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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# 1214-110M

110 Watts - 50 Volts, 330 $\mu$ s, 10%  
Radar 1200 - 1400 MHz

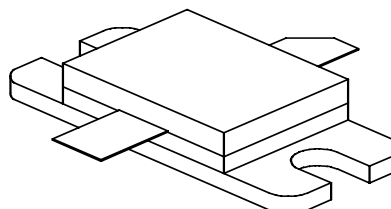
## GENERAL DESCRIPTION

The 1214-110M is an internally matched, COMMON BASE transistor capable of providing 110 Watts of pulsed RF output power at 330  $\mu$ s pulse width, 10% duty factor across the band 1200 to 1400 MHz. This hermetically solder-sealed transistor is specifically designed for L-Band radar applications. It utilizes gold metallization and diffused emitter ballasting to provide high reliability and supreme ruggedness.

## ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C	270 Watts
<b>Maximum Voltage and Current</b>	
BVces Collector to Emitter Voltage	75 Volts
BVebo Emitter to Base Voltage	3.0 Volts
Ic Collector Current	8 Amps
<b>Maximum Temperatures</b>	
Storage Temperature	- 65 to + 200°C
Operating Junction Temperature	+ 200°C

## CASE OUTLINE 55KT, STYLE 1



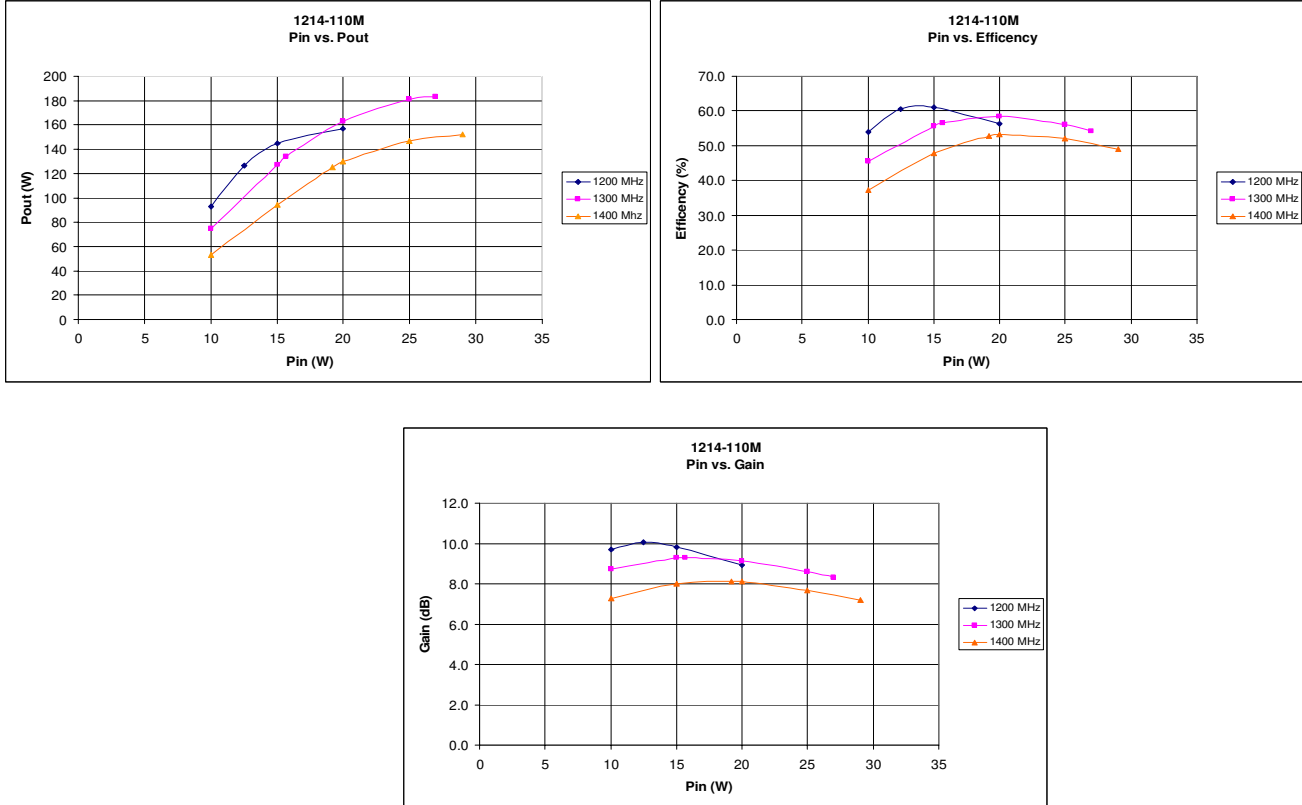
## ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>Pout</b>	Power Out	Freq = 1200 – 1400 MHz	110		170	Watts
<b>Pg</b>	Power Gain	Vcc = 50 Volts	7.4			dB
<b><math>\eta</math>c</b>	Collector Efficiency	Pin = 20 Watts	50	55		%
<b>RI</b>	Input Return loss		10			dB
<b>Droop</b>	Droop	Pulse Width = 330 $\mu$ s			0.5	dB
<b>Flatness</b>	Flatness	Duty Factor = 10%			1.25	dB
<b>VSWR<sup>1</sup></b>	Load Mismatch Tolerance				3:1	
<b>VSWRs</b>	Load Mismatch - Stability				1.5:1	

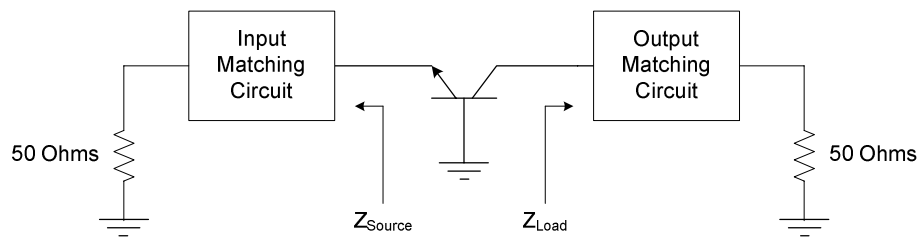
## FUNCTIONAL CHARACTERISTICS @ 25°C

<b>Bvces</b>	Collector to Emitter Breakdown	Ic = 100 mA	75			Volts
<b>Ices</b>	Collector to Emitter Leakage	Vce = 50 Volts			10	mA
<b><math>\theta</math>jc<sup>1</sup></b>	Thermal Resistance	Rated Pulse Condition			0.65	°C/W

## Performance Curves



## Impedance Information



Frequencies (MHz)	$Z_{Source} (\Omega)$	$Z_{Load} (\Omega)^2$
1200	3.36-j3.12	4.97+j0.15
1300	3.5-j2.4	5.33-j2.86
1400	3.81-j1.3	2.88-j3.86

Note 2:  $Z_{Load}$  exclusive of bias circuit

## Test Circuit

