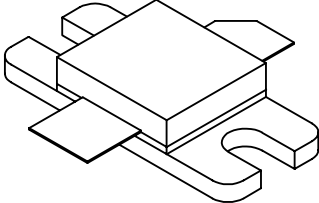


# 1314AB60

**60 Watts PEP, 25 Volts, Class AB**  
**Linear 1350 – 1400 MHz**

## ADVANCED RELEASE

<p><b>GENERAL DESCRIPTION</b></p> <p>The 1314AB60 is a COMMON EMITTER transistor capable of providing 60 Watts of Class AB, RF output power over the band 1350-1400 MHz. This transistor is specifically designed for <b>LINEAR POWER</b> amplifier applications. It includes Input prematching and utilizes Gold metalization and HIGH VALUE EMITTER ballasting to provide high reliability and supreme ruggedness.</p>	<p style="text-align: center;"><b>CASE OUTLINE</b> <b>55MY Style 2</b> <b>COMMON EMITTER</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p><b>Maximum Power Dissipation @ 25°C</b> <span style="float: right;"><b>200 Watts</b></span></p> <p><b>Maximum Voltage and Current</b></p> <p>Collector to Emitter Voltage (<math>BV_{CES}</math>) <span style="float: right;">55 V</span>          Collector to Emitter Voltage (<math>BV_{CEO}</math>) <span style="float: right;">27 V</span>          Emitter to Base Voltage (<math>BV_{EBO}</math>) <span style="float: right;">3.5 V</span>          Collector Current (<math>I_c</math>) <span style="float: right;">20.0 Amps</span></p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature <span style="float: right;">-65 to +150 °C</span>          Operating Junction Temperature <span style="float: right;">+200 °C</span></p>	

## ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$P_{out}$	Power Out	F = 1350 – 1400 MHz	60			W
$P_{in}$	Power Input	$V_{CC} = 25$ Volts			12	W
$P_g$	Power Gain	$I_{cq} = 250$ mAmps	7.0	8.0		dB
Rl	Return Loss	As above			-10	DB
$\eta_c$	Collector Efficiency		45	50		%
VSWR	Load Mismatch Tolerance	60 Watt PEP			2:1	

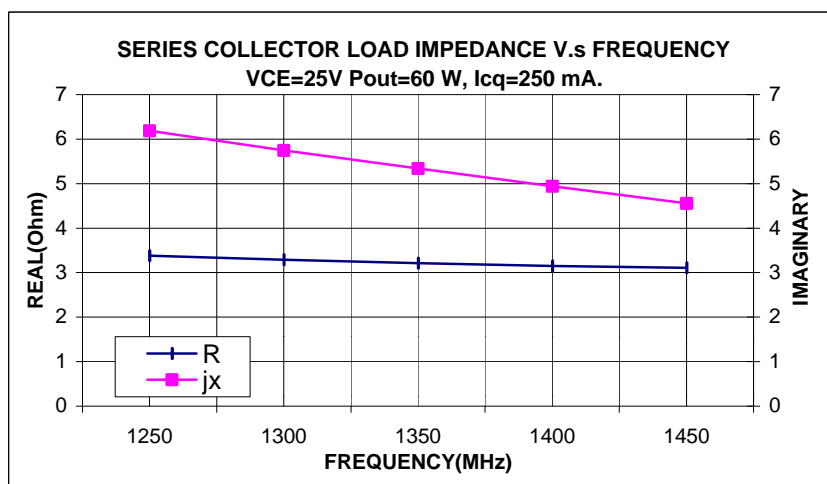
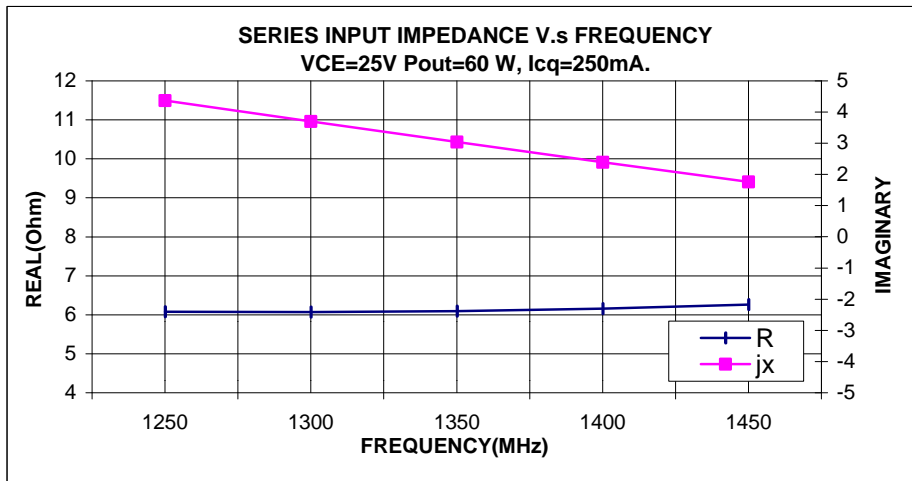
## FUNCTIONAL CHARACTERISTICS @ 25°C

