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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!



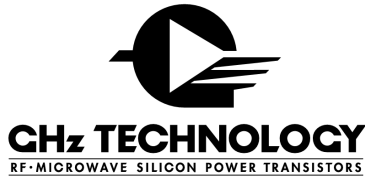
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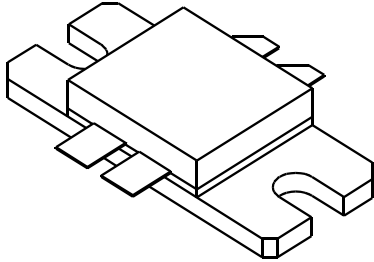
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# UTV8100B

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

<p><b>GENERAL DESCRIPTION</b> 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.</p>	<p><b>CASE OUTLINE</b> <b>55RT, STYLE 2</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C <span style="float: right;">290 Watts</span></p> <p><b>Maximum Voltage and Current</b></p> <p>BV<sub>ce0</sub> Collector to Emitter Voltage <span style="float: right;">65 Volts</span>          BV<sub>ce0</sub> Collector to Emitter Voltage <span style="float: right;">30 Volts</span>          BV<sub>eb0</sub> Emitter to Base Voltage <span style="float: right;">3.5 Volts</span>          I<sub>c</sub> Collector Current <span style="float: right;">15 Amps</span></p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature <span style="float: right;">-40 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
<b>P<sub>ldB</sub></b>	Power Out - 1 dB Compression	F = 470 - 860 MHz	100	110		Watts
<b>P<sub>in</sub></b>	Power Input	V <sub>cc</sub> = 28 Volts			14.0	Watts
<b>P<sub>o - ref</sub></b>	Power Output - Linear	I <sub>cq</sub> = 300 mA (total)	25			Watts
<b>P<sub>g</sub></b>	Power Gain - Small Sig		8.5	9.5		dB
<b>η</b>	Efficiency		55	58		%
<b>VSWR</b>	Load Mismatch Tolerance	P <sub>out</sub> = 25 Watts Pk	5:1			

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

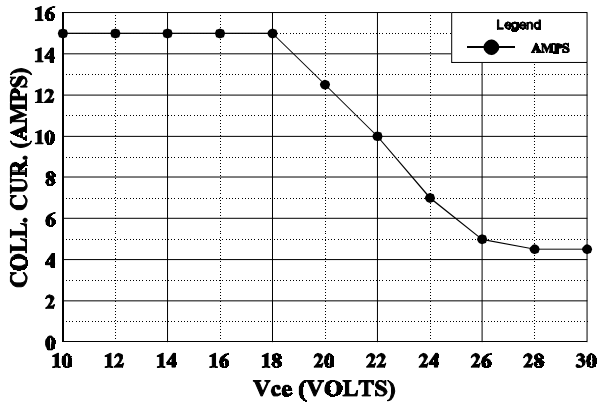
<b>BV<sub>ceo</sub></b>	Collector to Emitter Breakdown	I <sub>c</sub> = 25 mA	30			Volts
<b>BV<sub>ces</sub></b>	Collector to Emitter Breakdown	I <sub>c</sub> = 25 mA	60			Volts
<b>BV<sub>ebo</sub></b>	Emitter to Base Breakdown	I <sub>e</sub> = 30 mA	3.5			Volts
<b>H<sub>fe</sub></b>	Current Gain	V <sub>ce</sub> = 5 V, I <sub>c</sub> = 1 A	20		120	
<b>C<sub>ob</sub></b>	Output Capacitance - (each side)*	V <sub>cb</sub> = 28V, F=1MHz		44		pF
<b>R<sub>θjc</sub></b>	Thermal Resistance	T <sub>c</sub> = 25 °C			0.6	°C/W

\* Not measurable due to internal prematch network

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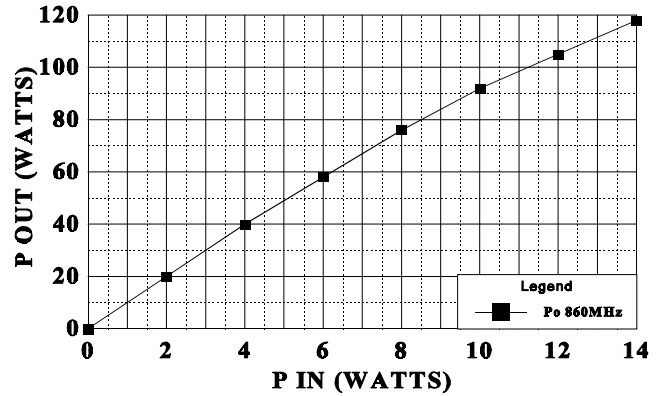
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**DC SAFE OPERATING AREA**



