ERICSSON

PTB 20060
130 Watts, 930 MHz
Cellular Radio RF Power Transistor

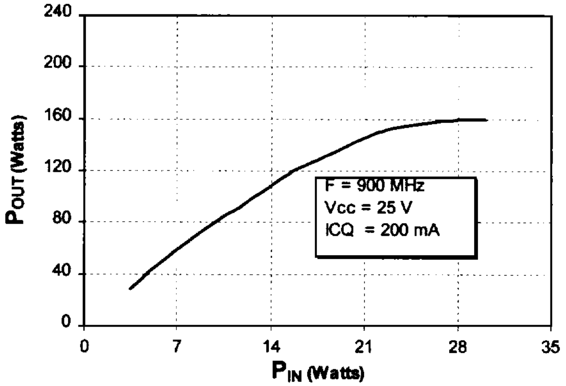
Description

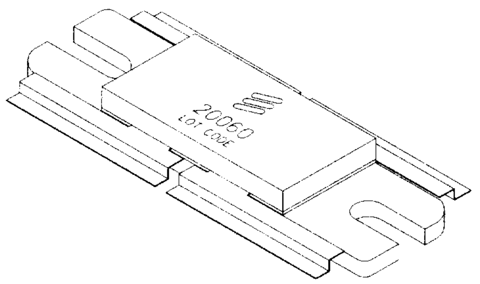
The 20060 is a class AB, NPN, common emitter RF Power Transistor intended for 25 VDC operation across the 930 MHz frequency band. It is rated at 130 Watts minimum output power and may be used for both CW and PEP applications. Ion implantation, nitride surface passivation and gold metalization are used to ensure excellent device uniformity, ruggedness and reliability. 100% Lot Traceability is Standard.

Key Features

- Specified 130 Watts, 930 MHz
- Class AB Characteristics
- Collector Efficiency, 45% @ 130 W
- Gold Metallization
- Silicon Nitride Passivated

Power Output vs. Power Input





Package Style 20207

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CER}	40	Vdc
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage (collector open)	V_{EBO}	4.0	Vdc
Collector Current (continuous)	I_C	25.0	Adc
Total Device Dissipation at Tflange = 25°C	P_D	330	W
Above 25°C derate by		1.89	W/°C
Storage Temperature	Tstg	150	°C
Thermal Resistance (Tflange=70°C)	θ_{JC}	0.53	°C/W

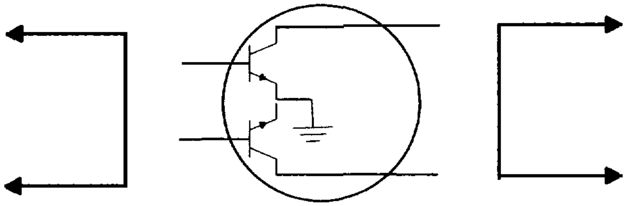
ELECTRICAL CHARACTERISTICS (100% Tested)

Symbol	Characteristics	Conditions	Min	Typ	Max	Units
B_{VCEO}	Breakdown Voltage C to E	Ib=0A, Ic=100mA	25	30	——	Volts
B_{VCES}	Breakdown Voltage C to E	VBE = 0, IC = 100mA	55	70	——	Volts
B_{VEBO}	Breakdown Voltage E to B	IC = 0, IE = 5mA	3.5	5	——	Volts
H_{fe}	DC Current Gain	VCE = 5V, IC = 1A	20	50	100	——

R F SPECIFICATIONS (100% Tested)

Characteristics	Symbol	Min	Typ	Max	Unit
Gain (V_{CC} = 25 Vdc, P_{out} = 130 W, I_{CQ} = 200mA (per side) F= 930 MHz)	G_{pe}	8.6	9.5	——	dB
Collector Efficiency (V_{CC} = 25 Vdc, P_{out} = 130 W, I_{CQ} = 200mA (per side) F= 930 MHz)	η	45	——	——	%
Intermodulation Distortion (V_{CC} = 25 Vdc, P_{out} = 150 W (PEP), I_{CQ} = 200mA (per side) F= 930 MHz)	IMD	——	-27	——	dBc
Load Mismatch Tolerance (V_{CC} = 25 Vdc, P_{out} = 130 W, I_{CQ} = 200mA (per side) F= 930 MHz) All Phase Angles at Frequency of Test)	ψ	——	——	5:1	——

Source and Load Impedances



Frequency	Z Source		Frequency	Z Load	
MHz	R	JX	MHz	R	JX
930	1.6	-4.5	930	2.9	-1.1