$BV_{CES}$	Collector to Emitter Breakdown	$I_e = 100$ mA	55			V
$BV_{CEO}$	Collector to Emitter Breakdown	$I_c = 100$ mA	27			V
$BV_{EBO}$	Emitter to Base Breakdown	$I_e = 25$ mA	3.5			V
$I_{CES}$	Collector Leakage Current	$V_{ce} = 27$ V			30	mA
$h_{FE}$	DC – Current Gain	$V_{ce} = 5$ V, $I_c = 1.5$ A	20		100	
$\theta_{jc}^2$	Thermal Resistance	$T_c = 25^\circ$ C			.87	°C/W

Initial Issue May 1999

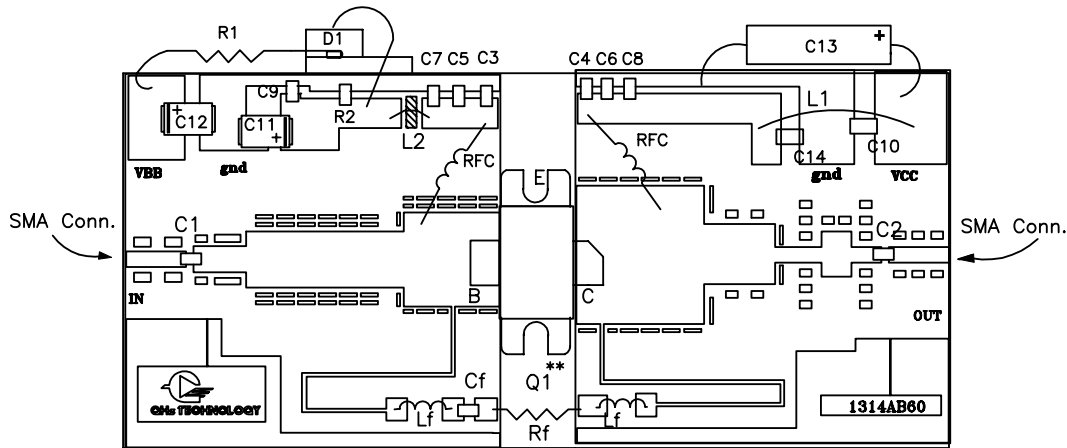
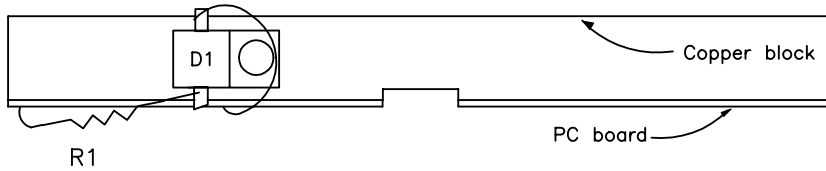
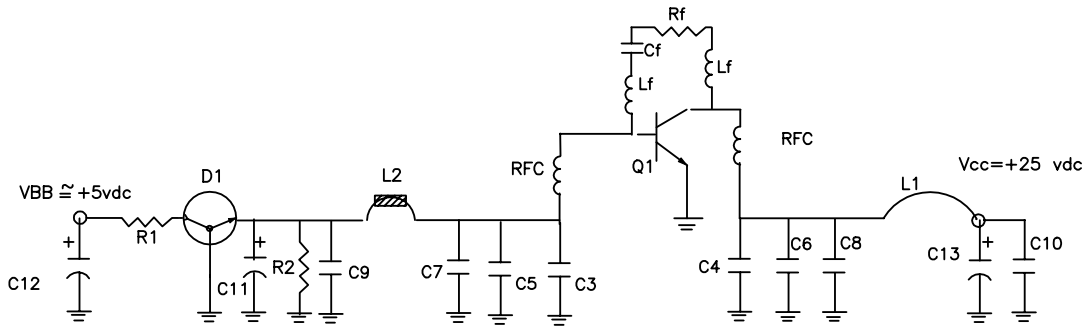
# 1314AB60

	Zin		ZCL	
Frequency	R	jx	R	jx
1250	6.08	4.37	3.38	6.19
1300	6.07	3.7	3.29	5.75
1350	6.09	3.04	3.21	5.34
1400	6.16	2.39	3.15	4.94
1450	6.26	1.76	3.11	4.56



# 1314AB60

## TEST FIXTURE Assembly Drawing



### BILL OF MATERIALS

D1=BYI-IT	C1,C2=62 pF chip (ATC 100B)
R1=16 ohm 2w	C3,C4=10k pF chip (ATC 200B)
R2=20 ohm 1/4 w x 2	C5,C6=100 pF chip (ATC 100B)
Rf=82 ohm 1/2w	C7,C8=10 pF chip (ATC 100B)
L1=0.75" #18 AWG wire	C9,C10=.1 uF chip
RFC=10 T, .1 dia, #22 AWG	C11=220 uF 10V,Tantalum, SMD
Lf=10 T, .08 dia, #24 AWG	C12=100uF 10V,Tantalum, SMD
Cf=10k pF chip (ATC 200B)	C13=100 uF, 50V, Electrolytic
L2=0.75"#18 AWG wire, ferrite	C14=. 01 uF chip

Copper Block  
Circuit Board (1314AB60)  
SMA Connectors (2 pls)

\*\* Q1 Device under test (do not install)



**GHz TECHNOLOGY**  
RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

**1314AB60**