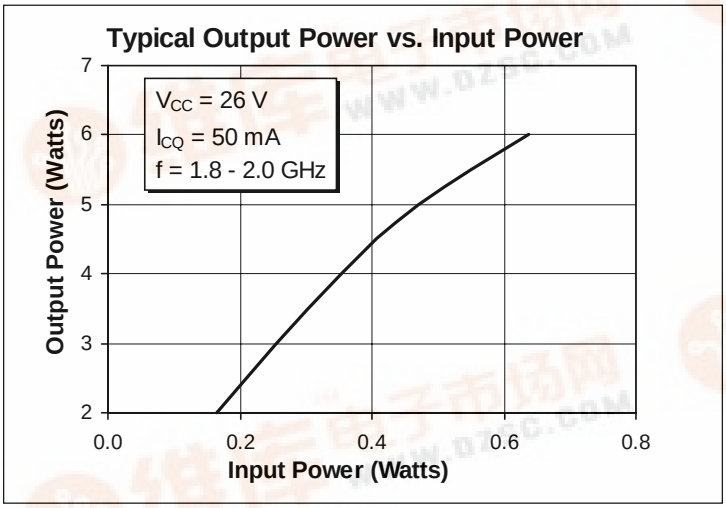
ERICSSON

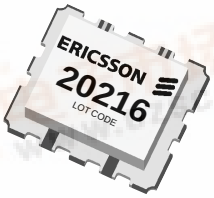
PTB 20216
6 Watts, 1.8–2.0 GHz
RF Power Transistor

Description

The 20216 is a class AB, NPN, common emitter RF power transistor intended for 26 Vdc operation across the 1.80 to 2.00 GHz frequency band. Rated at 6 watts minimum output power, it may be used for both CW and PEP applications. Ion implantation, nitride surface passivation and gold metallization are used to ensure excellent device reliability. 100% lot traceability is standard.

- 6 Watts, 1.80–2.00 GHz
- Class AB Characteristics
- 30% Collector Efficiency at 4 Watts
- Gold Metallization
- Silicon Nitride Passivated
- Surface Mountable
- Available in Tape and Reel





Package 20227

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CER}	50	Vdc
Collector-Emitter Voltage	V_{CES}	50	Vdc
Emitter-Base Voltage (collector open)	V_{EBO}	4.0	Vdc
Collector Current (continuous)	I_C	1.0	Adc
Total Device Dissipation at T_{flange} = 25°C Above 25°C derate by	P_D	19.7 0.112	Watts W/°C
Storage Temperature Range	T_{STG}	–40 to +150	°C
Thermal Resistance (T_{flange} = 70°C)	$R_{\theta JC}$	8.9	°C/W

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Electrical Characteristics (100% Tested)

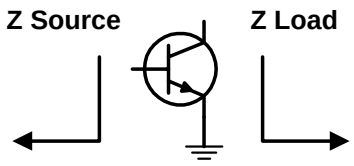
Characteristic	Conditions	Symbol	Min	Typ	Max	Units
Breakdown Voltage C to E	I_C = 10 mA, I_B = 0 A	$V_{(BR)CEO}$	20	—	—	Volts
Breakdown Voltage C to E	V_{BE} = 0 V, I_C = 10 mA	$V_{(BR)CES}$	50	—	—	Volts
Breakdown Voltage E to B	I_C = 0 A, I_E = 5 mA	$V_{(BR)EBO}$	4.0	5.0	—	Volts
DC Current Gain	V_{CE} = 5 V, I_C = 50 mA	h_{FE}	20	40	—	—

RF Specifications (100% Tested)

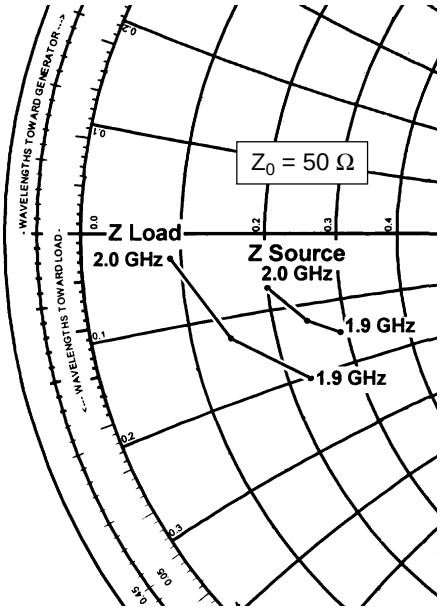
Characteristic	Symbol	Min	Typ	Max	Units
Gain (V_{CC} = 26 Vdc, P_{out} = 4 W, I_{CQ} = 50 mA, f = 2.0 GHz)	G_{pe}	8.0	10	—	dB
Gain (V_{CC} = 26 Vdc, P_{out} = 6 W, I_{CQ} = 50 mA, f = 2.0 GHz)	G_{pe}	7.0	9.0	—	dB
Collector Efficiency (V_{CC} = 26 Vdc, P_{out} = 4 W, I_{CQ} = 50 mA, f = 2.0 GHz)	η_C	30	—	—	%
Load Mismatch Tolerance (V_{CC} = 26 Vdc, P_{out} = 4 W, I_{CQ} = 50 mA, f = 2.0 GHz—all phase angles at frequency of test)	Ψ	—	—	5:1	—

Impedance Data (data shown for fixed-tuned broadband circuit)

(V_{CC} = 26 Vdc, P_{out} = 4 W, I_{CQ} = 50 mA)



Frequency	Z Source		Z Load	
GHz	R	jX	R	jX
1.90	14.49	-7.50	11.49	-10.15
1.95	12.30	-6.16	7.23	-6.29
2.00	10.00	-3.55	4.41	-1.34



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