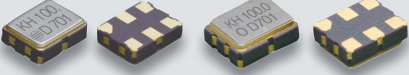


SMD Differential Output Crystal Oscillators (For Automotive)

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

- Multimedia devices such as car navigation systems and car audio



[Function Code]

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

Supply Voltage
A : 3.3V
C : 2.5V

Operating Temperature Range
A : -10 to +70°C
C : -40 to +85°C

Frequency Tolerance
A : $\pm 100 \times 10^{-6}$
B : $\pm 50 \times 10^{-6}$

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

Standard Specification

Item	Type	Legend	DSO223SKH DSO323SKH	DSO223SJH DSO323SJH	DSO223SDH DSO323SDH
Output Specification		—	LV-PECL	LVDS	HCSL
Output Frequency Range	f _o			100 to 160MHz	
Supply Voltage	V _{cc}			+2.5V±0.125V/+3.3V±0.165V	
Frequency Tolerance (Includes frequency tolerance at room temperature.)	f _{tol}			±50×10 ⁻⁶ max., ±80×10 ⁻⁶ max. /±100×10 ⁻⁶ max.	
Storage Temperature Range	T _{stg}			-40 to +105°C	
Operating Temperature Range	T _{use}			-40 to +85°C, -40 to +105°C	
Current Consumption	I _{cc}		60mA max.	20mA max.	40mA max.
Stand-by Current (#1 pin "L" Level)	I _{std}			10μA max.	
Load Condition	Load-R		50Ω to V _{cc} -2V	100Ω (Output-OutputN)	50Ω
Symmetry	SYM			45 to 55% [at outputs cross point]	
0 Level Output Voltage	V _{OL}		V _{cc} -1.81 to V _{cc} -1.62V	—	-0.15 to 0.15V
1 Level Output Voltage	V _{OH}		V _{cc} -1.025 to V _{cc} -0.88V	—	0.55 to 0.90V
Rise and Fall Time	tr, tf		0.5ns max. [20 to 80% V _{opp}]	0.5ns max. [20 to 80% V _{opp}]	0.6ns max. [20 to 80% V _{opp}]
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	V _{cr}		—	—	250 to 550mV
OE Pin 0 Level Input Voltage	V _{IL}			V _{cc} ×0.3 max.	
OE Pin 1 Level Input Voltage	V _{IH}			V _{cc} ×0.7 min.	
Output Disable Time	t _{PLZ}			200ns	
Output Enable Time	t _{PZL}			2ms	
Period Jitter (1)	t _{RMS}			2.5ps typ. (σ)	
Total Jitter (1)	t _p			22ps typ. (Peak to peak)	
Phase Jitter	t _{TL}			35ps typ. [t _{DJ} + n×t _{RJ} n=14.1 (BER=1×10 ⁻¹²) (2)]	
Reliability	tpj		80fs max.	60fs max. [fo offset: 12kHz to 20MHz]	80fs max.
Packing Unit (3)			AEC-Q200(DSO223 SERIES), AEC-Q100/AEC-Q200(DSO323 SERIES) 2000pcs./reel(φ180)		

- (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)

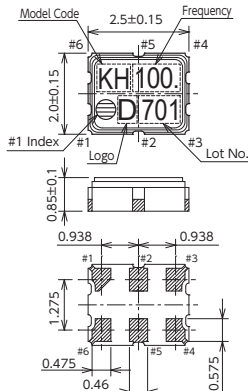
Consult our sales representative for other specifications.

DSO223S SERIES

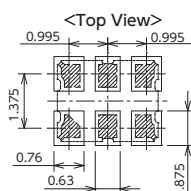
[mm] DSO323S SERIES

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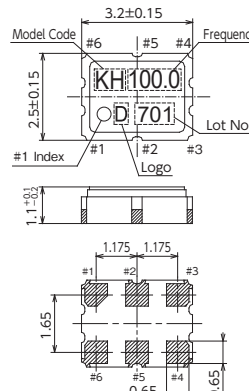
Dimensions



Recommended Land Pattern



Dimensions



Recommended Land

