



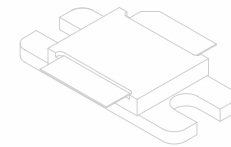
# 2729-125

125 Watts, 36 Volts, 100µs, 10%  
Radar 2700-2900 MHz

## GENERAL DESCRIPTION

The 2729-125 is an internally matched, COMMON BASE bipolar transistor capable of providing 125 Watts of pulsed RF output power at 100µs pulse width, 10% duty factor across the 2700 to 2900 MHz band. **The transistor prematch and test fixture has been optimized through the use of Pulsed Automated Load Pull.** This hermetically solder-sealed transistor is specifically designed for S-band radar applications. It utilizes gold metallization and emitter ballasting to provide high reliability and supreme ruggedness.

## CASE OUTLINE 55KS-1 Common Base



## ABSOLUTE MAXIMUM RATINGS

### Maximum Power Dissipation

Device Dissipation @ 25°C<sup>1</sup> 350 W

### Maximum Voltage and Current

Collector to Base Voltage (BV<sub>ces</sub>) 65 V

Emitter to Base Voltage (BV<sub>ebo</sub>) 3.0 V

Collector Current (I<sub>c</sub>) 15 A

### Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

## ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>out</sub>	Power Output	F=2700-2900 MHz	125			W
P <sub>in</sub>	Power Input	V <sub>cc</sub> = 36 Volts			15.7	W
P <sub>g</sub>	Power Gain	Pulse Width = 100 µs	9.0	9.5		dB
η <sub>c</sub>	Collector Efficiency	Duty Factor = 10%	45	55		%
VSWR	Load Mismatch Tolerance <sup>1</sup>	F = 2900 MHz, P <sub>o</sub> = 125W			2:1	

## FUNCTIONAL CHARACTERISTICS @ 25°C

BV <sub>ebo</sub>	Emitter to Base Breakdown	I <sub>e</sub> = 30 mA	3.0			V
BV <sub>ces</sub>	Collector to Emitter Breakdown	I <sub>c</sub> = 120 mA	56	65		V
h <sub>FE</sub>	DC – Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 600 mA	18	50		
θ <sub>jc</sub> <sup>1</sup>	Thermal Resistance				0.5	°C/W

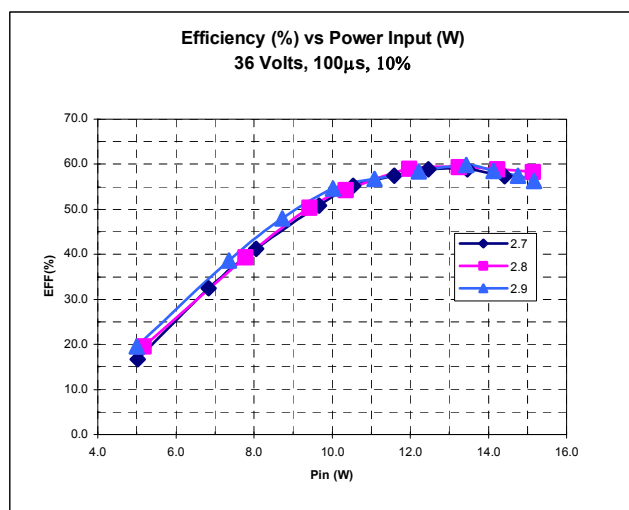
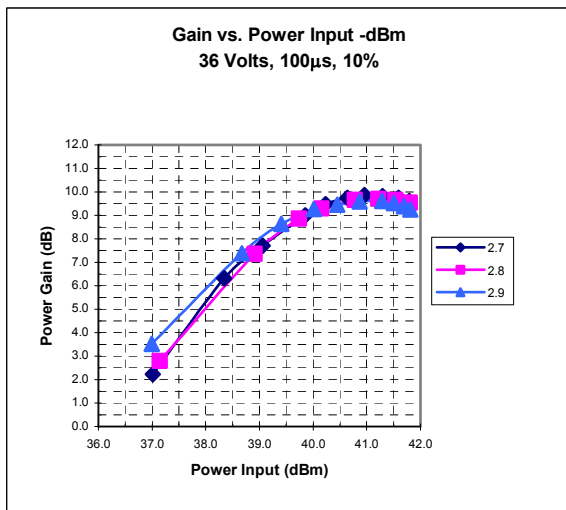
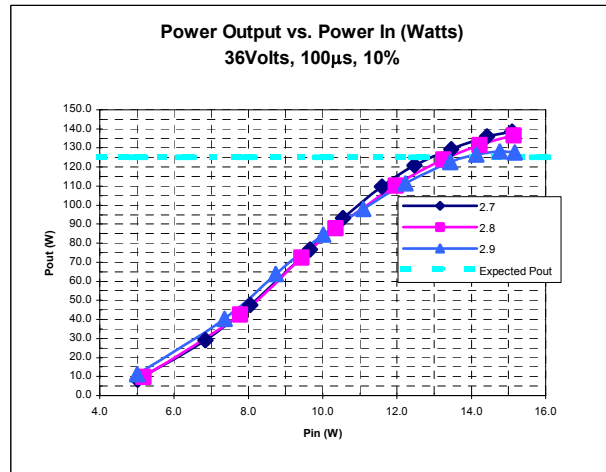
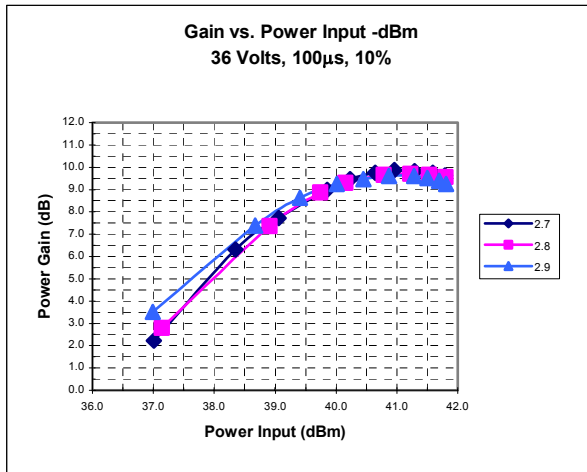
NOTE: 1. At rated output power and pulse conditions

