

## 10. Voltage Controlled Oscillator

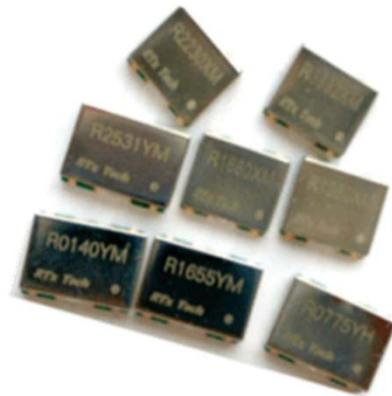


### FEATURE

- Excellent Phase Noise & Spurious
- Frequency Range 20MHz~6GHz
- Low Cost & Custom Design

### APPLICATION

- TETRA, GSM, WCDMA, LTE, 5G
- Up/Down Converter
- Clock & Data Retiming Circuit



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Part Number	Frequency (MHz)	Supply Voltage (Vdc)	Tuning Voltage (Vdc)	Output Power (dBm)	Current (mA)	Phase Noise @10KHz (dBc/Hz)	Dimension (mm)
R0061XL	60~62	3.0	0~2.7	3.0	5	-112	12.4x10.4x3.5
RS92AM	90~94	5.0	0.5~5.0	5.0	12	-115	12.7x12.7x4.0
RW100AM	50~100	5.0	1.0~15.0	9.5	20	-109	12.7x12.7x4.0
R0130XM	125~135	5.0	1.0~4.0	4.0	6	-113	12.4x10.4x3.5
RW150AM	75~150	5.0	1.0~16.0	9.0	18	-110	12.7x12.7x4.0
RTO174AM	136~174	5.0	0.5~4.5	9.0	22	-123	12.7x12.7x4.0
R0214YM	210~218	5.0	1.0~5.0	0.0	6	-114	15.0x10.4x4.0
RTO239AM	200~239	5.0	0.5~4.5	8.0	20	-122	12.7x12.7x4.0
R0250XM	248~252	5.0	1.0~4.0	0.0	5	-106	12.4x10.4x3.5
R0338YM	326~350	5.0	0.5~4.5	3.0	13	-110	15.0x10.4x4.0
R0471XM	470~472	5.0	1.0~4.0	3.0	9	-112	12.4x10.4x3.5
RS564AM	532~595	5.0	0.2~4.8	1.0	11	-115	12.7x12.7x4.0
RS599AM	580~617	5.0	1.0~4.0	0.0	10	-105	12.7x12.7x4.0
R0620YL	615~625	3.0	1.5~2.5	0.0	6	-107	15.0x10.4x4.0
R0751XL	738~763	3.0	0.3~3.0	2.0	5	-106	12.4x10.4x3.5
R0760YL	755~765	3.0	0.6~2.6	0.0	6	-108	15.0x10.4x4.0
R0775ZM	750~800	5.0	1.0~4.0	0.0	8	-109	20.2x12.2x 6.5
RTO798AH	787~808	8.0	1.0~12.0	7.0	28	-125	12.7x12.7x4.0
RT0818AH	806~829	8.0	1.0~12.0	7.0	29	-125	12.7x12.7x4.0
RTO833AH	818~837	7.0	1.0~12.0	7.0	30	-120	12.7x12.7x4.0
R0857AM	837~877	5.0	0.5~4.5	5.0	13	-108	12.7x12.7x4.0
R0877YM	860~894	5.0	1.0~4.0	3.0	7	-108	15.0x10.4x 4.0
R0894XM	873~914	8.0	2.0~7.0	0.0	6	-112@25KHz	12.4x10.4x3.5
RTO912AH	902~922	8.0	0.5~10.0	5.0	26	-125	12.7x12.7x4.0
RTO949AH	940~958	8.0	1.0~9.0	6.0	28	-127	12.7x12.7x4.0
RTO966AH	950~982	8.0	0.0~12.0	6.0	29	-127	12.7x12.7x4.0
RTO999AH	982~1015	8.0	0.0~12.0	6.0	29	-127	12.7x12.7x4.0
RTO1035AH	1015~1055	8.0	0.0~12.0	6.0	29	-125	12.7x12.7x4.0
RTO1050AM	1045~1055	5.0	1.0~11.0	4.0	42	-125	12.7x12.7x4.0
RTO1080AM	1080~1080	5.0	0.5~4.5	0.0	27	-125	12.7x12.7x4.0

