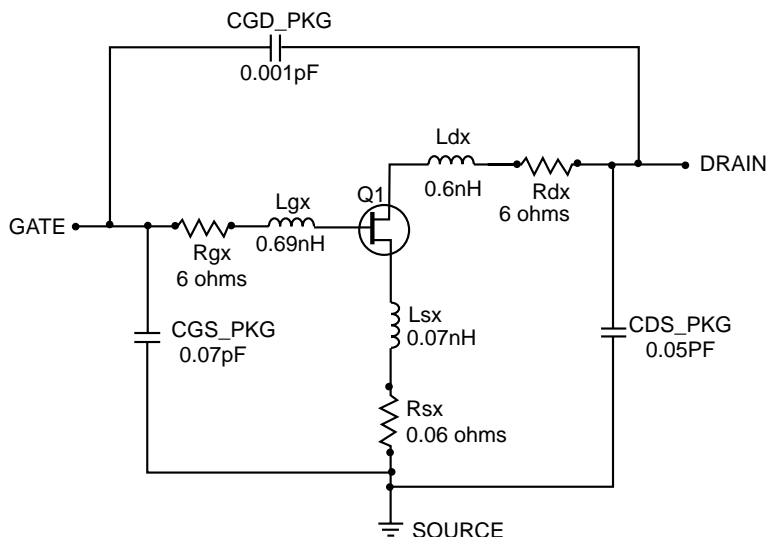


### SCHEMATIC



### FET NONLINEAR MODEL PARAMETERS <sup>(1)</sup>

| Parameters | Q1       | Parameters | Q1   |
|------------|----------|------------|------|
| VTO        | -0.8     | RG         | 3    |
| VTOSC      | 0        | RD         | 2    |
| ALPHA      | 8        | RS         | 2    |
| BETA       | 0.103    | RGMET      | 0    |
| GAMMA      | 0.092    | KF         | 0    |
| GAMMADC    | 0.08     | AF         | 1    |
| Q          | 2        | TNOM       | 27   |
| DELTA      | 1        | XTI        | 3    |
| VBI        | 0.715    | EG         | 1.43 |
| IS         | 3e-13    | VTOTC      | 0    |
| N          | 1.22     | BETATCE    | 0    |
| RIS        | 0        | FFE        | 1    |
| RID        | 0        |            |      |
| TAU        | 4e-12    |            |      |
| CDS        | 0.13e-12 |            |      |
| RDB        | 5000     |            |      |
| CBS        | 1e-9     |            |      |
| CGSO       | 0.3e-12  |            |      |
| CGDO       | 0.02e-12 |            |      |
| DELTA1     | 0.3      |            |      |
| DELTA2     | 0.1      |            |      |
| FC         | 0.5      |            |      |
| VBR        | Infinity |            |      |

### UNITS

| Parameter   | Units   |
|-------------|---------|
| time        | seconds |
| capacitance | farads  |
| inductance  | henries |
| resistance  | ohms    |
| voltage     | volts   |
| current     | amps    |

### MODEL RANGE

Frequency: 0.1 to 18 GHz  
 Bias:  $V_{DS} = 1\text{ V to }3\text{ V}$ ,  $I_D = 5\text{ mA to }30\text{ mA}$   
 $I_{DSS} = 59.9\text{ ma @ }V_{GS} = 0, V_{DS} = 2\text{ V}$   
 Date: 2/98

(1) Series IV Libra TOM Model

California Eastern Laboratories

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**CEL** CALIFORNIA EASTERN LABORATORIES • Headquarters • 4590 Patrick Henry Drive • Santa Clara, CA 95054-1817 • (408) 988-3500 • Telex 34-6393 • FAX (408) 988-0279

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