

# TUNING VARACTORS

## JEDEC TUNING VARACTORS

### JEDEC REGISTERED

1N5139, A through 1N5148, A

1N5441, A, B, C through 1N5456, A, B, C

1N5461, A, B, C through 1N5476, A, B, C

DO-7 Glass Package

### FEATURES

- High Q and High Tuning Ratio
- Guaranteed Tuning Ratio and Temperature Coefficient
- Superior Reproducibility
- High Reliability (state-of-the-art passivation plus hermetic packaging)

### ELECTRICAL SPECIFICATIONS

$T_A = 25^\circ\text{C}$

| C <sub>T</sub> **<br>DIODE<br>CAPACITANCE<br>(pF)<br>±10%<br>@V <sub>R</sub> =4 Vdc,<br>f=1 MHz | MODEL<br>NUMBER | Q,FIGURE OF<br>MERIT<br>V <sub>R</sub> =4 Vdc,<br>F=50 MHz<br>MIN | T <sub>R</sub> TUNING RATIO<br>C <sub>4</sub> /C <sub>30</sub> , f=1 MHz<br>MIN**/TYP/MAX** | MODEL<br>NUMBER | Q,FIGURE OF<br>MERIT<br>V <sub>R</sub> =4Vdc,<br>F=50 MHz<br>MIN** | T <sub>R</sub> TUNING RATIO<br>C <sub>2</sub> /C <sub>30</sub> , f=50 MHz<br>MIN**/TYP/MAX** | MODEL<br>NUMBER | Q,FIGURE OF<br>MERIT<br>V <sub>R</sub> =4Vdc,<br>F=50 MHz<br>MIN** | T <sub>R</sub> TUNING RATIO<br>C <sub>2</sub> /C <sub>30</sub> , f=1 MHz<br>MIN**/TYP/MAX** |           |                    |      |           |     |           |
|---|-----------------|---|---|-----------------|--|--|-----------------|--|---|-----------|--------------------|------|-----------|-----|-----------|
|   |                 |   |   |                 |  |  |                 |  |   | PARAMETER | TEST<br>CONDITIONS | UNIT | **<br>MIN | TYP | **<br>MAX |
| 6.8   | 1N5139          | 350   | 2.7/2.9/3.2   | 1N5441A         | 450  | 2.5/3.0/3.1  | 1N5461A         | 600  | 2.7/3.0/3.1   |           |                    |      |           |     |           |
| 8.2   |                 |   |   | 1N5442A         | 450  | 2.5/3.0/3.1  | 1N5462A         | 600  | 2.8/3.0/3.1   |           |                    |      |           |     |           |
| 10  | 1N5140          | 300   | 2.8/3.0/3.3   | 1N5443A         | 400  | 2.6/3.0/3.1  | 1N5463A         | 550  | 2.8/3.0/3.1   |           |                    |      |           |     |           |
| 12  | 1N5141          | 300   | 2.8/3.0/3.3   | 1N5444A         | 400  | 2.6/3.0/3.1  | 1N5464A         | 550  | 2.8/3.0/3.1   |           |                    |      |           |     |           |
| 15  | 1N5142          | 250   | 2.8/3.0/3.3   | 1N5445A         | 400  | 2.6/3.0/3.1  | 1N5465A         | 550  | 2.8/3.0/3.1   |           |                    |      |           |     |           |
| 18  | 1N5143          | 250   | 2.8/3.1/3.4   | 1N5446A         | 350  | 2.6/3.0/3.1  | 1N5466A         | 500  | 2.9/3.0/3.1   |           |                    |      |           |     |           |
| 20  |                 |   |   | 1N5447A         | 350  | 2.6/3.0/3.1  | 1N5467A         | 500  | 2.9/3.0/3.1   |           |                    |      |           |     |           |
| 22  | 1N5144          | 200   | 3.2/3.4/3.5   | 1N5448A         | 350  | 2.6/3.1/3.2  | 1N5468A         | 500  | 2.9/3.1/3.2   |           |                    |      |           |     |           |
| 27  | 1N5145          | 200   | 3.2/3.4/3.5   | 1N5449A         | 350  | 2.6/3.1/3.2  | 1N5469A         | 500  | 2.9/3.1/3.2   |           |                    |      |           |     |           |
| 33  | 1N5146          | 200   | 3.2/3.4/3.5   | 1N5450A         | 350  | 2.6/3.1/3.2  | 1N5470A         | 500  | 2.9/3.1/3.2   |           |                    |      |           |     |           |
| 35  | 1N5147          | 200   | 3.2/3.4/3.5   | 1N5451A         | 300  | 2.6/3.1/3.2  | 1N5471A         | 450  | 2.9/3.1/3.2   |           |                    |      |           |     |           |
| 47  | 1N5148          | 200   | 3.2/3.4/3.5   | 1N5452A         | 250  | 2.6/3.1/3.2  | 1N5472A         | 400  | 2.9/3.1/3.2   |           |                    |      |           |     |           |
| 56  |                 |   |   | 1N5453A         | 200  | 2.6/3.2/3.3  | 1N5473A         | 300  | 2.9/3.2/3.3   |           |                    |      |           |     |           |
| 66  |                 |   |   | 1N5454A         | 175  | 2.7/3.2/3.3  | 1N5474A         | 250  | 2.9/3.2/3.3   |           |                    |      |           |     |           |
| 82  |                 |   |   | 1N5455A         | 175  | 2.7/3.2/3.3  | 1N5475A         | 225  | 2.9/3.2/3.3   |           |                    |      |           |     |           |
| 100   |                 |   |   | 1N5456A         | 175  | 2.7/3.2/3.3  | 1N5476A         | 200  | 2.9/3.2/3.3   |           |                    |      |           |     |           |

