

### Features

- Removable SMA connectors
- High LO carrier and harmonic suppression
- Perfect phase/Amplitude balance
- Wide dynamic range
- Tunable zero and amplitude balance
- 50 Ω impedance Low VSWR
- Operating temperature range: -40°C ~ +85°C



### Absolute Maximum Ratings

- RF input power : +7dBm
- Storage temperature: +125°C

### Notes

1. Specified LO frequency within 5~1000MHz available, up to octave operating bandwidth
2. The general supply voltage is ±12V, specified requirement (±5V~±15V) is available
3. Optional LO level +7dBm, +10dBm, +17dBm available

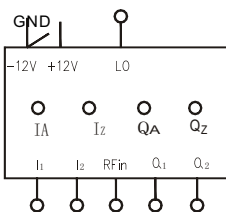
### Specifications (measured in a 50 Ω system TA=25°C, LO=+10dBm)

Parameter	Symbol	Unit	Guaranteed	Typical
RF frequency	F <sub>R</sub>	MHz	f <sub>o</sub> ± 5%	f <sub>o</sub> ± 5%
LO frequency	F <sub>L</sub>	MHz	f <sub>o</sub>	----
LO power	P <sub>LO</sub>	dBm	+10	----
Output amplitude of 1dB compression	----	V	----	±2.5 (V <sub>p-p</sub> )
Phase unbalance <sup>2)</sup>	ΔP	deg	±2.5(Max)	±1.5
Amplitude imbalance	ΔM	dB	0.5(Max)	0.20
IF bandwidth <sup>3)</sup>	VBW	MHz	10% of f <sub>o</sub>	15% of f <sub>o</sub>
Zero-drift	----	mv	±3(Max)	±1.5
Dynamic range	----	dB	60(Min)	65
RF input power at 1dB Comp Point	P <sub>-1</sub>	dBm	+2dBm	+4dBm
VSWR of RF/LO	VSWR	----	1.5:1(Max)	1.4:1

1. Custom output amplitude is available
2. When I/Q bandwidth < 5MHz and output amplitude < ±2.5V (p-p), then |ΔP| ≤ 1°
3. The widest I/Q bandwidth ≤ 20MHz

### Application Notes

1. I&Q two outputs
2. Removable SMA connectors, can be mounted directly on the PCB
3. Power supply: ±12V LO power range: 10 ± 0.5dBm
4. LO < RF: Q = -90° LO > RF: Q = +90°



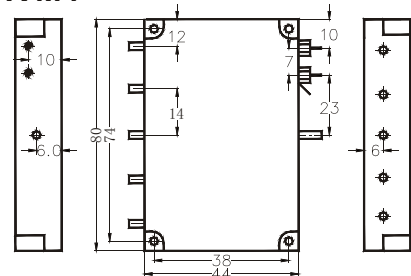
### Pin connection:

1. RF in
2. Lo in
3. I<sub>1</sub>, I<sub>2</sub>, Q<sub>1</sub>, Q<sub>2</sub>: Out
4. Power: ±12V
5. I<sub>A</sub>, I<sub>Z</sub>, Q<sub>A</sub>, Q<sub>Z</sub>: I. Q: Zero point tuning

### IVM4 Ordering Information

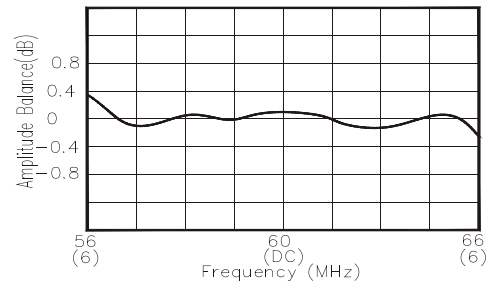
P/N	LO Frequency	I/Q Bandwidth
● IVM4-30	30MHz	5MHz
● IVM4-36	36MHz	5MHz
● IVM4-60	60MHz	6MHz
● IVM4-120	120MHz	12MHz
● IVM4-140	140MHz	16MHz
● IVM4-800	800MHz	20MHz
● IVM4-xxx	5~1000MHz	≤15MHz

### IVM4



### IVM4-60 Typical Performance

Amplitude balance vs. Frequency



Phase balance vs. Frequency