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RTO1161AH	1110~1212	8.0	1.0~12.0	5.0	19	-108	12.7x12.7x4.0
RTO1150AH	1150~1150	8.0	1.0~8.0	8.0	29	-130	12.7x12.7x4.0
RTO1200AH	1200~1200	8.0	1.0~8.0	8.0	29	-127	12.7x12.7x4.0
RTO1248AM	1248~1248	5.0	0.5~4.5	7.0	24	-125	12.7x12.7x4.0
RS1315AM	1295~1335	5.0	0.5~4.5	0.0	27	-113	12.7x12.7x4.0
RTO1400AM	1390~1410	5.0	0.5~4.5	0.0	27	-123	12.7x12.7x4.0
RTO1427AM	1369~1487	6.0	0.5~4.5	7.0	27	-112	12.7x12.7x4.0
RTO1456AH	1456~1456	8.0	0.5~4.5	7.0	29	-122	12.7x12.7x4.0
R1563ZH	1500~1625	12.0	1.0~10.0	5.0	39	-108	20.2x12.2x 6.5
R1575YM	1570~1580	5.0	1.0~4.0	5.0	16	-104	15.0x10.4x 4.0
RTO1600AM	1570~1630	5.0	0.5~4.5	7.0	25	-115	12.7x12.7x4.0
RTO1658AM	1646~1670	5.0	0.25~4.75	2.0	27	-120	12.7x12.7x4.0
RTO1680AM	1650~1710	5.0	0.5~4.5	7.0	28	-114	12.7x12.7x4.0
RTO1723AH	1590~1855	8.0	1.0~12.0	7.0	27	-108	12.7x12.7x4.0
RTO1750AM	1700~1800	5.0	0.5~4.5	7.0	20	-110	12.7x12.7x4.0
RTO1763AH	1740~1785	8.0	0.5~4.5	7.0	29	-116	12.7x12.7x4.0
RTO1800AM	1800~1800	6.0	0.5~4.5	6.0	27	-124	12.7x12.7x4.0
RTO1830AM	1800~1860	6.0	1.0~12.0	7.0	25	-118	12.7x12.7x4.0
RTO1883AH	1873~1893	8.0	1.0~7.0	6.0	27	-115	12.7x12.7x4.0
RTO1920AM	1920~1920	5.0	0.5~4.5	2.0	21	-121	12.7x12.7x4.0
R1923ZM	1896~1950	5.0	0.5~4.5	2.0	16	-105	20.2x12.2x 6.5
R1950YM	1920~1980	5.0	1.0~4.0	0.0	11	-102	15.0x10.4x 4.0
RTO1983AM	1945~2020	5.0	0.5~4.5	7.0	20	-111	12.7x12.7x4.0
RTO1960AM	1865~2055	8.0	0.0~12.0	7.0	27	-112	12.7x12.7x4.0
R1976ZM	1949~2003	5.0	0.5~4.5	1.0	15	-104	20.2x12.2x6.5
RTO2000AM	1900~2100	6.0	0.0~12.0	7.0	27	-110	12.7x12.7x4.0
R2007ZM	1959~2055	5.0	1.0~4.0	0.0	18	-103	20.2x12.2x6.5
RTO2020AM	1990~2050	10.0	1.0~9.0	5.0	28	-117	12.7x12.7x4.0
RTO2115AM	2020~2210	6.0	1.0~14.0	7.0	25	-108	12.7x12.7x4.0
RTO2148AH	2085~2210	12.5	1.0~11.0	2.0	29	-113	12.7x12.7x4.0