| MAXIMUM RATINGS                             |             |       |             |       |             |       |             |       |  |  |  |  |  |  |  |
|---|-------------|-------|-------------|-------|-------------|-------|-------------|-------|--|--|--|--|--|--|--|
| PARAMETER                                   | VALUE       | UNIT  | VALUE       | UNIT  | VALUE       | UNIT  | VALUE       | UNIT  |  |  |  |  |  |  |  |
| REVERSE VOLTAGE                             | 60          | Vdc   | 30          | Vdc   | 30          | Vdc   | 30          | Vdc   |  |  |  |  |  |  |  |
| DEVICE DISSIPATION<br>@T <sub>A</sub> =25°C | 400         | mW    | 400         | mW    | 400         | mW    | 400         | mW    |  |  |  |  |  |  |  |
| DERATE ABOVE 25°C                           | 2.67        | mW/°C | 2.67        | mW/°C | 2.67        | mW/°C | 2.67        | mW/°C |  |  |  |  |  |  |  |
| OPERATING JUNCTION<br>TEMPERATURE RANGE     | +175        | °C    | +175        | °C    | +175        | °C    | +175        | °C    |  |  |  |  |  |  |  |
| STORAGE<br>TEMPERATURE RANGE                | -65 TO +200 | °C    | -65 TO +200 | °C    | -65 TO +200 | °C    | -65 TO +200 | °C    |  |  |  |  |  |  |  |

Add suffix "A" for ±5% C tolerance

Substitute suffix "B" for ±5% C tolerance

suffix "C" for ±2% C tolerance suffix "D" for ±1% C tolerance  
Delete suffix for ±20% tolerance

