GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

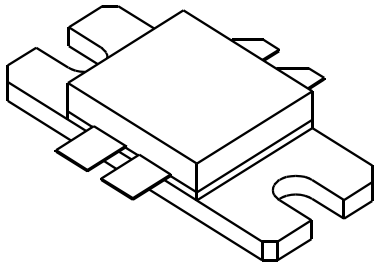
UTV8100B

100 Watts Pk, 28 Volt, Class AB
UHF Television - Band IV & V

GENERAL DESCRIPTION

The UTV8100B is a COMMON EMITTER transistor capable of providing 100 Watt Peak, Class AB, RF Output Power over the band 470 - 860 MHz. The transistor includes double input and output prematching for full broadband capability. Gold Metalization and Diffused Ballasting are used to provide high reliability and supreme ruggedness.

CASE OUTLINE
55RT, STYLE 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC	290 Watts
Maximum Voltage and Current	
BVcbo Collector to Emiter Voltage	65 Volts
BVceo Collector to Emitter Voltage	30 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	15 Amps
Maximum Temperatures	
Storage Temperature	-40 to + 150ºC
Operating Junction Temperature	+ 200 ºC

ELECTRICAL CHARACTERISTICS @ 25 ºC

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
PldB	Power Out - 1 dB Compression	F =470 - 860 MHz	100	110		Watts
Pin	Power Input	Vcc = 28 Volts			14.0	Watts
Po - ref	Power Output - Linear	Icq = 300 mA (total)	25			Watts
Pg	Power Gain - Small Sig		8.5	9.5		dB
η	Efficiency		55	58		%
VSWR	Load Mismatch Tolerance	Pout = 25 Watts Pk	5:1			

* European Test Method, Vision = -8 dB, Sideband = - 16 dB, Sound = - 7 dB

BVceo	Collector to Emitter Breakdown	Ic = 25 mA	30			Volts
BVces	Collector to Emitter Breakdown	Ic =25 mA	60			Volts
BVebo	Emitter to Base Breakdown	Ie = 30 mA	3.5			Volts
Hfe	Current Gain	Vce = 5 V, Ic = 1 A	20		120	
Cob	Output Capacitance - (each side)*	Vcb = 28V, F=1MHz		44		pF
Rθjc	Thermal Resistance	Tc = 25 ºC			0.6	ºC/W

