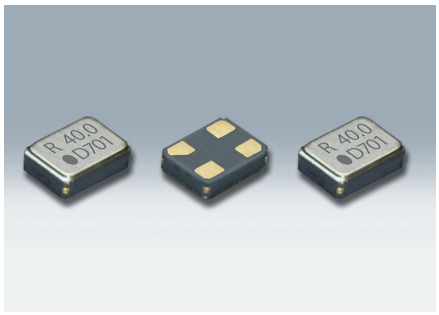
SMD Crystal Oscillators〈For Automotive〉

DSO1612AR



Actual size

■ Features

- 3-state function
- Capable of operating over a wide temperature range, from −40 to +125℃.
- AEC-Q200 Compliant (Option: Equivalent to AEC-Q100)
- CMOS Level Output

■ Applications

- Multimedia devices such as car navigation systems and car audio
- Automotive camera

[Function Code]

DSO1612AR A Y

- A : 3.3V
- M : 3.0V
- B : 2.8V
- C : 2.5V
- D : 1.8V

- Y : ±100x10^{-6}
- Z : ±80x10^{-6}
- B : ±50x10^{-6}

Pb-Free

RoHS/ELV Compliant

■ Standard Specification

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

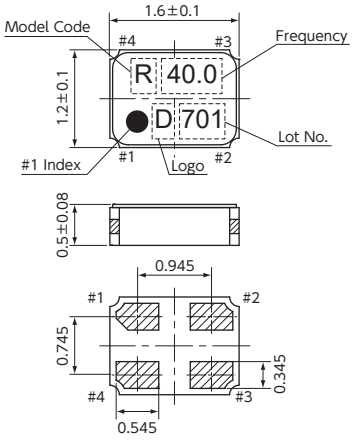
Item	Function Code: Supply Voltage	Function Code: Frequency tolerance	Legend	Output Frequency Range (MHz)	Spec.: min.	Spec.: typ.	Spec.: max.	Spec.: Unit	Condition
Supply Voltage	A	*	Vcc	0.584375≦f0≦80	+3.0	+3.3	+3.6	V	
	M				+2.7	+3.0	+3.3		
	B				+2.6	+2.8	+3.0		
	C				+2.25	+2.5	+2.75		
	D				+1.6	+1.8	+2.0		
Frequency Tolerance (Includes frequency tolerance at room temperature.)	*	Y	f_tol	0.584375≦f0≦80	-100	–	+100	10^{-6}	−40 to +125℃
		Z			-80	–	+80		−40 to +110℃
		B			-50	–	+50		−40 to +85℃
Current Consumption	A,M	*	Icc	0.584375≦f0<40	–	–	+3.0	mA	No Load
				40≦f0<80	–	–	+4.2		
	B			0.584375≦f0<40	–	–	+2.4		
				40≦f0≦80	–	–	+3.7		
	C			0.584375≦f0<40	–	–	+2.0		
				40≦f0≦80	–	–	+3.4		
	D			0.584375≦f0<40	–	–	+1.7		
				40≦f0≦80	–	–	+2.7		
Stand-by Current (#1 pin "L"level)	*	*	I_std	*	–	–	+20	μA	
Load Condition	*	*	L_CMOS	*	–	–	15	pF	
Symmetry	*	*	SYM	*	40	50	60	%	at 50% Vcc
0 Level Output Voltage	*	*	VOL	*	–	–	Vcc×0.1	V	
1 Level Output Voltage	*	*	VOH	*	Vcc×0.9	–	–		
Rise and Fall Time	A,M,B,C	*	tr, tf	*	–	–	3.0	ns	10 to 90% Vcc Level
	D				–	–	5		
OE Pin 0 Level Input Voltage	*	*	VIL	*	–	–	Vcc×0.2	V	
OE Pin 1 Level Input Voltage	*	*	VIH	*	Vcc×0.8	–	–		
Output Disable Time	*	*	tPLZ	*	–	–	200	ns	
Output Enable Time	*	*	tPZL	*	–	–	2	ms	
Period Jitter (1)	*	*	tRMS	*	–	2.2	–	ps	σ
			tp-p		–	20	–		Peak to peak
Total Jitter (1)	*	*	tTL	*	–	31	–	ps	tDJ+n×tRJ n=14.1(BER=1×10^{-12}) (2)
Phase Jitter	*	*	tpj	40≦f0≦80	–	–	1	ps	f0 offset:12kHz to 20MHz
				10≦f0<40					f0 offset:12kHz to 5MHz
Reliability	AEC-Q100/AEC-Q200								
Packing Unit (3)	3000pcs./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.

[mm]

■ Dimensions



Pin Connections

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

Function

#1Input	#3 Output condition
H	Oscillation out
Open	Oscillation out
L	High Z

■ Recommended Land Pattern

〈Top View〉