

UTV100B

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

GENERAL DESCRIPTION

The UTV100B 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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 290 Watts

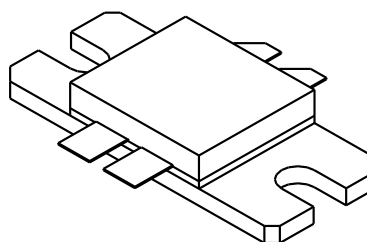
Maximum Voltage and Current

BV _{cb0}	Collector to Emitter Voltage	65 Volts
BV _{ceo}	Collector to Emitter Voltage	30 Volts
BV _{eb0}	Emitter to Base Voltage	3.5 Volts
I _c	Collector Current	15 Amps

Maximum Temperatures

Storage Temperature	-40 to + 150°C
Operating Junction Temperature	+ 200 °C

CASE OUTLINE 55RT, STYLE 2



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{ldB}	Power Out - 1 dB Compression	F = 470 - 860 MHz	100			Watts
P _{in}	Power Input	V _{cc} = 28 Volts			12.5	Watts
P _{o - ref}	Power Output - Linear	I _{cq} = 300 mA (total)	25			Watts
P _g	Power Gain - Small Sig		8.5			dB
η	Efficiency		55			%
V _{SWR}	Load Mismatch Tolerance	P _{out} = 25 Watts Pk	5:1			

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

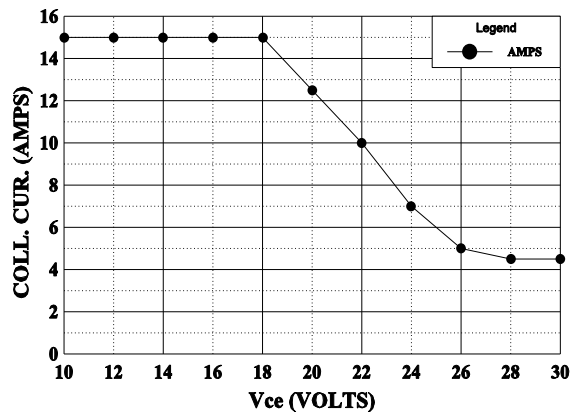
BV _{ceo}	Collector to Emitter Breakdown	I _c = 25 mA	30			Volts
BV _{ces}	Collector to Emitter Breakdown	I _c = 25 mA	60			Volts
BV _{ebo}	Emitter to Base Breakdown	I _e = 30 mA	3.5			Volts
H _{fe}	Current Gain	V _{ce} = 5 V, I _c = 1 A	20		120	
C _{ob}	Output Capacitance - (each side)*	V _{cb} = 28V, F=1MHz		47		pF
R _{θjc}	Thermal Resistance	T _c = 25 °C			0.6	°C/W

* Not measureable due to internal prematch network

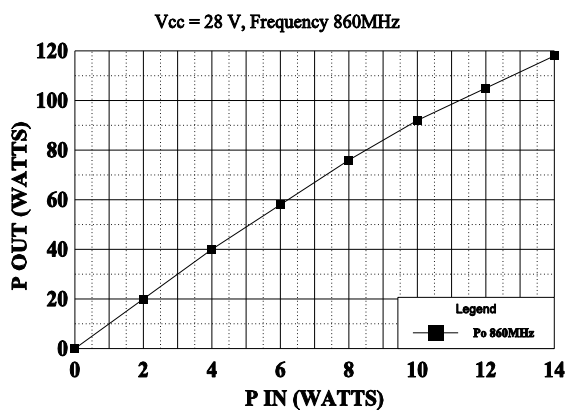
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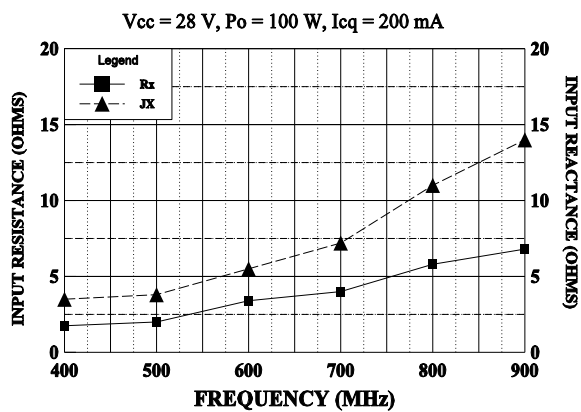
DC SAFE OPERATING AREA



POWER OUTPUT vs POWER INPUT



INPUT IMPEDANCE vs FREQUENCY



LOAD IMPEDANCE vs FREQUENCY