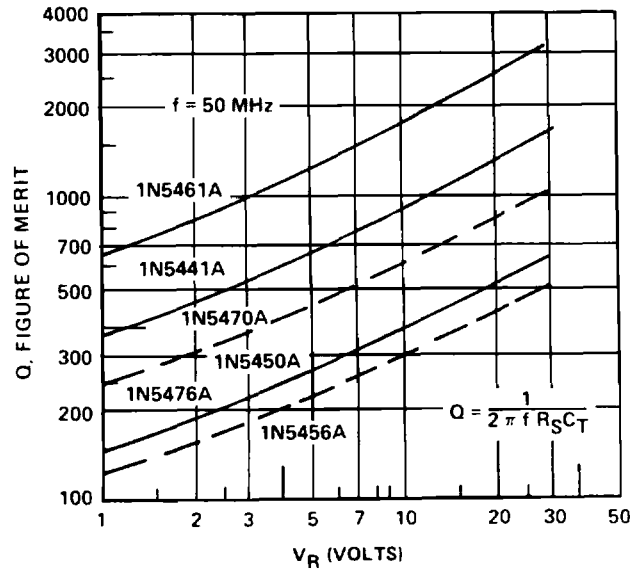
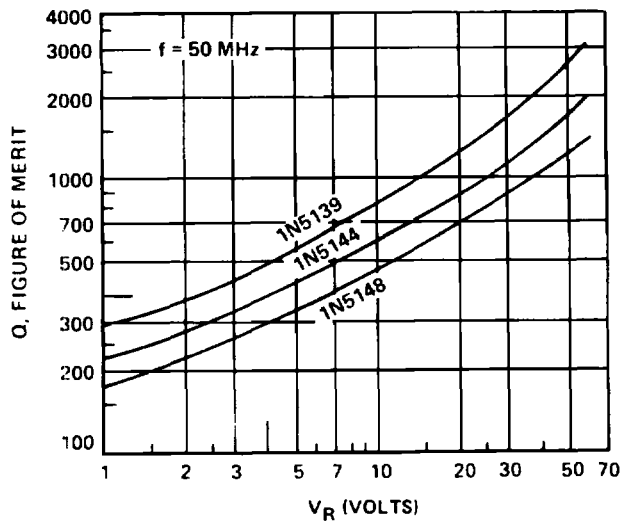
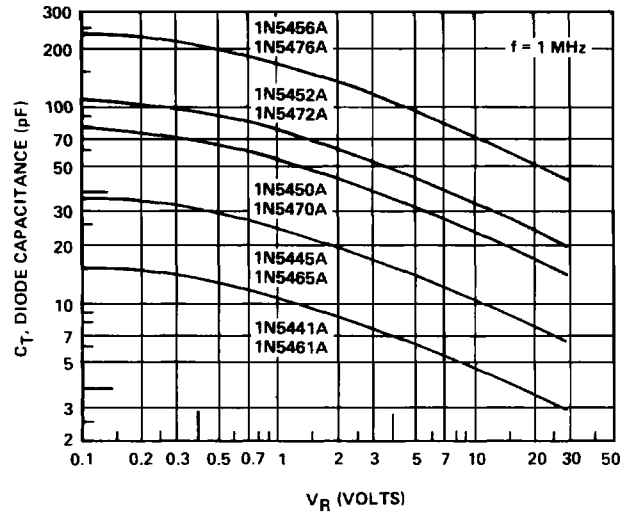
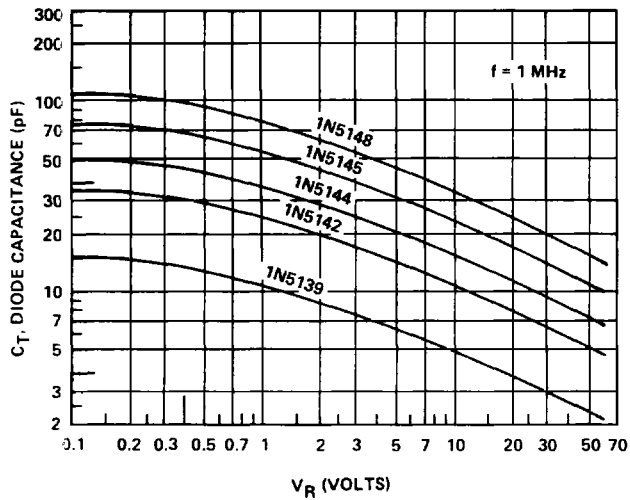
\*\*Indicates JEDEC registered data

# TUNING VARACTORS

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### TYPICAL ELECTRICAL CHARACTERISTICS

( $T_A = 25^\circ\text{C}$  unless otherwise noted)



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