

## Integrated Resistor-Capacitor

# IRC™

### Features

**Less parts to buy and install**

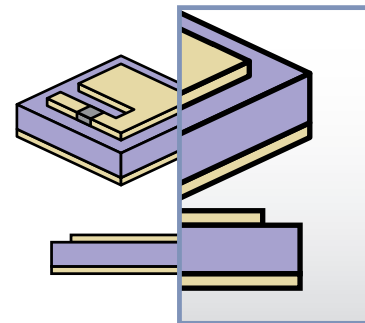
**Less circuit space used, and a connection eliminated, with improved reliability and quicker installation**

**Good temperature characteristics**  
[TCC=X7S( $\pm 22\%$ ),TCR= $-100\pm 50\text{ppm}/^\circ\text{C}$ ]

**High withstanding (breakdown) voltage**

**Solderable chip mounting**

### Design Visual



## Specifications

Parameter	Specification
Ceramic Chip	
Available Sizes: L×W×t	0.63×0.63×0.25mm to 1.00×0.88×0.25mm 25×25×10mils to 40×35×10mils
Dielectric Class	EIA Class 4 (GBBL)
Nominal Dielectric	16,000
Design Type	Type A (Top face with border)
Metallization	Top : TaN / TiW / Au Bottom : Ti / Pt / Au
Capacitor	
Nominal Capacitance Options	220pF to 680pF (@ +25°C & 1kHz) M = ±20%
Capacitance Tolerance Options	Z = -20% / +80% V = -0% / +100%
TC of Capacitance (TCC)	±22% (X7S @ -55°C to +125°C)
Dissipation Factor (DF)	< 4% (@ +25°C & 1kHz)
Insulation Resistance (IR)	> 10 <sup>10</sup> Ω (@ +25°C)
Dielectric Withstanding Voltage (DWV)	Rated voltage ×2.5 (minimum DWV @ +25°C)
Rated Working Voltage	100V
Resistor	
Resistance Options	50Ω,100Ω,200Ω
Resistance Tolerance	K = ±10% M = ±20%
TC of Resistance (TCR)	-100 ± 50ppm / °C (@ -55°C to +70°C)
Resistor Rated Power	100mW
Heat Resistance	320°C x 5min Max N <sub>2</sub> atmosphere

## Key to Part Numbers

(1) Product code for IRC	(2) Chip Size code	(3) Design Type A: Type A	(4) Nominal Capacitance code 221: 220pF 271: 270pF	(5) Capacitance Tolerance code M: ±20% Z: 20%/+80% V: -0%/+100%	(6) Dielectric Material code 10: K=16,000(X7S)	(7) Ceramic Surface Finish code A: As Fired	(8) Thickness code 1: 0.25mm	(9) Nominal Resistance code 500: 50Ω 101: 100Ω 201: 200Ω	(10) Resistance code	(11) Resistance Tolerance code K: ±10% M: ±20%
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**P/N: SKR 03 A 271 M 10 A 1 - 201 R K**

## Product List

Thickness : 0.254±0.025mm

	Size code	03	04	05	06	64	65
	mils	25×25	30×30	35×35	40×40	40×30	40×35
Size	Tolerance	±5	±5	±5	±5	±5	±5
L×W	mm	0.63×0.63	0.76×0.76	0.88×0.88	1.00×1.00	1.00×0.76	1.00×0.88
	Tolerance	±0.13	±0.13	±0.13	±0.13	±0.13	±0.13
Capacity (pF)	Capacity EIA code						
220	221	(M.V.Z)					
270	271	(M.Z)					
330	331	(M.V.Z)					
390	391			(M.V.Z)		(M.V.Z)	
470	471			(M.V.Z)		(M.V.Z)	(M.V.Z)
560	561				(M.V.Z)		(M.Z)
680	681				(M.Z)		
Resistance Ω	Resistance EIA code						
50	500	(K.M)	(K.M)	(K.M)	(K.M)	(K.M)	(K.M)
100	101	(K.M)	(K.M)	(K.M)	(K.M)	(K.M)	(K.M)
200	201	(K.M)	(K.M)	(K.M)	(K.M)	(K.M)	(K.M)

This product is manufactured based on ALTAS® Ultra Hi-K SLC technologies.

This specification may be modified without notice.(2016.FEB) C-099-7