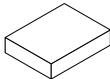
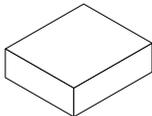
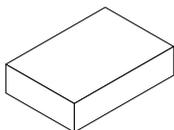


VCO [Voltage Controlled Oscillators]



MARUWA has developed various VCOs, applying the time-tested ceramic technology. The compact high-performance models equipped with a subminiature VCO or LTCC substrate, which are developed to meet the needs for cellular phones, and the high-performance models equipped with our original coaxial resonator permit production of custom-made products that will meet customers' needs.

Lineup of custom-made VCOs

Series	Package dimensions	VCO Type	Principal applications
	Image of actual dimensions		
MVZ	3.2×4.5×1.3mm 	Single	Mobile telephone
	MVF	4.0×5.0×1.5mm 	Single
MVY		4.8×5.5×1.6mm 	Single high-performance (LTCC)
	Single		Mobile telephone, W-LAN
	With enable terminal		CDMA mobile telephone
MVN	6.0×8.0×1.6mm 	Single	Base station, ISM band
		Dual	Mobile telephone compound machine
MVE	7.0×9.0×2.0mm 	Single	Base station
		Dual	Wireless microphone, ISM band
		With modulation	GSM mobile telephone, ISM band
MVU	10.4×11.9×3.8mm 	Single	GSM mobile telephone
		Single high-performance (Dielectric resonator)	Base station, Wireless microphone
MVS	10.4×15.1×3.8mm 	Single	Radio
		Single high-performance (Dielectric resonator)	Radio

RADIO FREQUENCY PRODUCTS

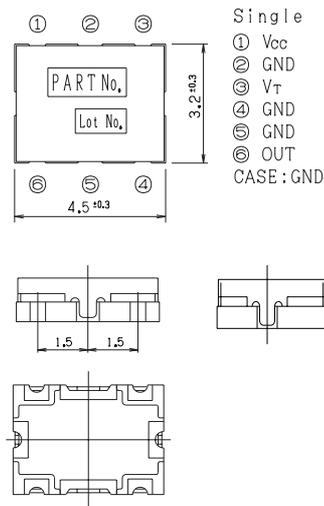
VCO [Voltage Controlled Oscillators]

Lineup of custom-made VCOs

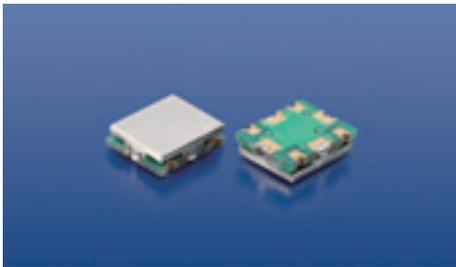
■ MVZ Series (3.2×4.5×1.3mm)



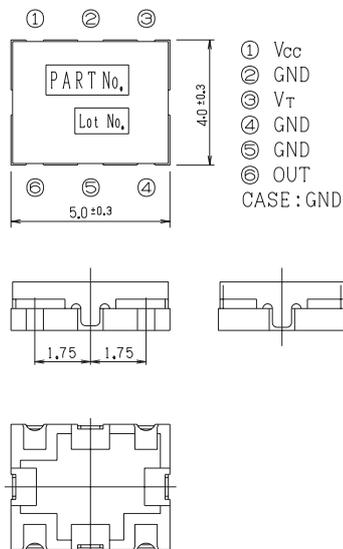
Frequency : 700MHz–2.5GHz
 Features : Ultra-compact package
 Applications : Various mobile telephones



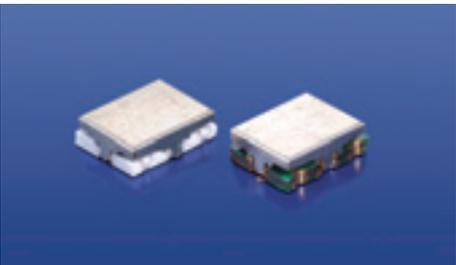
■ MVF Series (4.0×5.0×1.5mm)



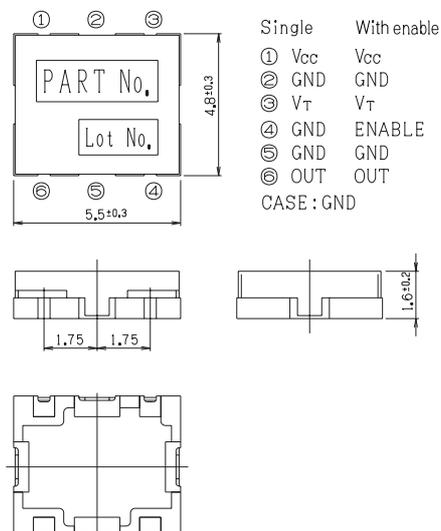
Frequency : 700MHz–4GHz
 Features : Ultra-compact package
 High performance
 Applications : Various mobile telephones



■ MVY Series (4.8×5.5×1.6mm)



Frequency : 700MHz–5GHz
 Features : Compact package
 High performance (LTCC substrate)
 Low price
 Applications : Various mobile telephones
 W-LAN