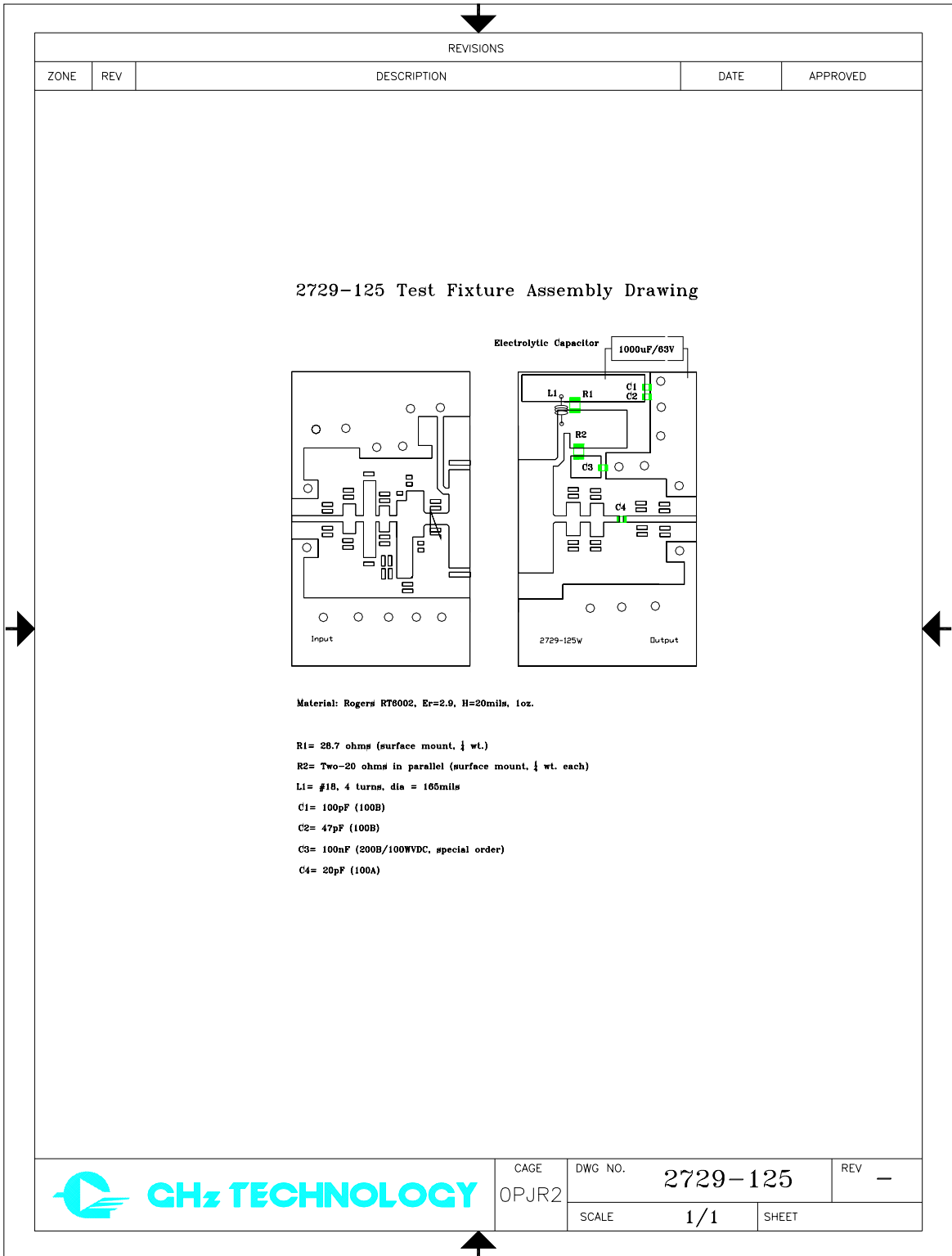
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Vcc = 36 Volts, Pulse Width = 100µs, Duty = 10%

G2747-2, Unit 7, TF040803P2





2729-125

