

## VMIL 100

100 Watts, 28 Volts, Class AB

Defcom 100 - 200 MHz

### GENERAL DESCRIPTION

The VMIL100 is an input matched COMMON EMITTER broadband transistor specifically intended for use in the 100-200 MHz frequency band. It may be operated in Class AB or C. Gold metallization and silicon diffused resistors ensure ruggedness and high reliability.

### ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 270 Watts

#### Maximum Voltage and Current

BVces Collector to Emitter Voltage 65 Volts

BVebo Emitter to Base Voltage 4.0 Volts

Ic Collector Current 20 A

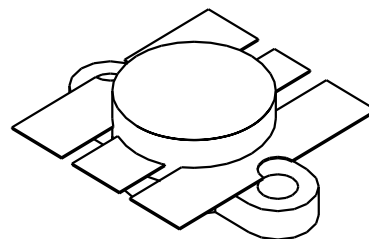
#### Maximum Temperatures

Storage Temperature - 65 to +150°C

Operating Junction Temperature +150°C

### CASE OUTLINE

**55HV, Style 2**



## ELECTRICAL CHARACTERISTICS @ 25 °C

| SYMBOL                 | CHARACTERISTICS         | TEST CONDITIONS                 | MIN | TYP | MAX  | UNITS |
|------------------------|-------------------------|---------------------------------|-----|-----|------|-------|
| <b>P<sub>out</sub></b> | Power Output            | F = 175 MHz                     | 100 |     |      | Watts |
| <b>P<sub>in</sub></b>  | Power Input             | V <sub>cc</sub> = 28 Volts      |     | 14  | 20   | Watts |
| <b>P<sub>g</sub></b>   | Power Gain              |                                 | 7.0 | 8.5 |      | dB    |
| <b>η<sub>c</sub></b>   | Efficiency              |                                 |     | 60  |      | %     |
| <b>VSWR</b>            | Load Mismatch Tolerance | P <sub>o</sub> =100W, F=175 MHz |     |     | 30:1 |       |

|                       |                                |                                             |     |     |     |       |
|-----------------------|--------------------------------|---------------------------------------------|-----|-----|-----|-------|
| <b>BVebo</b>          | Emitter to Base Breakdown      | I <sub>e</sub> = 5 mA                       | 4.0 |     |     | Volts |
| <b>BVces</b>          | Collector to Emitter Breakdown | I <sub>c</sub> = 100 mA                     | 65  |     |     | Volts |
| <b>BVceo</b>          | Collector to Emitter Breakdown | I <sub>e</sub> = 50 mA                      | 33  |     |     | Volts |
| <b>Cob</b>            | Output Capacitance             | V <sub>cb</sub> = 28 V, F = 1 MHz           |     | 220 |     | pF    |
| <b>h<sub>FE</sub></b> | DC - Current Gain              | V <sub>ce</sub> = 5 V, I <sub>c</sub> = 1 A | 10  |     |     |       |
| <b>θ<sub>jc</sub></b> | Thermal Resistance             |                                             |     |     | .65 | °C/W  |

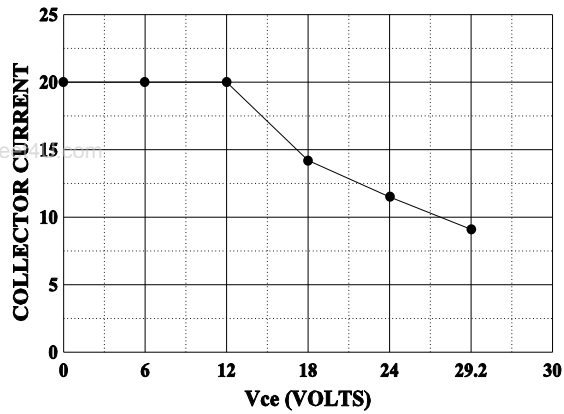
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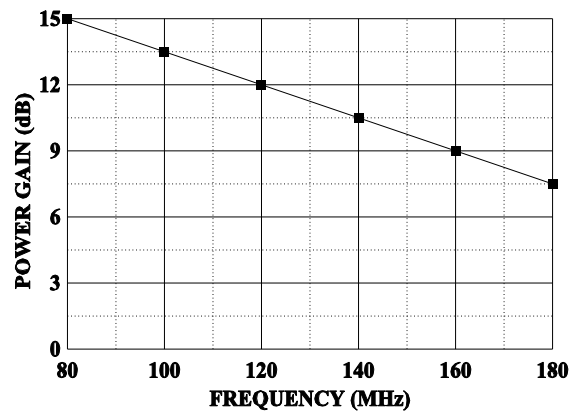
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**DC SAFE OPERATING AREA**



**POWER GAIN VS FREQUENCY**



**POWER OUTPUT vs POWER INPUT**

Vcc= 28V f=200MHz

