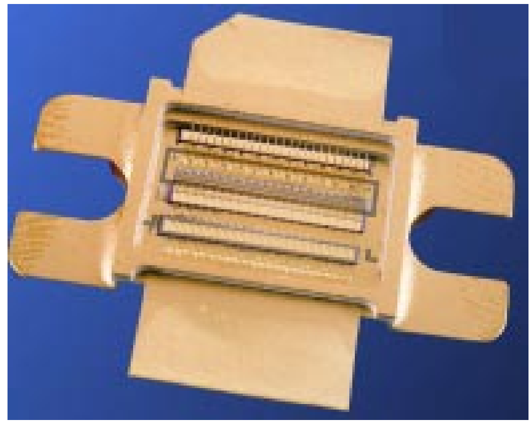
WPTB48F2729C Class C 2.7 – 2.9 GHz

BIPOLAR RF TRANSISTORS

PRODUCT DESCRIPTION

The **WPTB48F2729Cx** is an application specific transistor implemented using Northrop Grumman's SiGe Power Bipolar process and developed for pulsed radar systems. Optimal internal matching delivers high performance for Air Traffic Control applications with collector efficiencies approaching the values normally observed for L-Band devices operating at less than half the frequency. This device is configured for common base operation and is tested at 60 μsec pulse width and 6% duty cycle.



FEATURES

- Silicon Germanium HBT Technology
- Refractory/Gold Metalization
- Two Stage Internal Matching
- Metal/Ceramic Hermetic Package
- Single Transistor Die Implementation

ABSOLUTE MAXIMUM RATINGS

Storage Temperature ....-65° to 200° C

Operating Junction Temperature..........................200° C

Lead Temperature (Soldering 10 sec)..................300° C

Collector-Base Voltage 55V

Emitter-Base Voltage 3V

Peak Collector Current..14A

Transient Thermal Resistance..............................0.25°C/W

Export of these devices is subject to U.S. Government Regulation.

For more information, please contact:
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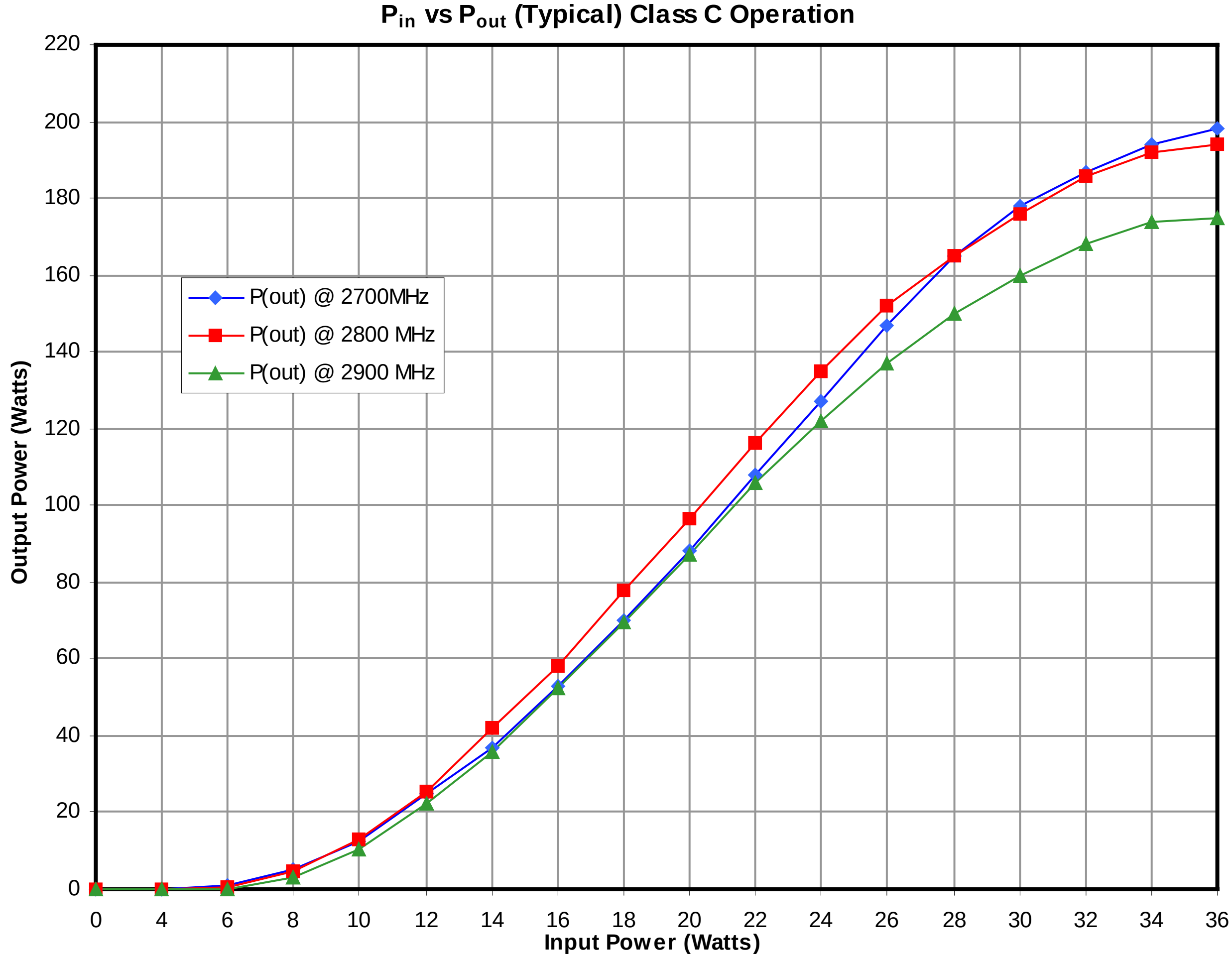
Electrical Performance

Characteristic	Symbol	Min	Typ	Max	Units	Test Conditions
Collector Breakdown Voltage	BV_{ces}	55	60		Volts	I = 10 mA
Emitter-Base Breakdown Voltage	BV_{ebo}	3	5		Volts	I = 10 mA
Forward Current Transfer Ratio	H_{fe}	20	50	125		V_{ce} = 5 V Ic = 500 mA
Common Base Power Gain		6.9	7.1	8	dB	Note 1
Collector Efficiency		40	46		%	Note 1
Load Mismatch Tolerance		2:1			VSWR	Note 1
Frequency Band		2.7		2.9	GHz	

Note 1: V_{cc} = 36 Volts, Pulse Width = 60 µsec, Duty = 6.33%, P_{in} = 28 Watts

P_{in} vs P_{out} (Typical) Class C Operation



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