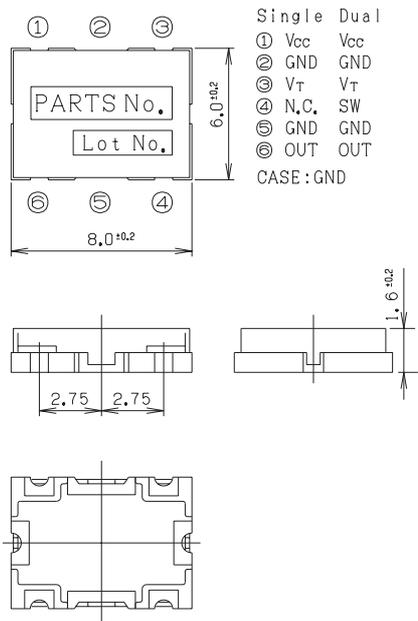


VCO [Voltage Controlled Oscillators]

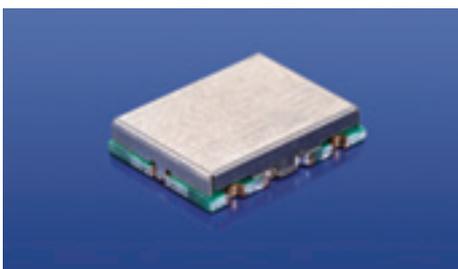
■ MVN Series (6.0×8.0×1.6mm)



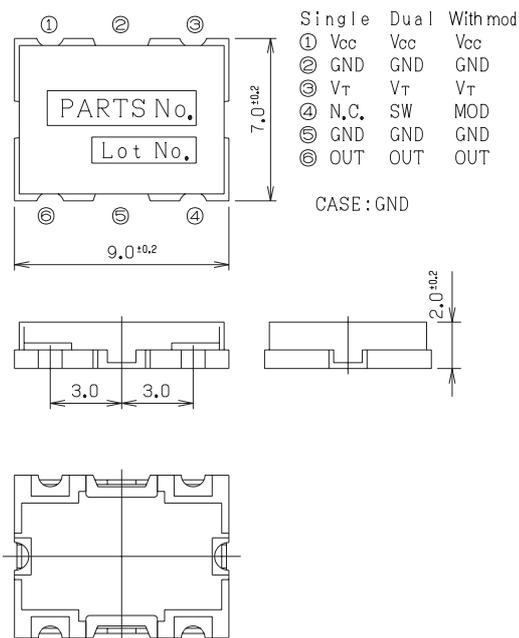
- Frequency : 700MHz–3GHz
- Features : Compact high-performance
Dual band is available
- Applications : Various mobile telephone compound equipment
Base station
ISM band



■ MVE Series (7.0×9.0×2.0mm)



- Frequency : 200MHz–1.9GHz
- Features : Analog modulation possible
Dual band is available
- Applications : Wireless microphone
ISM band
Base station



RADIO FREQUENCY PRODUCTS

VCO [Voltage Controlled Oscillators]

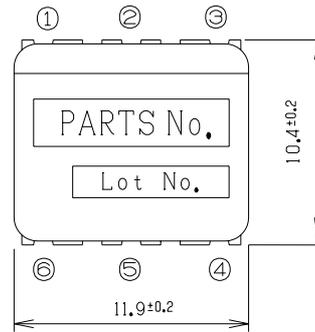
Lineup of custom-made VCOs

■ MVU Series (DRType / MSLType)

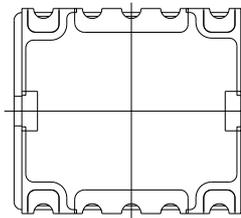
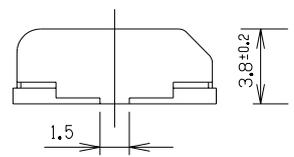
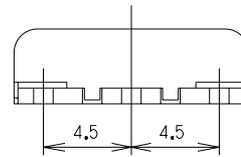


- Frequency : 400MHz–2.5GHz
- Features : Use of coaxial resonator is available
High-performance (dielectric resonator)
Analog modulation is available
- Applications : Base station
Wireless microphone

(10.4×11.9×3.8mm)



Single	With mod
① Vcc	① Vcc
② GND	② GND
③ V _T	③ V _T
④ N.C.	④ MOD
⑤ GND	⑤ GND
⑥ OUT	⑥ OUT
CASE : GND	

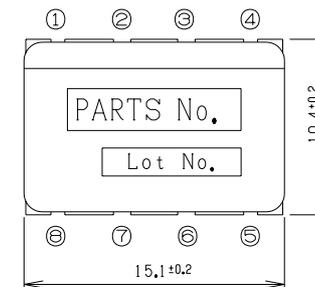


■ MVS Series (DRType / MSLType)



- Frequency : 50MHz–800MHz
- Features : Use of coaxial resonator is available
High-performance (dielectric resonator)
Analog modulation is available
- Applications : Various radios

(10.4×15.1×3.8mm)



Single	With mod
① N.C.	① MOD
② GND	② GND
③ GND	③ GND
④ OUT	④ OUT
⑤ Vcc	⑤ Vcc
⑥ GND	⑥ GND
⑦ GND	⑦ GND
⑧ V _T	⑧ V _T
CASE : GND	

