



# 1214-110M

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

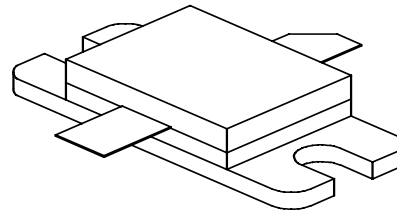
## GENERAL DESCRIPTION

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



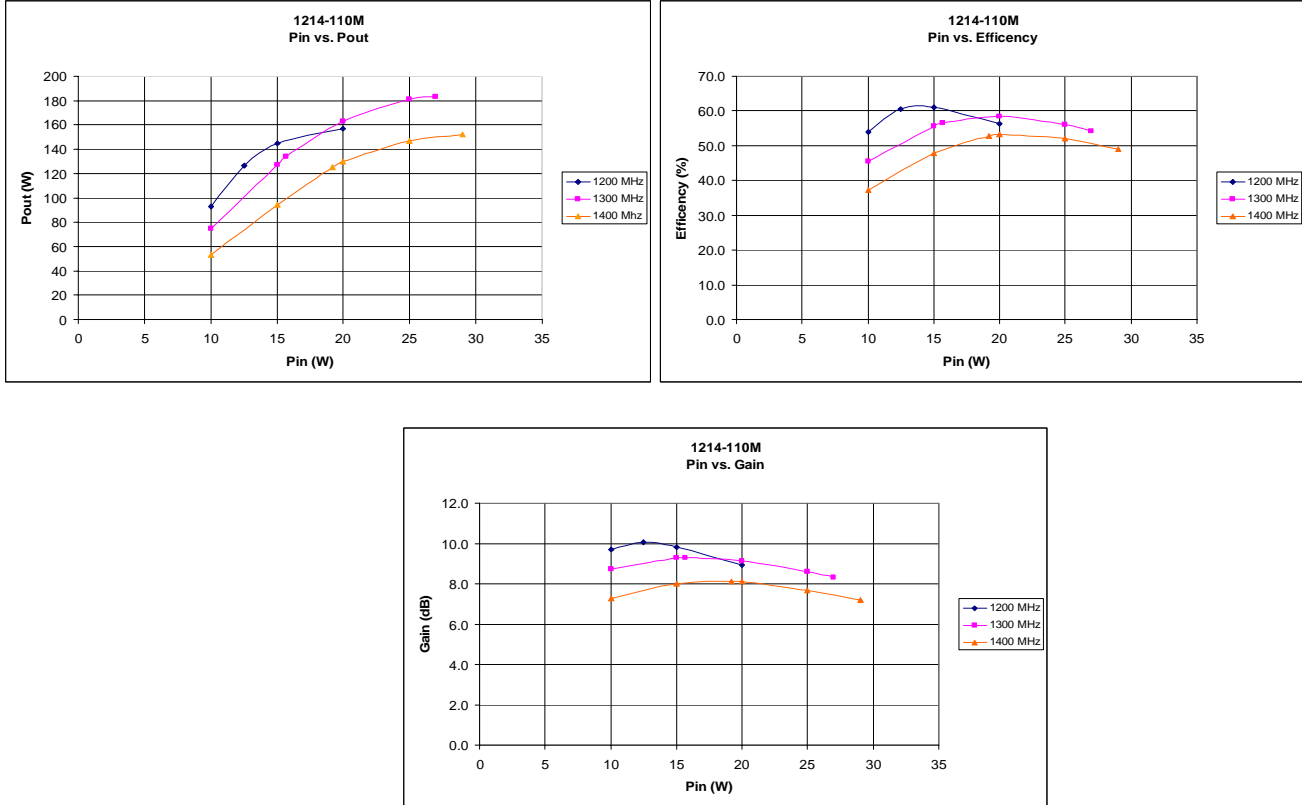
## ELECTRICAL CHARACTERISTICS @ 25 °C

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

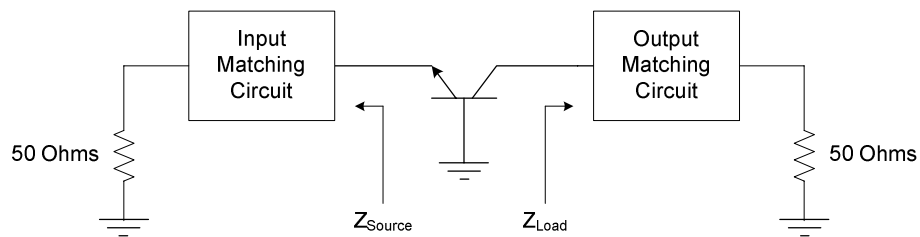
## FUNCTIONAL CHARACTERISTICS @ 25°C

Bvces	Collector to Emitter Breakdown	Ic = 100 mA	75			Volts
Ices	Collector to Emitter Leakage	Vce = 50 Volts			10	mA
$\theta$ jc <sup>1</sup>	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



