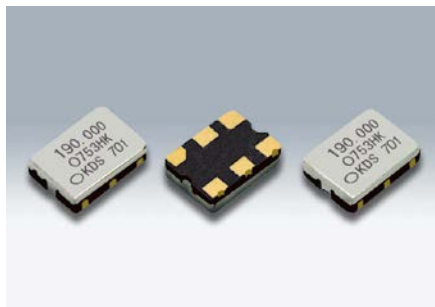


# SMD Differential Output Crystal Oscillators

## DSO753HV/DSO753HK/DSO753HJ



Actual size

### ■ Features

- Available with three types of output functions: CMOS, PECL, LVDS
- Differential output (LV-PECL, LVDS)
- Low jitter
- 3-state function

### ■ Applications

- Optical transmission device, radio transmitter-receiver equipment



### ■ Standard Specification

Item	Type	Legend	DSO753HV	DSO753HK	DSO753HJ
Output Specification	—		CMOS	LV-PECL	LVDS
Output Frequency Range	f <sub>o</sub>		170 to 230MHz	212.5 to 350MHz	
Supply Voltage	V <sub>CC</sub>		+3.3V±0.165V	+2.5V±0.125V/+3.3V±0.165V	
Frequency Tolerance (Includes frequency tolerance at room temperature.)	f <sub>tol</sub>			±50×10 <sup>-6</sup> max.	
Storage Temperature Range	T <sub>stg</sub>			-40 to +85°C	
Operating Temperature Range	T <sub>use</sub>			-20 to +70°C	
Current Consumption	I <sub>CC</sub>		70mA max.	90mA max.	70mA max.
Stand-by Current (#1 pin "L" Level)	I <sub>std</sub>			30μA max.	
Load Condition	Load		15pF max.	50Ω to V <sub>CC</sub> -2V	100Ω(Output-OutputN)
Symmetry	SYM		45 to 55%[50% V <sub>CC</sub> Level]	45 to 55%[at outputs cross point]	
0 Level Output Voltage	V <sub>OL</sub>		V <sub>CC</sub> ×0.1 max.	V <sub>CC</sub> -1.81 to V <sub>CC</sub> -1.62V	—
1 Level Output Voltage	V <sub>OH</sub>		V <sub>CC</sub> ×0.9 min.	V <sub>CC</sub> -1.025 to V <sub>CC</sub> -0.88V	—
Rise and Fall Time	t <sub>r</sub> , t <sub>f</sub>		2.0ns max.[10 to 90% V <sub>CC</sub> Level]	1.0ns max.[20 to 80% Output,OutputN]	1.0ns max.[20 to 80% Output-OutputN]
Differential Output Voltage	V <sub>OD1</sub> , V <sub>OD2</sub>		—	—	0.247 to 0.454V
Change to V <sub>OD</sub>	ΔV <sub>OD</sub>		—	—	50mV[ΔV <sub>OD</sub> = V <sub>OD1</sub> -V <sub>OD2</sub>  ]
Offset Voltage	V <sub>OS</sub>		—	—	1.125 to 1.375V
Offset to V <sub>OS</sub>	ΔV <sub>OS</sub>		—	—	50mV
OE Pin 0 Level Input Voltage	V <sub>IL</sub>			V <sub>CC</sub> ×0.3 max.	
OE Pin 1 Level Input Voltage	V <sub>IH</sub>			V <sub>CC</sub> ×0.7 min.	
Output Disable Time	t <sub>PLZ</sub>			200ns max.	
Output Enable Time	t <sub>PZL</sub>			2ms max.	
Period Jitter (1)	t <sub>RMS</sub>		2.2ps typ. [σ]	2.5ps typ. [σ]	
	t <sub>p-p</sub>		20ps typ.[Peak to peak]	22ps typ.[Peak to peak]	
Total Jitter (1)	t <sub>TL</sub>		32ps typ. [t <sub>DJ</sub> +n×t <sub>RJ</sub> n=14.1(BER=1×10 <sup>-12</sup> ) (2)]	35ps typ. [t <sub>DJ</sub> +n×t <sub>RJ</sub> n=14.1(BER=1×10 <sup>-12</sup> ) (2)]	
Phase Jitter	t <sub>pj</sub>		1ps max. (fo offset:12kHz to 20MHz)		
Packing Unit (3)	—		100pcs./reel or 500pcs./reel (φ180)		

(1) Measured WAVECREST DTS-2075

(2) t<sub>DJ</sub>: Deterministic jitter t<sub>RJ</sub>: Random jitter

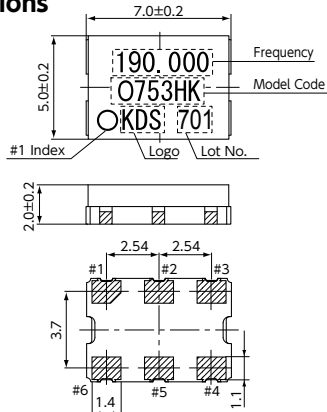
(3) Moisture prevention packing is unnecessary.

Moisture Sensitivity Level: Level 1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

[mm]

### ■ Dimensions



Model Code  
DSO753HV → O753HV  
DSO753HK → O753HK  
DSO753HJ → O753HJ

Pin No.	Connection
#1	OE(Output Enable)
#2	NC
#3	GND
#4	Output
#5	NC - DSO753HV OutputN - DSO753HK DSO753HJ
#6	V <sub>CC</sub>

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

### ■ Recommended Land Pattern

<Top View>

