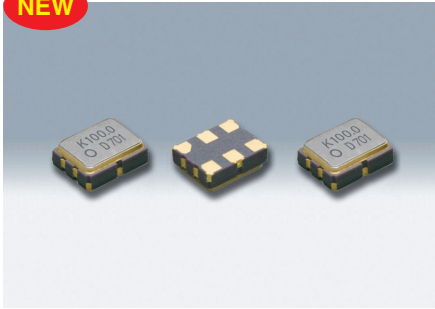


# SMD Differential Output Crystal Oscillators - Low Voltage

## DSO323SJ/DSO323SD

**NEW**



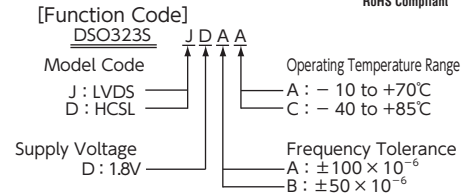
Actual size

### Features

- 1.8V operating voltage, High speed type
- 3-state function
- LVDS output (DSO323SJ)
- HCSL output (DSO323SD)
- AEC-Q200 Compliant (Option: Equivalent to AEC-Q100)

### Applications

- Server, Optical transmission device, Communication base station and Automotive multimedia device



When requesting the product, please select the model and function code of your request.

### Standard Specification

Item	Type	Legend	DSO323SJ	DSO323SD
Output Specification	—		LVDS	HCSL
Output Frequency Range	$f_0$		100 to 167MHz	
Supply Voltage	$V_{CC}$		$+1.8V \pm 0.09V$	
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	$I_{CC}$		25mA max.	50mA max.
Stand-by Current (#1 pin "L" Level)	$I_{std}$		30 $\mu A$ max.	
Load Condition	Load-R		100 $\Omega$ (Output-OutputN)	50 $\Omega$
Symmetry	SYM		45 to 55% [at outputs cross point]	
0 Level Output Voltage	$V_{OL}$		—	-0.15 to 0.15V
1 Level Output Voltage	$V_{OH}$		—	0.55 to 1.0V
Rise and Fall Time	$t_r, t_f$		0.4ns max. [20 to 80% Output-OutputN]	0.5ns max. [-0.15 to 0.15V/Output-OutputN]
Differential Output Voltage	$V_{OD1}, V_{OD2}$		0.247 to 0.454V	—
Change to $V_{OD}$	$\Delta V_{OD}$		50mV [ $\Delta V_{OD} =  V_{OD1} - V_{OD2} $ ]	—
Offset Voltage	$V_{OS}$		1.125 to 1.375V	—
Offset to $V_{OS}$	$\Delta V_{OS}$		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)	$t_{RMS}$		2.5ps typ. ( $\sigma$ )	
	$t_{p-p}$		22ps typ. (Peak to peak)	
Total Jitter (1)	$t_{TL}$		35ps typ. [ $t_{DJ} + n \times t_{RJ}$ n=14.1 (BER=1 $\times 10^{-12}$ ) (2)]	
Phase Jitter	$t_{pj}$		0.15ps max.	
Packing Unit (3)	—		2000pcs./reel ( $\phi 180$ )	

- (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.

### DSO323S SERIES

[mm]

#### Dimensions

Model Code  
DSO323S-J  
DSO323S-D

#### Pin Connections

Pin No.	Connection
#1	OE(Output Enable)
#2	NC
#3	GND
#4	Output
#5	OutputN
#6	Vcc

#### Function

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

#### Recommended Land Pattern

<Top View>