

X31A

32.768 kHz SURFACE MOUNT CRYSTAL

FEATURES

- ▶ Miniature SMD package
- ▶ Automotive temperature range -40/+125°C
- ▶ Low ESR 50 kOhm max.
- ▶ Applications : Automotive applications

3.2 x 1.5 x 0.7 mm



Item	Symbol	Specification
Nominal Frequency	Fo	32.768 kHz
Cut		XY-cut
Operating temperature Range	To	-40° to +125°C
Frequency Tolerance at 25°C	$\Delta f/F$	± 20 ppm
Temperature coefficient	β	-0.040 ppm/°C ² max
Load Capacitance	CL	12.5 pF standard (see options)
Equivalent Series Resistance	ESR	40 k Ω typ. , 50 k Ω max.
Quality Factor	Q	30000 typ.
Shunt Capacitance	Co	0.95 pF typ.
Insulation Resistance	Ri	500 M Ω min. (at 100Vdc)
Drive Level	DL	1.0 μ W max.
Aging	$\Delta f/F$	± 3 ppm max (at 25°C, first year)
Packing Unit		3000pcs / reel
Soldering Condition		260°C , 10 sec x2 max

OPTIONS & ORDERING INFORMATION

X31A			32.768 kHz
	Freq. Tolerance	Load Capacitance	
	20 = ± 20 ppm	12.5 = 12.5 pF	
		9 = 9.0 pF	
		7 = 7.0 pF	
		6 = 6.0 pF	

OUTLINE DIMENSIONS (MM)

