

# Plug-In I&Q Modulator

## MIQC-1785M

50Ω

1710 to 1785 MHz

### Maximum Ratings

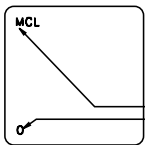
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO Power	50mW
I&Q Current	40mA

### Pin Connections

LO (carrier)	13
RF (signal)	1
I (0°)(ref.)	8
Q (90°)*	5
GND EXT.	2,3,4,6,7,9,10,11,12,14,15,16
CASE GND	3,4,6,7,10,11,14,15

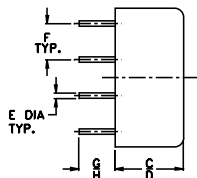
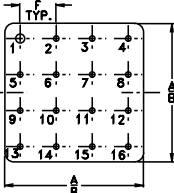
\*Q= I +90° for lower sideband suppression

### Outline Drawing



NOTE: BLUE BEAD INDICATES PIN 1. PIN NUMBERS DO NOT APPEAR ON UNIT, FOR REFERENCE ONLY. PINS 6,7,10,11 OMITTED - C145  
LETTER "M" OVER PIN 13  
"O" OVER PIN 1

TOP VIEW



### Outline Dimensions (inch/mm)

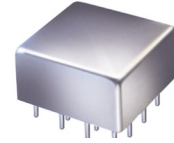
A	B	C	D	E	F
.770	.810	.380	.410	.030	.200
19.56	20.57	9.65	10.41	.76	5.08
G	H	wt			
.20	.14	grams			
5.08	3.56	11.0			

### Features

- hermetically sealed shielded case
- excellent 3rd and 5th order harmonic suppression
- good carrier and sideband rejection

### Applications

- radar communications systems
- DCS



CASE STYLE: C07

PRICE: \$ 99.95 ea. QTY (1-9)

### Modulators Electrical Specifications

MODEL NO.	FREQUENCY (MHz)				CONVERSION LOSS (dB)			CARRIER REJECTION (-dBc)		SIDE BAND REJECTION (-dBc)		HARMONIC SUPPRESSION (-dBc)			
	fL	fU	Min.	Max.	$\bar{x}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	3XI/Q		5XI/Q	
MIQC-1785M	1710	1785	DC	5	9.0	0.30	10.5	35	25	35	25	40	33	65	50

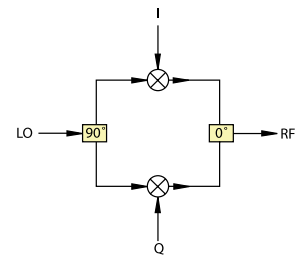
Operating LO power: 10±1dBm

1dB Compression: 0dBm typical

Conversion Loss: (I & Q) power, dBm - RF power, dBm

Carrier and sideband rejections measured at -5dBm I/Q power.

### I&Q modulation block diagram



### Typical Performance Data

Carrier Freq. (MHz)	Conversion Loss		Sideband Rejection(x)		Carrier Rejection(x)		3rd. Harmonic Suppression (x)		5th. Harmonic Suppression (x)		DC Offset (x) (mV)
	$\bar{x}$ (dB)	$\sigma$ (dB)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	LSB (-dBc)	USB (-dBc)	
1710.00	9.37	0.36	35.84	36.70	32.00	32.14	39.59	39.09	61.39	64.29	-4.75
1713.95	9.36	0.38	35.67	36.50	32.40	32.37	39.64	39.11	61.31	64.55	-4.77
1717.89	9.37	0.37	35.55	36.27	32.83	32.64	39.72	38.99	61.19	64.76	-4.79
1721.84	9.31	0.33	35.42	36.08	33.37	32.96	39.78	39.11	61.05	64.38	-4.82
1725.79	9.33	0.33	35.32	36.03	33.98	33.24	39.80	39.10	61.03	64.90	-4.85
1729.74	9.30	0.33	35.28	35.90	34.32	33.60	39.77	39.14	61.00	64.31	-4.88
1733.68	9.27	0.33	35.26	35.75	34.74	33.92	39.82	39.28	61.08	64.22	-4.91
1737.63	9.29	0.32	35.17	35.70	34.90	34.02	39.94	39.27	61.30	63.97	-4.94
1741.58	9.30	0.33	35.15	35.67	34.89	33.89	39.97	39.44	61.04	63.94	-4.97
1745.53	9.32	0.29	35.10	35.62	34.71	33.65	40.03	39.41	61.36	64.21	-4.99
1749.47	9.26	0.31	35.04	35.64	34.49	33.31	40.09	39.52	61.19	64.12	-5.02
1753.42	9.27	0.31	35.01	35.62	34.30	33.04	40.12	39.54	61.29	64.14	-5.04
1757.37	9.23	0.32	34.84	35.51	34.12	32.75	40.08	39.66	60.98	63.96	-5.05
1761.32	9.23	0.32	34.75	35.39	34.05	32.59	40.12	39.66	61.08	63.99	-5.05
1765.26	9.22	0.31	34.56	35.24	34.00	32.43	39.99	39.69	60.99	63.89	-5.04
1769.21	9.25	0.33	34.37	34.96	33.99	32.19	39.96	39.63	60.93	63.66	-5.02
1773.16	9.27	0.33	34.11	34.72	34.01	32.12	39.93	39.56	60.90	63.56	-4.99
1777.11	9.23	0.33	34.12	34.76	33.89	31.89	40.00	39.64	61.14	63.97	-5.03
1781.05	9.23	0.33	33.91	34.55	33.94	31.86	39.98	39.59	60.75	63.76	-4.99
1785.00	9.23	0.33	33.69	34.24	34.05	31.83	39.93	39.57	61.03	63.67	-4.94

