

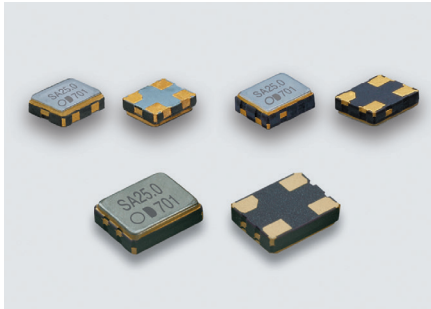


Ark.h.2G

SMD Crystal Oscillators (For Automotive)

Under Development

DS2016AA/DS2520AA/DS3225AA



Actual size DS2016AA □ DS2520AA □
DS3225AA □

Features

- Supply voltage : 1.8V/2.5V/3.3V
- Available frequency range: 2 to 160MHz
- Low profile : 0.7mm(DS2016AA), 0.8mm(DS2520AA), 1.1mm(DS3225AA)
- CMOS level output
- Supports a wide operating temperature range from -40 to +125°C
- AEC-Q200 Compliant (Option:Equivalent to AEC-Q100)

Applications

- Automotive multimedia devices



[Function Code]

DS****AA A A

A : 3.3V
C : 2.5V
D : 1.8V

A : $\pm 100 \times 10^{-6}$
Z : $\pm 80 \times 10^{-6}$
B : $\pm 50 \times 10^{-6}$

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

Standard Specification

Item	Function Code		Output Frequency Range (MHz)	Legend	Spec.				Condition
	Supply Voltage	Frequency tolerance			min	typ.	max.	Unit	
Supply Voltage	A	*	$2 \leq f_0 \leq 160$	Vcc	+3.0	+3.3	+3.6	V	
	C		+2.25		+2.5	+2.75			
	D		+1.6		+1.8	+2.0			
Frequency Tolerance (Includes frequency tolerance at room temperture)	*	A	*	f_tol	-100	-	+100	$\times 10^{-6}$	-40 to +125 °C
		Z			-80	-	+80		-40 to +110 °C
		A			-100	-	+100		-40 to +85 °C
		B			-50	-	+50		
Current Consumption	A	*	$2 \leq f_0 < 60$	Icc	-	-	6.0	mA	No Load
			$60 \leq f_0 < 125$		-	-	8.0		
			$125 \leq f_0 \leq 160$		-	-	10.5		
	C		$2 \leq f_0 < 60$		-	-	5.0		
			$60 \leq f_0 < 125$		-	-	7.0		
			$125 \leq f_0 \leq 160$		-	-	9.5		
	D		$2 \leq f_0 < 60$		-	-	4.0		
			$60 \leq f_0 < 125$		-	-	6.5		
			$125 \leq f_0 \leq 160$		-	-	8.5		
Stand-by Current (#1 pin"L"Level)	*	*	*	I_std	-	-	10.0	μ A	
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	*	*	$2 \leq f_0 < 60$	tr, tf	-	-	7	ns	10 to 90% Vcc Level
			$60 \leq f_0 \leq 160$		-	-	4		
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	-	-	150	ns	
Output Enable Time	*	*	*	tPZL	-	-	2	ms	
Phase Jitter	*	*	$10 \leq f_0 < 40$	tpj	-	-	1	ps	f _o offset:12kHz to 5MHz
			$40 \leq f_0 \leq 160$						f _o offset:12kHz to 20MHz
Reliability	AEC-Q100/AEC-Q200								
Packing unit(1)	DS2016AA/DS2520AA : 3000pcs./reel (Φ 180), DS3225AA : 2000pcs./reel (Φ 180)								

(1) Moisture prevention packing is unnecessary.
Moisture Sensitivity Level:Level1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications

DS2016AA

[mm]

DS2520AA

[mm]

DS3225AA

[mm]

Dimensions Recommended Land Pattern (Top View)	Dimensions Recommended Land Pattern (Top View)	Dimensions Recommended Land Pattern (Top View)
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