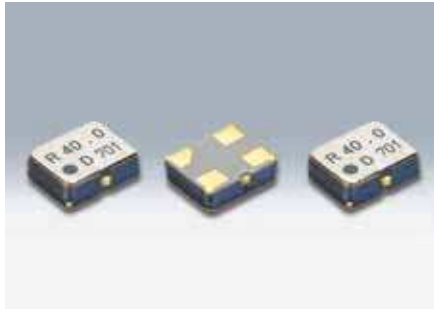


SMD Crystal Oscillators

DSO211AR



Actual size

■ Features

- 2016 size, 0.72 mm high.
- Available frequency range : 0.4~80MHz
- The electronic specification is compatible with that of SR series(DSO221SR/ DSO321SR/ DSO531SR/ DSO751SR)
- Available up to 80MHz by using AT cut fundamental resonator. Low jitter provides for high performance.

■ Applications

- PC, PDA, USB peripherals, DSC, DVD, Blu-ray Disk, TV, HDTV, DVC, HDD
- WiMAX, Bluetooth, Wireless LAN
- Camera module of mobile phones
- Automotive multimedia device

[Function Code]

DSO211AR

A : 3.3V	A : ±100×10 ⁻⁶
M : 3.0V	B : ±50×10 ⁻⁶
B : 2.8V	C : ±30×10 ⁻⁶
C : 2.5V	D : ±25×10 ⁻⁶
D : 1.8V	E : ±20×10 ⁻⁶



■ Standard Specification

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

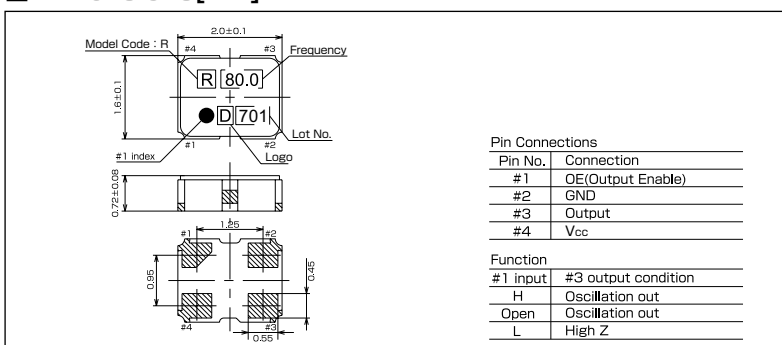
Item	Function Code		Output Frequency Range (MHz)	Legend	Spec.				Condition		
	Supply Voltage	Frequency tolerance			min.	Typ.	max.	Unit			
Supply Voltage	A	*	0.4≤fo≤80	V _{cc}	+3.0	+3.3	+3.6	V			
	M	*			+2.7	+3.0	+3.3				
	B	*			+2.6	+2.8	+3.0				
	C	*			+2.25	+2.5	+2.75				
	D	*			+1.6	+1.8	+2.0				
Frequency Tolerance (Includes frequency tolerance at room temperature.)	*	A	0.4≤fo≤80	f _{tol}	-100	-	+100	×10 ⁻⁶	-40~+85°C	-10~+70°C (Standard Operating Temperature Range)	
	*	B			-50	-	+50				
	*	C	0.4≤fo≤50	-30	-	+30	-20~+70°C				
	*	D		-25	-	+25					
	*	E		-20	-	+20					
Current Consumption	A,M	*	0.4≤fo<32	I _{cc}	-	-	1.8	mA	No Load		
			32≤fo<54		-	-	2.5				
			54≤fo≤80		-	-	5.0				
	B	*	0.4≤fo<32		-	-	1.8				
			32≤fo<54		-	-	2.5				
			54≤fo≤80		-	-	5.0				
	C	*	0.4≤fo<32		-	-	1.5				
			32≤fo<54		-	-	2.0				
			54≤fo≤80		-	-	4.0				
	D	*	0.4≤fo<32		-	-	1.0				
			32≤fo<54		-	-	1.4				
			54≤fo≤80		-	-	3.0				
Stand-by Current(#1 pin "L" Level)	*	*	*	I _{std}	-	-	10	μA			
Load Condition	*	*	0.4≤fo≤80	L _{CMOS}	-	-	15	pF			
	A,M	*			-	-	30				
Symmetry	*	*	fo<50	SYM	45	50	55	%	50% V _{cc} Level		
	*	*	fo≥50		40	50	60				
0 Level Output Voltage	*	*	*	V _{OL}	-	-	V _{cc} ×0.1	V			
1 Level Output Voltage	*	*	*	V _{OH}	V _{cc} ×0.9	-	-	V			
Rise and Fall Time	A,M,B,C	*	0.4≤fo<54	tr, tf	-	-	5 (4)	ns	L _{CMOS} :15pF 10~90% V _{cc} Level (20~80% V _{cc} Level)		
			0.4≤fo<54		-	-	7 (6)				
			54≤fo≤80		-	-	4 (3)				
	A,M	*	0.4≤fo<54		-	-	10				
	A,M	*	54≤fo≤80		-	-	6				
OE Pin 0 Level Input Voltage	*	*	*	V _{IL}	-	-	V _{cc} ×0.2	V			
OE Pin 1 Level Input Voltage	*	*	*	V _{IH}	V _{cc} ×0.8	-	-	V			
Output Disable Time	*	*	*	t _{PLZ}	-	-	150	ns			
Output Enable Time	*	*	*	t _{PZL}	-	-	1	ms			
Period Jitter (1)	*	*	*	t _{RMS}	-	2.2	-	ps	σ		
	*	*	*	t _{p-p}	-	20	-	ps	Peak to peak		
Total Jitter (1)	*	*	*	t _{TL}	-	31	-	ps	t _{DJ} +n*t _{RJ} n=14.1(BER=1*10 ⁻¹²) (2)		
Phase Jitter	*	*	40≤fo≤80	tpj	-	-	1	ps	fo offset:12kHz~20MHz		
			10≤fo<40		fo offset:12kHz~5MHz						
Packing Unit					2000pcs./reel(φ180)						

(1) Measured WAVECREST DTS-2075

(2) tDJ:Deterministic jitter tRJ:Random jitter

Consult our sales representative for other specifications.

■ Dimensions[mm]



■ Recommended Land Pattern [mm]

