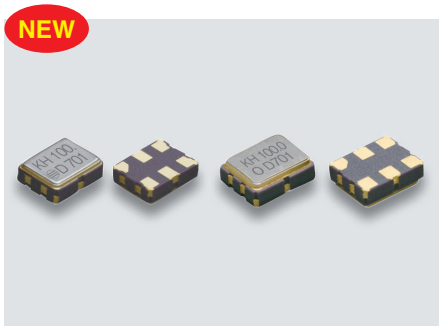
SMD Differential Output Crystal Oscillators

DSO223SKH/DSO323SKH/DSO223SJH/DSO323SJH/DSO223SDH/DSO323SDH

NEW



Actual size DSO223S SERIES DSO323S SERIES

■ Features

- 2.5V/3.3V operating voltage, High speed type
- Low phase jitter
- 3-state function
- LV-PECL output (DSO223/323SKH)
- LVDS output (DSO223/323SJH)
- HCSL output (DSO223/323SDH)
- AEC-Q200 Compliant (option: equivalent to AEC-Q100)

■ Applications

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

Pb-Free

RoHS Compliant

[Function Code]

DSO***S KH A A A

Model Code
KH : LV-PECL
JH : LVDS
DH : HCSL

Operating Temperature Range
A: −10 to +70℃
C: −40 to +85℃

Supply Voltage
A : 3.3V
C : 2.5V

Frequency Tolerance
A : ±100×10^{-6}
B : ±50×10^{-6}

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

[Type]

DSO223S SERIES	2520 size
DSO323S SERIES	3225 size

■ Standard Specification

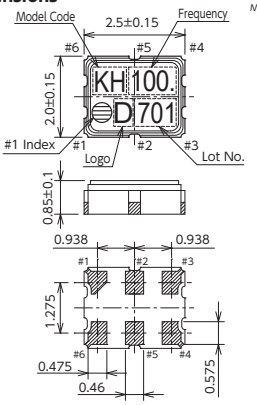
Item \ Type	Legend	DSO223SKH DSO323SKH	DSO223SJH DSO323SJH	DSO223SDH DSO323SDH
Output Specification	–	LV-PECL	LVDS	HCSL
Output Frequency Range	f_0	100 to 160MHz		
Supply Voltage	Vcc	+2.5V±0.125V/+3.3V±0.165V		
Frequency Tolerance (Includes frequency tolerance at room temperature.)	f_tol	±50×10^{-6} max., ±100×10^{-6} max.		
Storage Temperature Range	T_stg	−40 to +85℃		
Operating Temperature Range	T_use	−10 to +70℃, −40 to +85℃		
Current Consumption	Icc	60mA max.	20mA max.	40mA max.
Stand-by Current (#1 pin "L" Level)	I_std	10μA max.		
Load Condition	Load-R	50Ω to Vcc−2V	100Ω (Output−OutputN)	50Ω
Symmetry	SYM	45 to 55% [at outputs cross point]		
0 Level Output Voltage	V_{OL}	Vcc−1.81 to Vcc−1.62V	–	−0.15 to 0.15V
1 Level Output Voltage	V_{OH}	Vcc−1.025 to Vcc−0.88V	–	0.55 to 0.90V
Rise and Fall Time	tr, tf	0.5ns max. [20 to 80% Vopp]	0.5ns max. [20 to 80% Vopp]	0.6ns max. [20 to 80% Vopp]
Differential Output Voltage	V_{OD1}, V_{OD2}	–	0.247 to 0.454V	–
Change to V_{OD}	ΔV_{OD}	–	50mV [ΔV_{OD}= | V_{OD1}−V_{OD2} |]	–
Offset Voltage	V_{OS}	–	1.125 to 1.375V	–
Offset to V_{OS}	ΔV_{OS}	–	50mV	–
Crossing Point Voltage	Vcr	–	–	250 to 550mV
OE Pin 0 Level Input Voltage	V_{IL}	Vcc×0.3 max.		
OE Pin 1 Level Input Voltage	V_{IH}	Vcc×0.7 min.		
Output Disable Time	tPLZ	200ns		
Output Enable Time	tPZL	2ms		
Period Jitter (1)	tRMS	2.5ps typ. (σ)		
	tp-p	22ps typ. (Peak to peak)		
Total Jitter (1)	tTL	35ps typ. [tDJ + n×tRJ n=14.1(BER=1×10^{-12}) (2)]		
Phase Jitter	tpj	80fs max.	60fs max.	80fs max.
		[f_0 offset:12kHz to 20MHz]		
Packing Unit (3)	–	2000pcs./reel (φ180)		

(1) Measured WAVECREST DTS-2075
(2) tDJ : Deterministic jitter tRJ : 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.

■ DSO223S SERIES [mm]

■ Dimensions



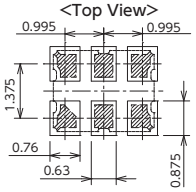
Model Code
DSO223SKH : KH
DSO223SJH : JH
DSO223SDH : DH

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

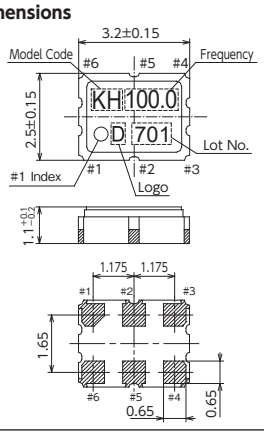
■ Recommended Land Pattern

<Top View>



■ DSO323S SERIES [mm]

■ Dimensions



Model Code
DSO323SKH : KH
DSO323SJH : JH
DSO323SDH : DH

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
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■ Recommended Land

<Top View>