



APL 2000

CD 2087

CD 2088

## RF POWER TRANSISTORS-NPN

RUGGED High Gain, N.P.N. UHF Power Transistor for use up through 500 MHz.

CD 2087 can be operated at full class A at 1 watt PEP or 3 watts in class AB, B or C operation.

CD 2088 can be operated at full class A at 3 watts PEP or 10 watts in Class AB, B or C operation.

|                                                     | CD2087 | CD2088 |   |
|-----------------------------------------------------|--------|--------|---|
| Maximum Power dissipation (See Note)                |        |        |   |
| Total power dissipation at $T_{case} = 25^{\circ}C$ | 10     | 25     | W |

## Maximum Voltage and Current

|                              |            |     |     |   |
|------------------------------|------------|-----|-----|---|
| Collector to Emitter voltage | $BV_{CES}$ | 50  | 50  | V |
| Emitter to Base Voltage      | $BV_{EBO}$ | 4   | 4   | V |
| Collector Current            | $I_C$      | 0.5 | 1.2 | A |

ELECTRICAL CHARACTERISTICS ( $25^{\circ}C$  unless otherwise specified)

|                                                                              |                 |              |              |          |
|------------------------------------------------------------------------------|-----------------|--------------|--------------|----------|
| Power Output ( $V_{CC} = 28$ V, $f = 400$ MHz)                               | $P_{OUT}$ min.  | 3            | 10           | W        |
| Power Input ( $V_{CC} = 28$ V, $f = 400$ MHz)<br>(At rated Power Output)     | $P_{IN}$ max.   | 0.3          | 1            | W        |
| Collector Efficiency<br>(At rated Power Output)                              | $\eta$ min.     | 60           | 60           | %        |
| Series Input Impedance<br>(At rated Output Power and frequency)              | $Z_{IN}$ typ.   | 4.4+<br>j1.3 | 1.7+<br>j1.5 | $\Omega$ |
| Series Load Impedance<br>(At rated Output Power and frequency)               | $Z_L$           |              |              | $\Omega$ |
| Collector to Base Capacitance<br>( $V_{CB} = 28$ V, $I_E = 0$ , $f = 1$ MHz) | $C_{OB}$ max.   | 5            | 13           | pF       |
| Emitter to Base Voltage at $I_E = 5$ mA                                      | $BV_{EBO}$ min. | 4            | 4            | V        |
| Collector to Emitter at $I_C = 50$ mA                                        | $BV_{CES}$ min. | 50           | 50           | V        |

## NOTE:

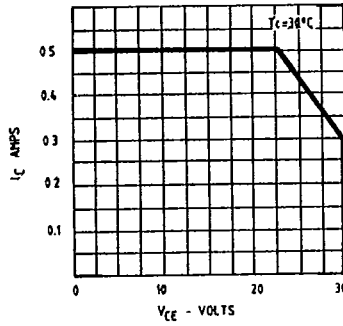
This rating gives a maximum junction temperature of  $200^{\circ}C$  with junction to case thermal resistance of  $7.0^{\circ}C/watt$ .

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EDITOR SA

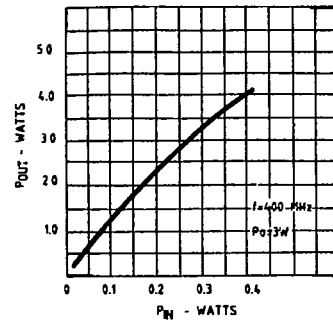
(CD2087)

DC SAFE OPERATING AREA  
(FORWARD BIASED)



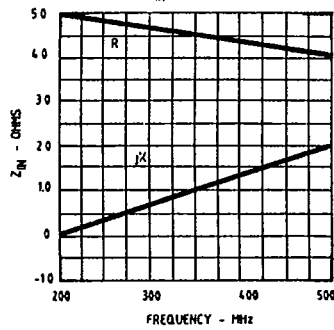
(CD2087)

$P_{OUT}$  vs  $P_{IN}$



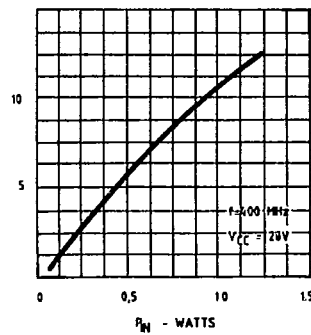
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$Z_{IN}$  vs FREQUENCY



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$P_{OUT}$  vs  $P_{IN}$



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DELI

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