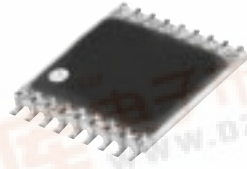


# BLUE CELL™ Surface Mount I/Q Modulator

LO Drive +10 dBm, 1800 to 2000 MHz

**NEW!**  
IQBG-2000A



SM20A

## Features

- excellent sideband rejection, 34 dB typ.
- excellent temperature stability
- low noise floor
- low height

## Applications

- PCS
- feed forward amplifiers



## Electrical Specifications ( $T_{AMB} = -40^{\circ}\text{C}$ to $85^{\circ}\text{C}$ )

| MODEL NO.  | FREQUENCY (MHz)           |               | CONVERSION LOSS (dB) |   |      | CARRIER REJECTION (dBc) |      | SIDE BAND REJECTION (dBc) |      | HARMONIC SUPPRESSION (dBc) |      |         |      | CASE STYLE | CONNECTION | PRICE \$ |
|------------|---------------------------|---------------|----------------------|---|------|-------------------------|------|---------------------------|------|----------------------------|------|---------|------|------------|------------|----------|
|            | RF (signal)/ LO (carrier) | I&Q Min. Max. | X                    | σ | Max. | Typ.                    | Min. | Typ.                      | Min. | LO±3I/Q                    |      | LO±5I/Q |      |            |            |          |
|            |                           |               |                      |   |      |                         |      |                           |      | Typ.                       | Min. | Typ.    | Min. |            |            | Typ.     |
| IQBG-2000A | 1800-2000                 | DC 10         | 7.5                  | — | 9.0  | 30                      | 20   | 34                        | 28   | 50                         | 45   | 70      | 50   | SM20A      | Im         | 24.95    |

Notes:  
Q=I+90, lower sideband suppression  
Tested @ I/Q power -10 dBm

BLUE CELL™ is protected by U.S. Patents.

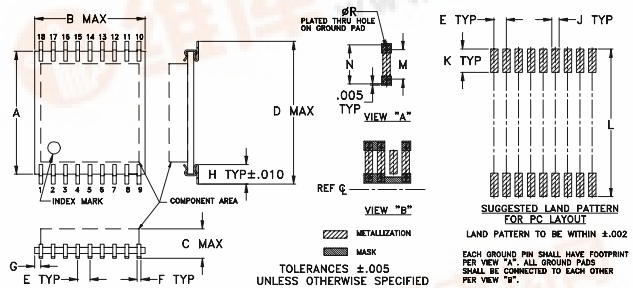
## Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 20 dBm max.    |

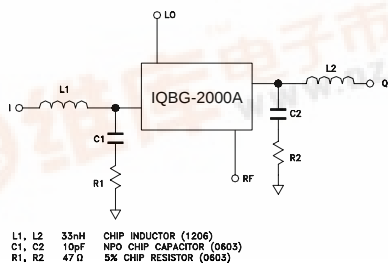
## Pin Connections

| PORT         | (Im)                                 |
|--------------|--------------------------------------|
| LO (carrier) | 9                                    |
| RF (signal)  | 14                                   |
| I(0°)(ref)   | 10                                   |
| Q(90°)       | 18                                   |
| GROUND       | 1,2,3,4,5,6,7,8,11<br>12,13,15,16,17 |

## Outline Drawing



## Recommended IF diplexer



## Outline Dimensions (inch/mm)

| A     | B     | C    | D     | E    | F    | G    | H     | J    |
|-------|-------|------|-------|------|------|------|-------|------|
| .500  | .460  | .075 | .575  | .050 | .015 | .025 | .070  | .030 |
| 12.70 | 11.68 | 1.91 | 14.61 | 1.27 | .38  | .64  | 1.78  | .76  |
| K     | L     | M    | N     | P    | Q    | R    | wt.   |      |
| .095  | .600  | .120 | .160  | —    | —    | .012 | grams |      |
| 2.41  | 15.24 | 3.05 | 4.06  | —    | —    | .30  | .5    |      |

REV. OR  
M79898  
EDB-0204B  
IQBG-2000A  
BLUECELL/TD/CP  
020129