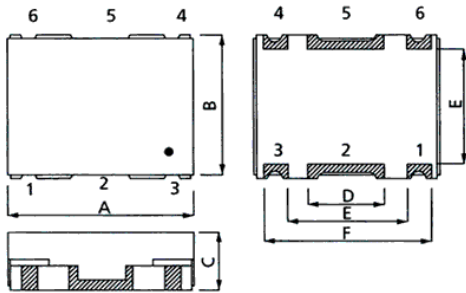
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RTO2170AM	2070~2270	5.0	0.5~4.5	5.0	24	-106	12.7x12.7x4.0
RTO2175AM	2165~2185	8.0	1.0~7.0	6.0	28	-114	12.7x12.7x4.0
RTO2213AM	2025~2400	6.0	1.0~14.0	5.0	28	-106	12.7x12.7x4.0
RTO2285AM	2220~2350	5.0	0.5~4.5	7.0	20	-107	12.7x12.7x4.0
RTO2292AH	2214~2369	8.0	1.0~11.0	5.0	51	-107	12.7x12.7x4.0
RTO2310AM	2310~2310	6.0	0.5~4.5	7.0	28	-120	12.7x12.7x4.0
RTO2375AM	2300~2450	5.0	0.5~4.5	4.0	21	-110	12.7x12.7x4.0
RTO2388AM	2250~2525	6.0	1.0~12.0	5.0	27	-107	12.7x12.7x4.0
RTO2433AH	2413~2453	8.0	0.5~4.5	7.0	28	-116	12.7x12.7x4.0
RTO2513AH	2436~2590	12.5	1.0~11.0	2.0	29	-112	12.7x12.7x4.0
RTO2660AM	2460~2860	4.5	1.0~16.0	0.0	27	-103	12.7x12.7x4.0
RTO2700AM	2600~2800	8.0	1.0~12.0	7.0	29	-111	12.7x12.7x4.0
RTO2813AM	2675~2950	5.0	1.0~15.0	2.0	27	-108	12.7x12.7x4.0
RTO3045AM	2860~3230	4.5	1.0~16.0	0.0	27	-103	12.7x12.7x4.0
RTO3200AM	3125~3275	6.0	0.5~4.5	5.0	27	-104	12.7x12.7x4.0
R3328ZH	3278~3378	12.0	0.5~8.0	5.0	11	-102	20.2x12.2x6.5
R3544AH	3284~3804	5.0	1.0~12.0	3.0	28	-98	12.7x12.7x4.0
R3550AM	3350~3750	5.0	1.0~12.0	3.0	26	-99	12.7x12.7x4.0
RTO3625AH	3625~3625	8.0	0.5~4.5	0.0	29	-120	12.7x12.7x4.0
R3698AM	3620~3775	5.0	0.5~4.5	0.0	29	-95	12.7x12.7x4.0
RTO3790AM	3740~3840	6.0	1.0~15.0	2.0	28	-110	12.7x12.7x4.0
R3838AM	3775~3900	5.0	0.5~4.5	0.0	27	-100	12.7x12.7x4.0
R4054YH	3963~4145	12	1.0~11.0	1.0	28	-96	15.0x10.4x4.0
R4750AU	4500~5000	20	0.5~12	2.0	30	-106@100KHz	12.7x12.7x4.0
R5070AL	5050~5090	3.0	0.5~2.5	0.0	15	-105@100KHz	12.7x12.7x4.0
R5250AL	5240~5260	3.0	0.5~2.5	0.0	13	-104@100KHz	12.7x12.7x4.0
R5300AU	5000~5600	20.0	0.5~12	2.0	30	-105@100KHz	12.7x12.7x4.0
R5450AM	5350~5550	5.0	0.5~4.5	0.0	22	-105@100KHz	12.7x12.7x4.0
R5800AM	5725~5875	5.0	0.5~4.5	0.0	26	-105@100KHz	12.7x12.7x4.0
R5840AM	5800~5880	5.0	0.5~4.5	2.0	25	-105@100KHz	12.7x12.7x4.0

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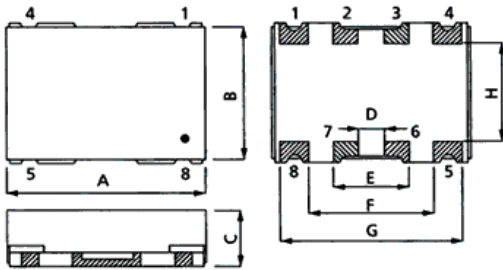
### DIMENSION & PIN CONFIGURATION



**X-package**

Dimension (mm)			
A	12.4	E	7.6
B	10.4	F	10.4
C	3.5	G	8.0
D	5.0	tolerance : $\pm 0.2$	

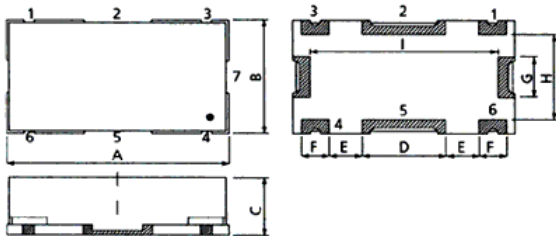
Pin No.	Connection	Pin No.	Connection
1	Vcon	3	Vcc
4	RF Out		
All other pins are Ground			



**Y-package**

Dimension (mm)			
A	15.0	E	5.4
B	10.4	F	9.0
C	4.0	G	13.0
D	1.8	H	7.0
tolerance : $\pm 0.2$			

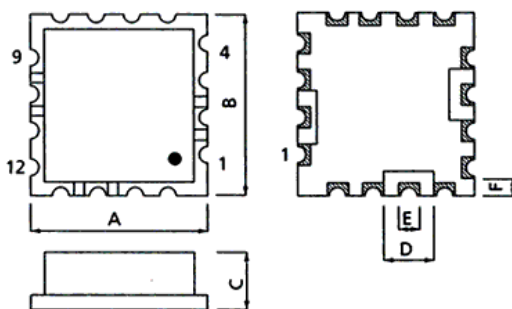
Pin No.	Connection	Pin No.	Connection
1	RF Out	8	Vcc
5	Vcon		
All other pins are Ground			



**Z-package**

Dimension (mm)			
A	20.2	F	2.4
B	12.2	G	4.3
C	6.5	H	9.1
D	7.6	I	17.0
E	3.0	tolerance : $\pm 0.2$	

Pin No.	Connection	Pin No.	Connection
3	Vcc	4	RF Out
6	Vcon		
All other pins are Ground			



**A-package**

Dimension (mm)			
A	12.7	D	3.56
B	12.7	E	1.52
C	4	F	1.38
tolerance : $\pm 0.2$			

Pin No.	Connection	Pin No.	Connection
2	Vcon	10	RF Out
14	Vcc		
All other pins are Ground			

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### PERFORMANCE

