



UTV020

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

<p>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.</p>	<p>CASE OUTLINE 55FT, STYLE 2</p>																						
<p>ABSOLUTE MAXIMUM RATINGS</p> <table> <tr> <td>Maximum Power Dissipation @ 25°C</td> <td>17 Watts</td> </tr> <tr> <td>Maximum Voltage and Current</td> <td></td> </tr> <tr> <td>BVces</td> <td>Collector to Emitter Voltage</td> <td>45 Volts</td> </tr> <tr> <td>BVceo</td> <td>Collector to Emitter Voltage</td> <td>25 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td>4.0 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td>1.2 Amps</td> </tr> <tr> <td>Maximum Temperatures</td> <td></td> </tr> <tr> <td>Storage Temperature</td> <td>- 65 to + 150°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td>+ 200°C</td> </tr> </table>	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	
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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
IMD¹	Intermodulation Distortion	Pref = 2.0 Watts		-60		dB
VSWR₁	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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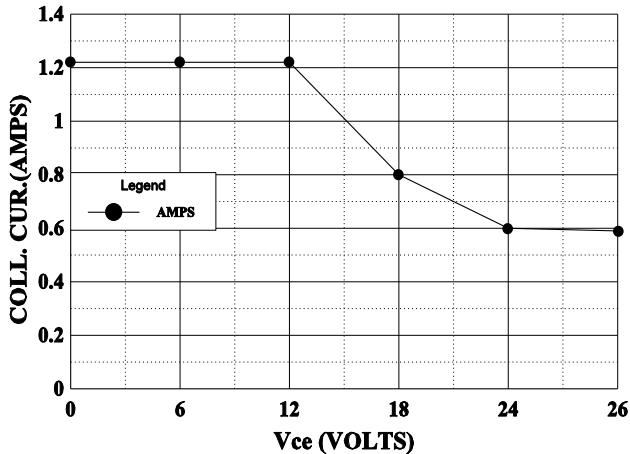
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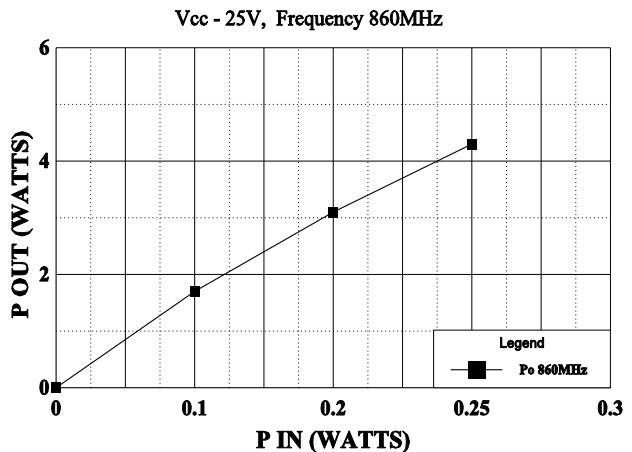
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RF·MICROWAVE SILICON POWER TRANSISTORS

UTV020

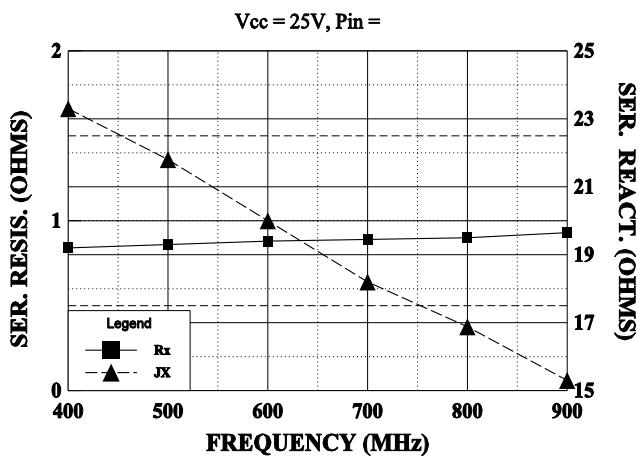
DC SAFE OPERATING AREA



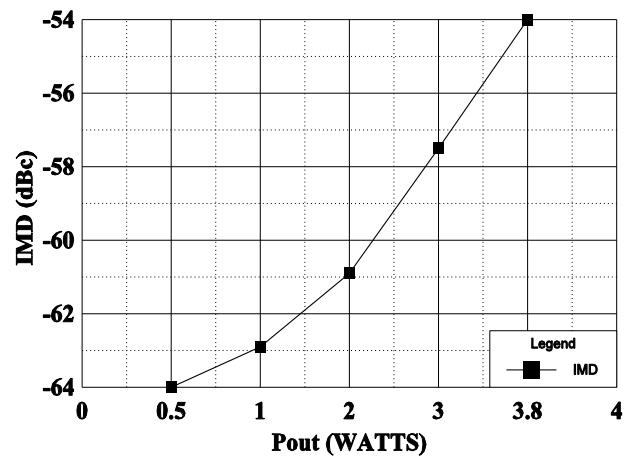
POWER OUTPUT vs POWER INPUT



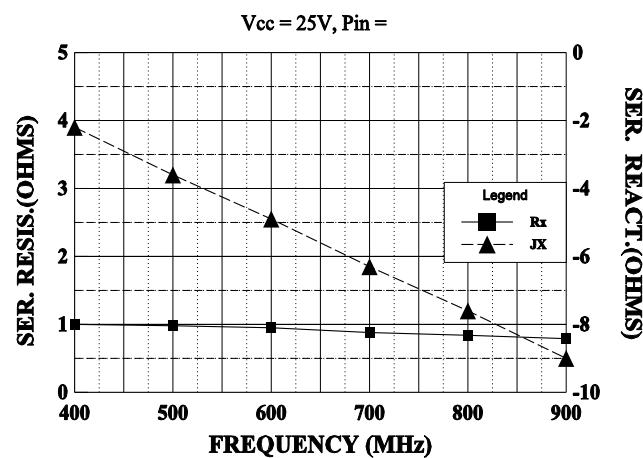
SERIES LOAD IMPEDANCE vs FREQUENCY



IMD vs Pout



SERIES INPUT IMPEDANCE vs FREQUENCY



IMD vs Icq

