



Ceramic Resonator - CRACS and CRTCS

SMD Version - 4.7 x 4.1 x 1.6

• Features

- Low cost & wide applications
- Industrial standard
- RoHS compliant

• General Specification

Type	CRACS/ MT	CRACS/ MX	CRTCS / MT	CRTCS / MX
	2pins, no built-in capacitor		3pins, with built-in capacitor	
Frequency Range	8.00 to 13.00MHz	13.01 to 50.00MHz	8.00 to 13.00MHz	13.01 to 50.00MHz
Frequency Stability at 25°C	0.50%		±0.5%	
Frequency Stability vs Temperature Range	±0.4%	±0.3%	±0.4%	±0.3%
Operating Temperature Range	-20°C to +80°C		-20°C to +80°C	
Storage Temperature Range	-35°C to +85°C		-35°C to +85°C	
Series Resistance ESR	25Ω	40Ω	25Ω	40Ω
Operating Voltage	5V		5V	
Aging for 10 years	±0.3%		±0.3%	
Built-in Capacitor (C1, C2)	No		Yes	

• Holder and Type Codes

CR = Ceramic Resonator	A = 2pins, no built-in capacitor	T = 3pins, with built-in capacitor
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• Lead Type Code

CS = SMD, 4.7 x 4.1 x 1.6

• Vibration Mode Codes

G = Thickness Shear	T = Thickness Expander	X = Thickness Expander (3rd OT)
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• Frequency Stability vs Temperature Codes

1 = ±0.1%	2 = ±0.2%	3 = ±0.3%	5 = ±0.5%
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• Loading Capacitance Codes (pF)

1 = 5	2 = 6	3 = 15	4 = 22
5 = 30	6 = 47	8 = 100	

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• Marking

Frequency + M (MHz)

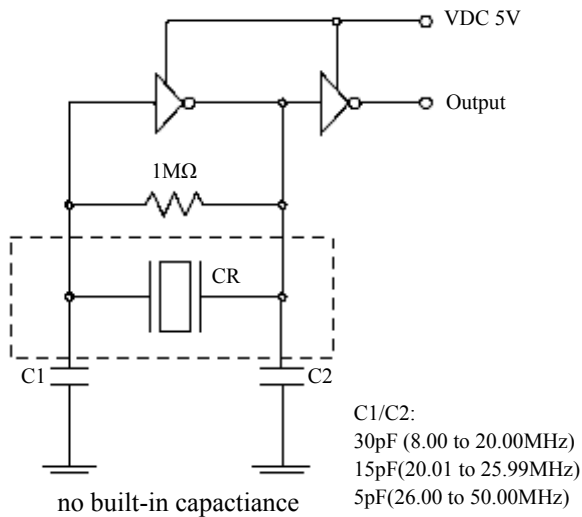
• Ordering Information

Holder	Type	Lead Type	Frequency	Vibration Mode	Frequency Stability vs Temp	Load Capacitance	Packing
			(MHz)			(pF)	
See Tables			xx.xxxM	See Tables			TR=tape & reel
	A=2pins, no built-in				+0.3%	30	
CR	A	CS		T	3	5	TR

