

**E-Series I/Q Demodulator**  
9 – 11 MHz

**EKIN2-10D**  
**V2**

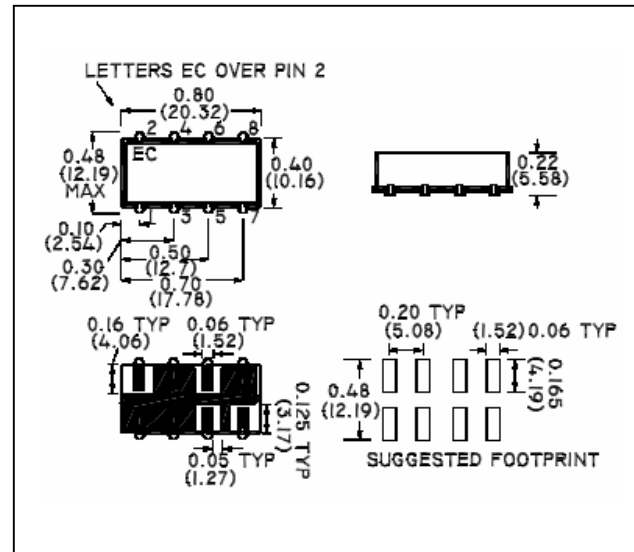
**Features**

- Excellent Phase and Amplitude Balance
- LO Power + 10 dBm Typical
- Surface Mount
- Tape and reel packaging available

**Description**

M/A-COM's EKIN2-10D is an I/Q Demodulator. Ideally suited for Direct Demodulation in Cellular Base Stations. Typical system applications include GSM, DCS1800, W-CDMA, and PCS air interfaces. Parts are packaged in tape & reel.

**SM - 28 Package**



**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$**

| Parameter           | Test Conditions | Frequency | Units   | Min | Typ   | Max |
|---------------------|-----------------|-----------|---------|-----|-------|-----|
| LO & RF Frequency   | —               | 9 - 11    | MHz     | —   | —     | —   |
| Amplitude Unbalance | —               | 9 - 11    | dB      | —   | 0.2   | 0.4 |
| Phase Unbalance     | —               | 9 - 11    | Degrees | —   | 1.5°  | 3°  |
| 3 * I/Q             | —               | 9 - 11    | dB      | —   | 50    | 35  |
| Conversion Loss     | —               | 9 - 11    | dB      | —   | 6.0   | 7.0 |
| (LO) Carrier Power  | —               | 9 - 11    | dBm     | —   | +10   | —   |
| LO VSWR             | —               | 9 - 11    | Ratio   | —   | 4.5:1 | —   |
| RF VSWR             | —               | 9 - 11    | Ratio   | —   | 1.1:1 | —   |
| I VSWR              | —               | 9 - 11    | Ratio   | —   | 1.3:1 | —   |

\*  $Q = -90^\circ$  for RF < LO

**Ordering Information**

| Part Number | Package                        |
|-------------|--------------------------------|
| EKIN2-10DTR | Tape and Reel (300 piece Reel) |

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**Absolute Maximum Ratings <sup>1</sup>**

| Parameter                   | Absolute Maximum |
|-----------------------------|------------------|
| DC Offset Voltage           | 1 mV Typical     |
| RF Power (1 dB Compression) | 4 dBm Maximum    |
| Impedance                   | 50 Ohms Nominal  |
| Operating Temperature       | -40°C to +85°C   |
| Storage Temperature         | -55°C to +125°C  |

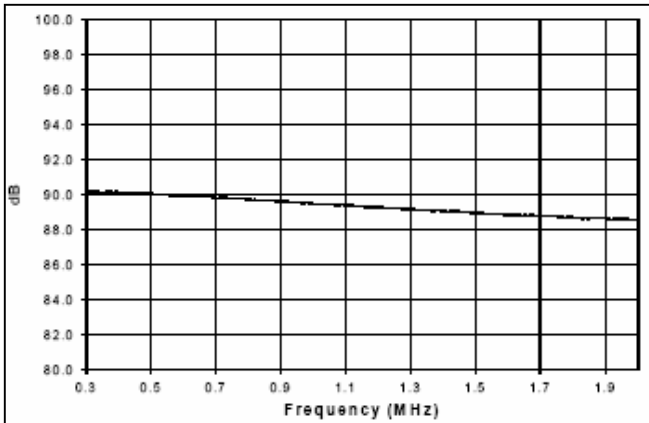
1. Operation of this device above any one of these parameters may cause permanent damage.

