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

[mm]

Dimensions

Frequency (kHz)

Model Code

Lot No.

#1 Index

#2 Logo

#3

#4

#5

#6

Recommended Land Pattern

<Top View>

Pin No.	Connection
#1	OE(Output Enable)
#2	NC
#3	GND
#4	Output
#5	OutputN
#6	V_{CC}

Function	#4,#5 Output condition
H	Oscillation out
Open	Oscillation out
L	High Z