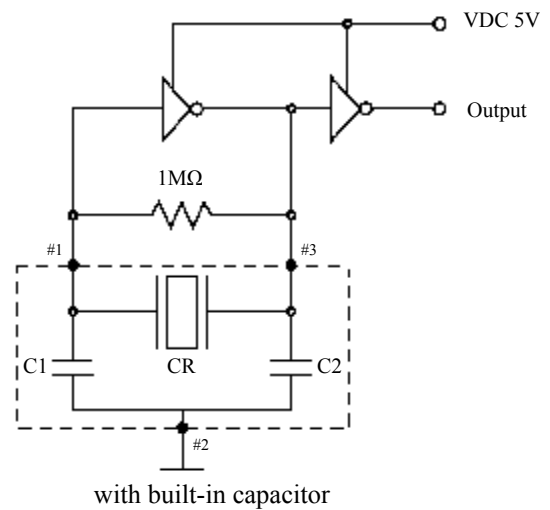
For Example: CRACS8.000MT35/TR

• Test Circuit

1. CRACS

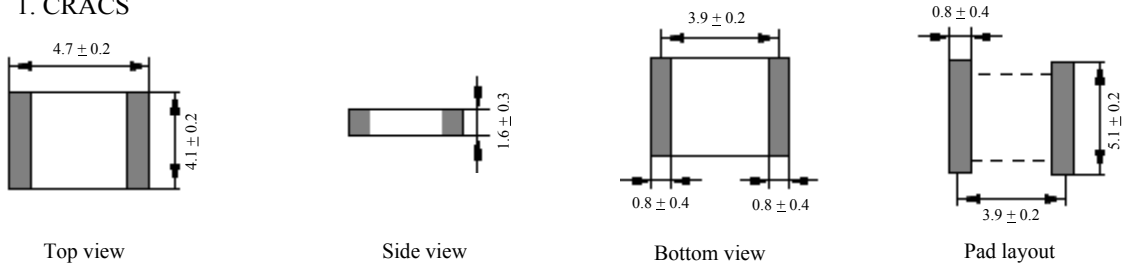


2. CRTCS

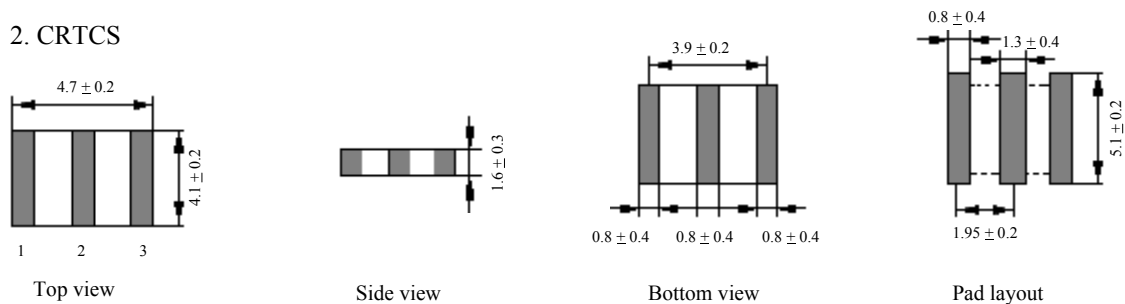


• Dimensions

1. CRACS



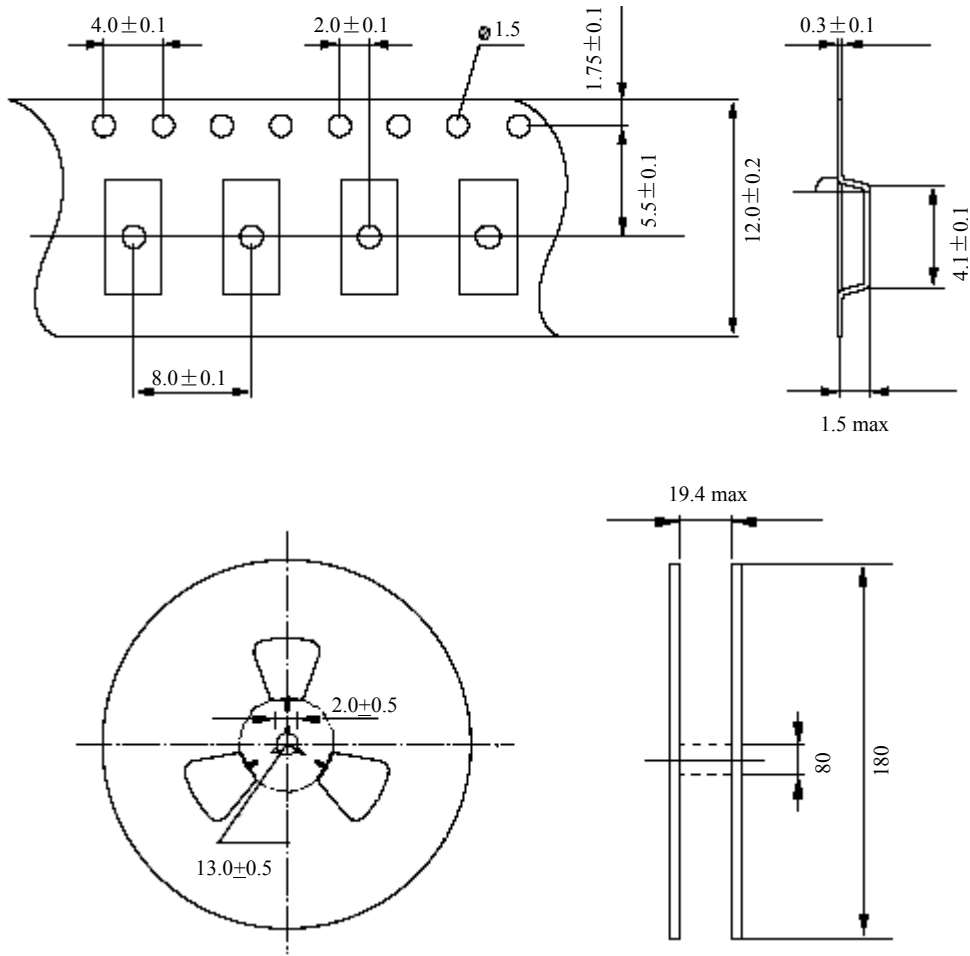
2. CRTCS



in mm

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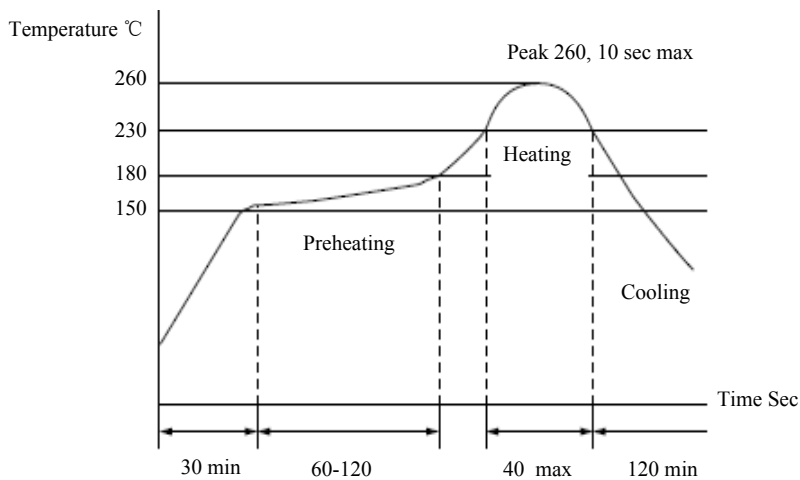
Tape & Reel Specification



* Reel Quantity: 1,000pcs

in mm

Reflow Soldering Profile



NEWXTAL - New Crystal

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