**Pin Configuration**

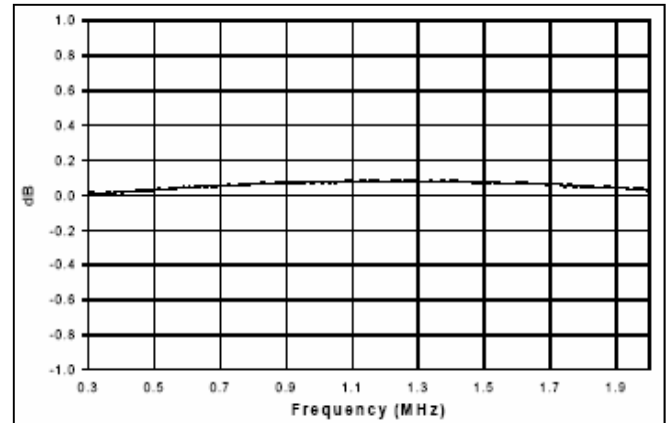
| Pin No. | Function    |
|---------|-------------|
| 1       | LO          |
| 2       | Case Ground |
| 3       | Case Ground |
| 4       | Case Ground |
| 5       | I           |
| 6       | Q           |
| 7       | Case Ground |
| 8       | RF          |

**Typical Performance Curves**

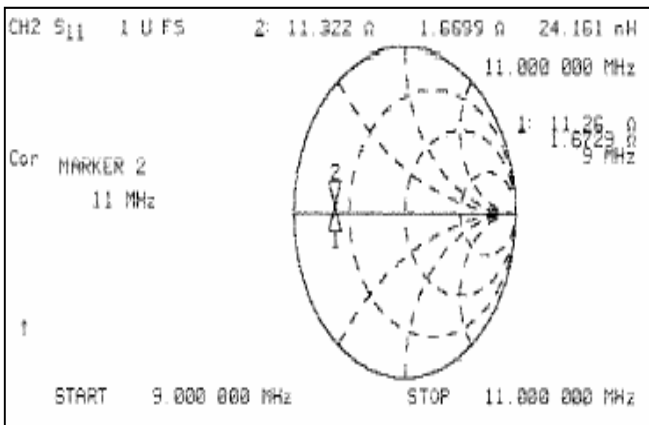
**Phase Unbalance**



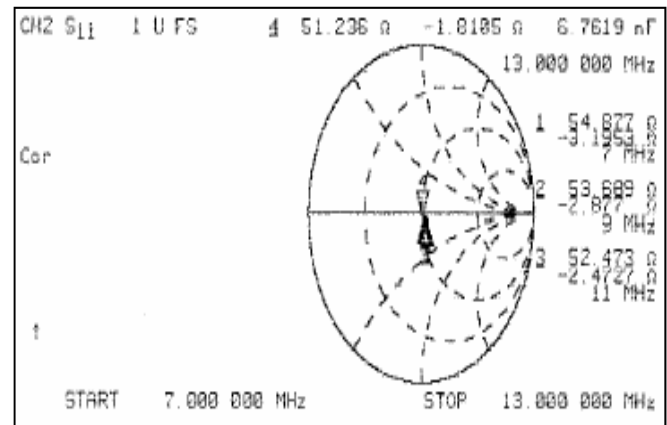
**Amplitude Unbalance**



**LO VSWR**

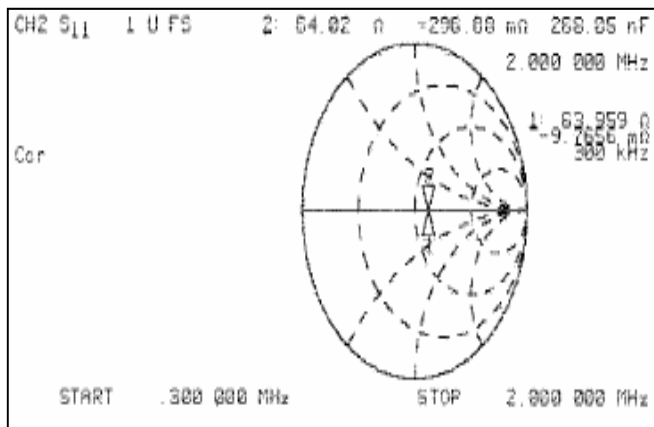


**RF VSWR**



**Typical Performance Curves**

**I VSWR**



**Q VSWR**