* Not measureable due to internal prematch network

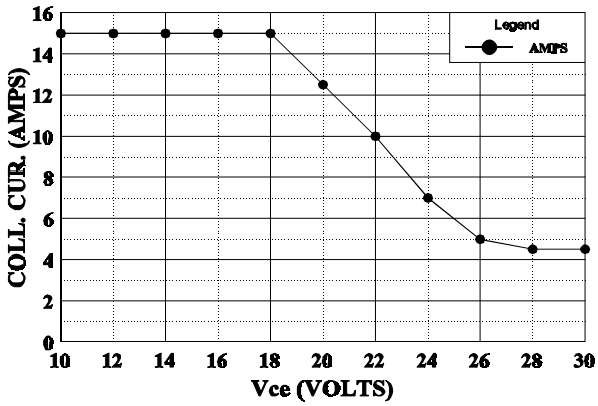
Issue December 1996

Ghz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120

CHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

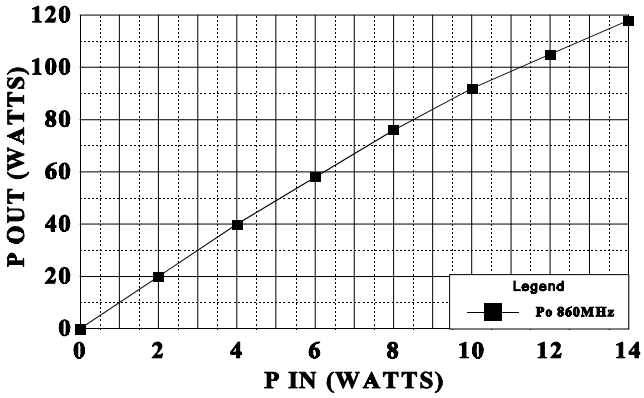
UTV8100B

DC SAFE OPERATING AREA



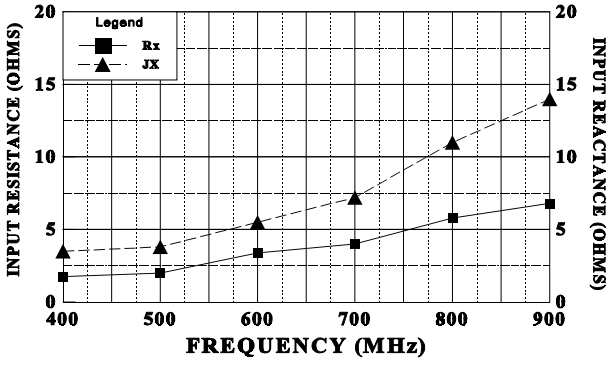
POWER OUTPUT vs POWER INPUT

Vcc = 28 V, Frequency 860MHz



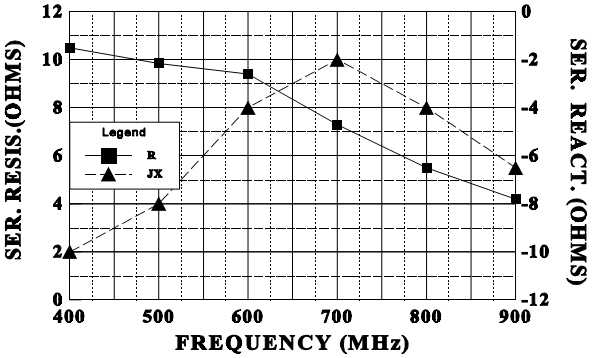
INPUT IMPEDANCE vs FREQUENCY

Vcc = 28 V, Po = 100 W, Icq = 200 mA



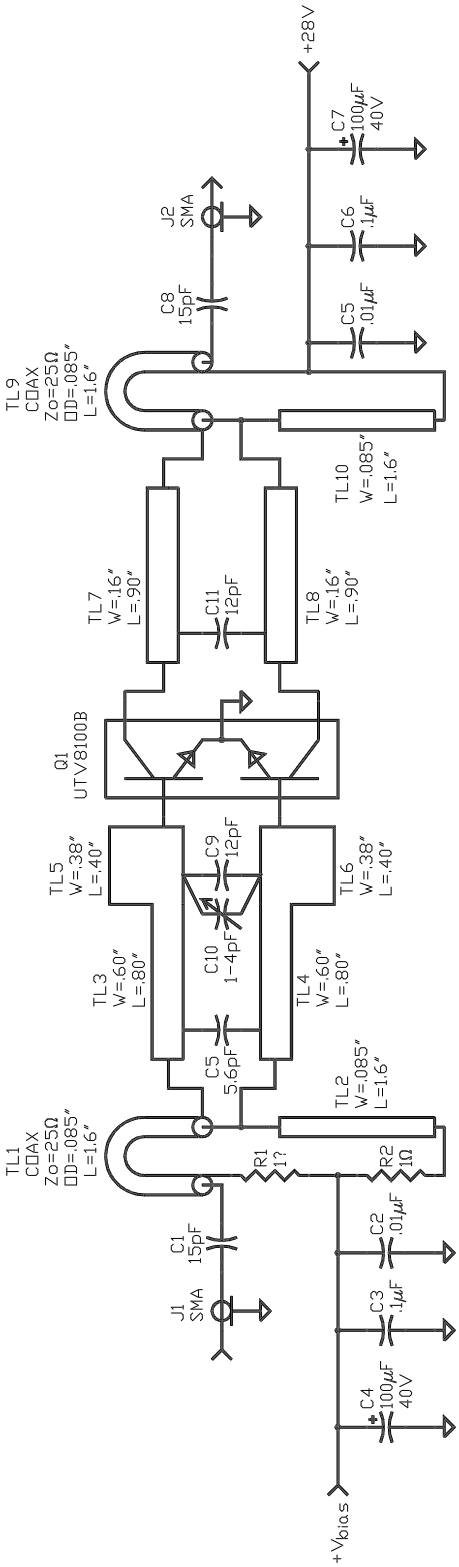
LOAD IMPEDANCE vs FREQUENCY

Vcc = 28 V, Pout = 100W, Icq = 200 mA



Ghz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



Board type: PTFE/GLASS
Board thickness: .031"
Copper weight: 1oz

All dimensions are in inches.

	CAGE	DWG NO.	REV
GHz TECHNOLOGY	0PJR2	UTV8100B	A
		SCALE	SHEET