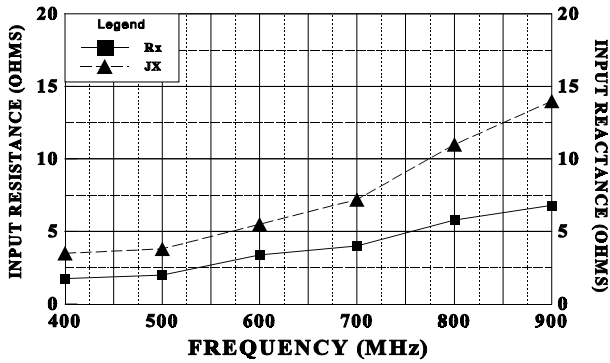
**POWER OUTPUT vs POWER INPUT**

Vcc = 28 V, Frequency 860MHz



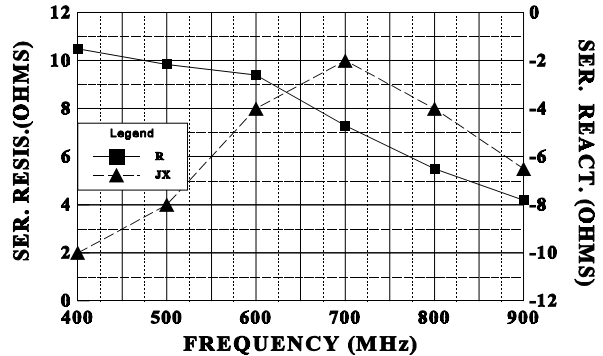
**INPUT IMPEDANCE vs FREQUENCY**

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



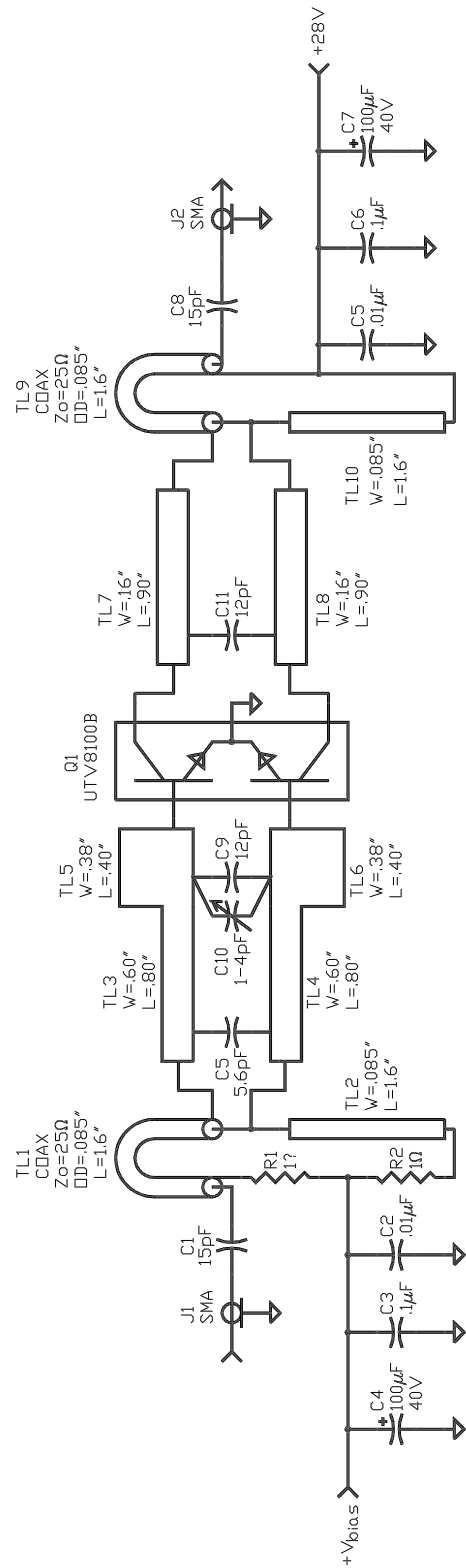
**LOAD IMPEDANCE vs FREQUENCY**

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



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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Board type: PTFE/GLASS  
 Board thickness: .031"  
 Copper weight: 1oz  
 All dimensions are in inches.



CAGE 0PJR2	DWG NO. UTV8100B	REV A
SCALE		SHEET