GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

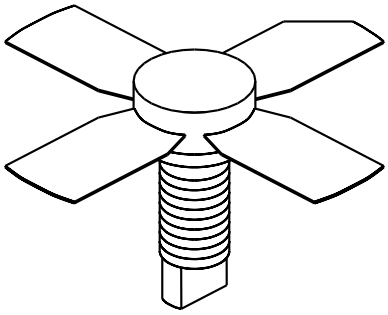
UTV020

2 Watts, 25 Volts, Class A
UHF Television - Band IV & V

GENERAL DESCRIPTION

The UTV 020 is a COMMON EMITTER transistor capable of providing 2 Watt Peak, Class A, RF Output Power over the band 470 - 860 MHz. Gold Metalization and Diffused Ballasting are used to provide high reliability and supreme ruggedness.

CASE OUTLINE
55FT, STYLE 2



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 17 Watts

Maximum Voltage and Current

BVces	Collector to Emitter Voltage	45 Volts
BVceo	Collector to Emitter Voltage	25 Volts
BVebo	Emitter to Base Voltage	4.0 Volts
Ic	Collector Current	1.2 Amps

Maximum Temperatures

Storage Temperature	- 65 to + 150°C
Operating Junction Temperature	+ 200°C

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out - Pk Sync	F = 470 - 860 MHz	2.0			Watts
Pin	Power Input	Vcc = 25 Volts			0.2	Watts
Pg	Power Gain	Ic = 410 mA		12		dB
IMD[1]	Intermodulation Distortion	Pref = 2.0 Watts		-60		dB
$VSWR_1$	Load Mismatch Tolerance	F = 860 MHz			30:1	

LVceo	Collector to Emitter Breakdown	Ic = 40 mA	26			Volts
BVces	Collector to Base Breakdown	Ic = 10 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 1 mA	4.0			Volts
h_{FE}	Current Gain	Vce = 5 V, 250mA	10			
Cob	Output Capacitance	Vcb = 20 V, F = 1 MHz		8.0		pF
θjc	Thermal Resistance	Tc = 25°C			10	°C/W

Note 1: F1=860 MHz, F2=863.5 MHz, F3=864.5 Mhz
European test method, Vision = - 8dB, Sideband= - 16dB, Sound = -7 dB

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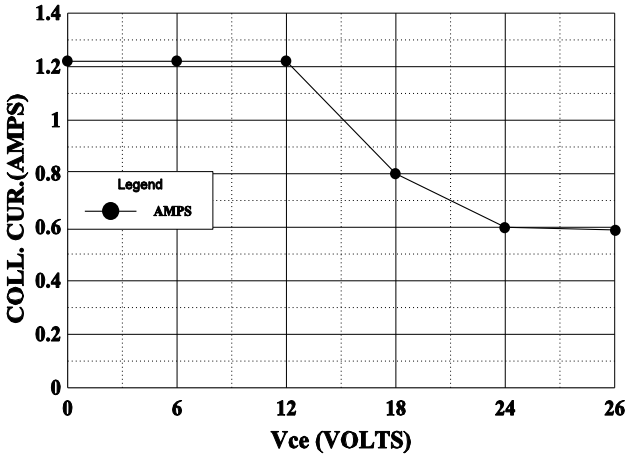
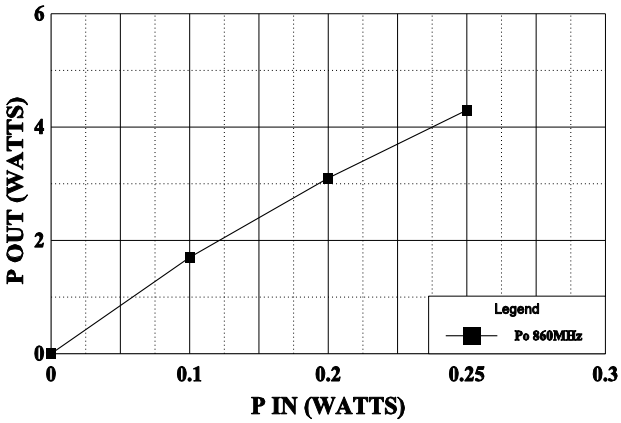
DC SAFE OPERATING AREA



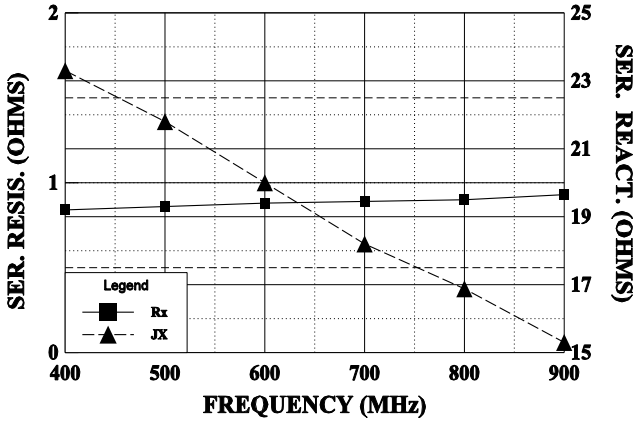
POWER OUTPUT vs POWER INPUT

Vcc - 25V, Frequency 860MHz

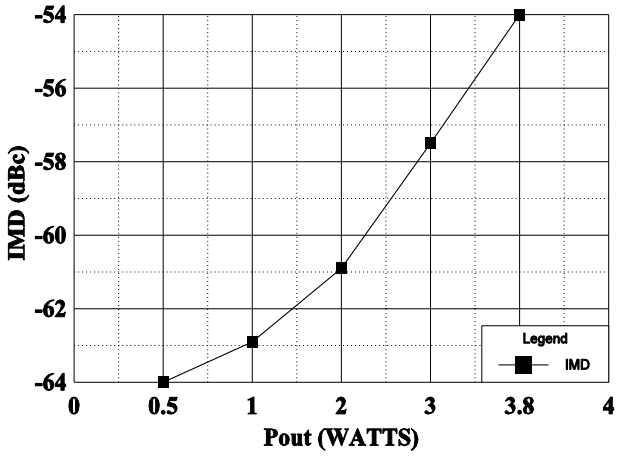


SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 25V, Pin =

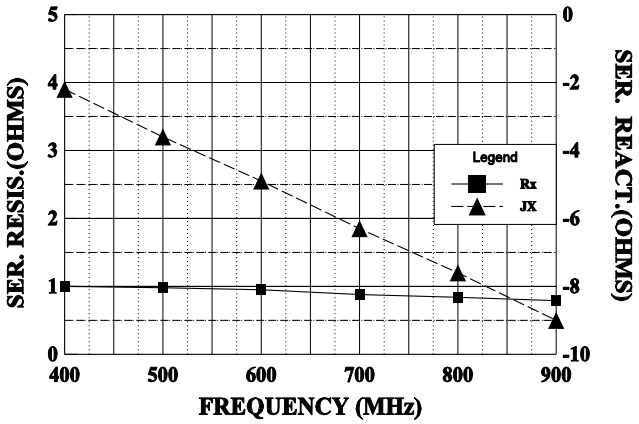


IMD vs Pout



SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 25V, Pin =



IMD vs Icq