

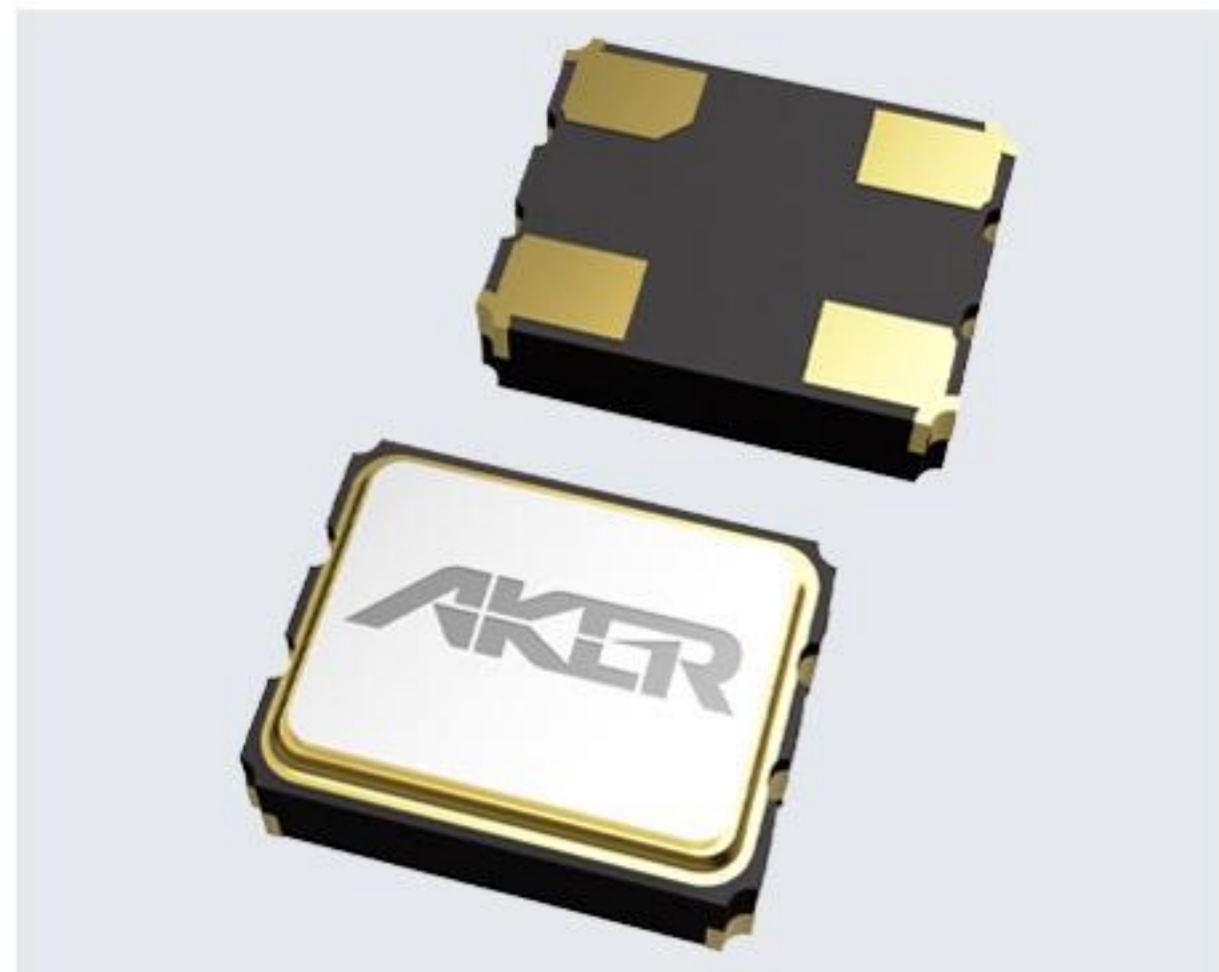
# CRYSTAL OSCILLATORS

Automotive Grade

ACTUAL SIZE:

SMAF-012288-3XY4T01

CERAMIC PACKAGE



## APPLICATIONS

- ▶ Camera
- ▶ TPMS
- ▶ AVM

## FEATURES

- ▶ Seam Seal
- ▶ Excellent Solderability
- ▶ Tri-State
- ▶ Low Power Consumption
- ▶ RoHS Compliant
- ▶ IATF-16949 Certified
- ▶ AEC-Q200 Qualified

## Specification

### MODEL

FREQUENCY RANGE	MHz	1.000~110.000	1.000~160.000	1.000~160.000	1.000~110.000	1.000~60.000
FREQUENCY STABILITY*	ppm	± 25 ~ ± 100				
OPERATING TEMPERATURE	°C	- 40 ~ + 85 Or - 40 ~ + 125				
STORAGE TEMPERATURE	°C	- 55 ~ + 125				
POWER SUPPLY VOLTAGE	VDC	+1.8 ± 10%	+2.5 ± 10%	+3.3 ± 10%	+1.62~+3.63	+5.0 ± 10%
OUTPUT LEVEL		CMOS				
OUTPUT SYMMETRY	%	45 ~ 55 (at 50% VDC)				

### INPUT CURRENT

Frequency Range	mA (Max.)	1.000~110.000	1.000~160.000	1.000~160.000	1.000~110.000	1.000~60.000
1.0 ~ 9.9MHz		3	5	5	5	10
10.0 ~ 19.9MHz		5	5	5	5	12
20.0 ~ 31.9MHz		5	6	7	7	15
32.0 ~ 60.0MHz		10	12	12	12	22
60.1 ~ 110.0MHz		10	20	25	25	-
110.1 ~ 160.0MHz		-	20	30	-	-

### RISE/FALL TIME

Frequency Range	ns (Max.)	1.000~110.000	1.000~160.000	1.000~160.000	1.000~110.000	1.000~60.000
1.0 ~ 9.9MHz		7	7	6	7	6
10.0 ~ 19.9MHz		7	7	6	7	6
20.0 ~ 31.9MHz		6	6	5	6	5
32.0 ~ 60.0MHz		6	6	5	6	5
60.1 ~ 110.0MHz		6	6	5	6	-
110.1 ~ 160.0MHz		-	6	6	-	-

### OUTPUT LOAD

15 pF Max.

### AGING

ppm/Year

± 3

\*Inclusive of 25°C±3°C & Operating Temperature Range.

\*\*Specification subject to change without notice.

## Pin Connection

PIN No.	Connection
#1	Enable/Disable
#2	GND
#3	Output
#4	VDC

## Enable/Disable Function

Pin #1	Pin #3
HIGH(OPEN)	Output
LOW	High Impedance

## Dimension(mm)

### SMAF-321 SERIES

