

1719 - 20

20 Watt - 28 Volts, Class C
Microwave 1700 - 1900 MHz

GENERAL DESCRIPTION

The 1719-20 is a COMMON BASE transistor capable of providing 20 Watts of Class C, RF output power over the band 1700-1900 MHz. This transistor is designed for Microwave Broadband Class C amplifier applications. It includes Input and Output prematching and utilizes Gold metalization and diffused ballasting to provide high reliability and supreme ruggedness. The transistor uses a fully hermetic High Temperature Solder sealed package.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 67 Watts

Maximum Voltage and Current

BVces Collector to Emitter Voltage 50 Volts

BVebo Emitter to Base Voltage 3.5 Volts

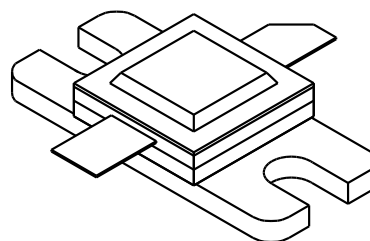
Ic Collector Current 6.0 A

Maximum Temperatures

Storage Temperature - 65 to + 200°C

Operating Junction Temperature + 200°C

CASE OUTLINE 55AW, STYLE 1



ELECTRICAL CHARACTERISTICS @ 25 °C

| SYMBOL | CHARACTERISTICS | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|-------------------|-------------------------|------------------------|-----|-----|-----|-------|
| Pout | Power Out | F = 1900 MHz | 20 | | | Watt |
| Pin | Power Input | Vcb = 28 Volts | | | 5.0 | Watt |
| Pg | Power Gain | Pin = 5.0 Watts | 6.0 | 6.5 | | dB |
| η_c | Collector Efficiency | As Above | | 38 | | % |
| VSWR ₁ | Load Mismatch Tolerance | F = 1.7 GHz, Pin = 5.0 | | | 4:1 | |

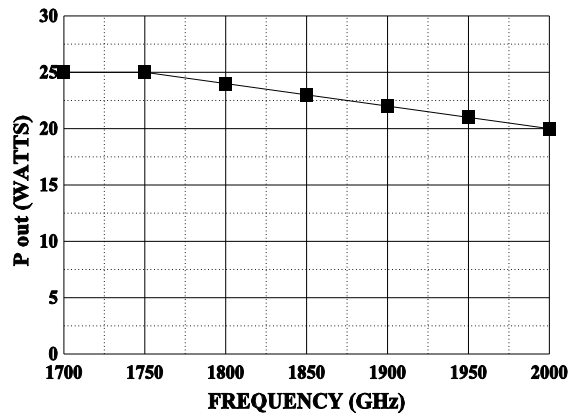
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|-----------------|--------------------------------|-----------------------|-----|--|-----|-------|
| BVces | Collector to Emitter Breakdown | Ic = 10 mA | 50 | | | Volts |
| BVebo | Emitter to Base Breakdown | Ie = 10 mA | 3.5 | | | Volts |
| Icbo | Collector to Base Current | Vcb = 28 Volts | | | 4.0 | mA |
| h _{FE} | Current Gain | Vce = 5 V, Ic = 1.2 A | 20 | | | |
| Cob | Output Capacitance * | F = 1 MHz, Vcb = 28 V | | | | pF |
| θ_{jc} | Thermal Resistance | | | | 2.6 | °C/W |

* Not measureable due to Output Match

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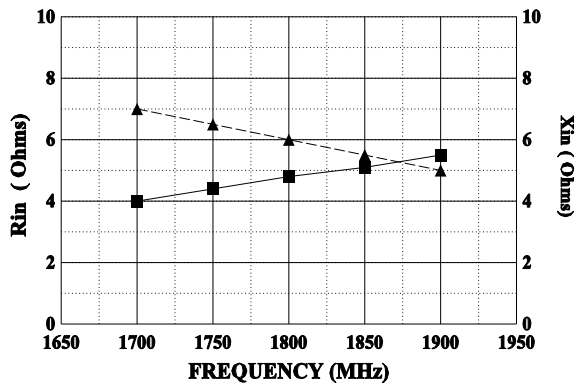
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POWER OUTPUT vs FREQUENCY



SERIES INPUT IMPEDANCE VS FREQUENCY

Vcc = 28 volts, Pin = 5 Watts



SERIES LOAD IMPEDANCE VS FREQUENCY

Vcc = 28 volts, Pin = 5 Watts

