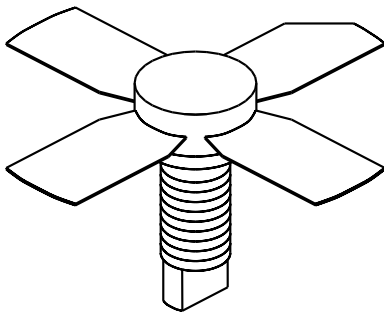


UTV020

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> <p>Maximum Power Dissipation @ 25°C 17 Watts</p> <p>Maximum Voltage and Current</p> <p>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</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to + 150°C Operating Junction Temperature + 200°C</p> | |

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 |

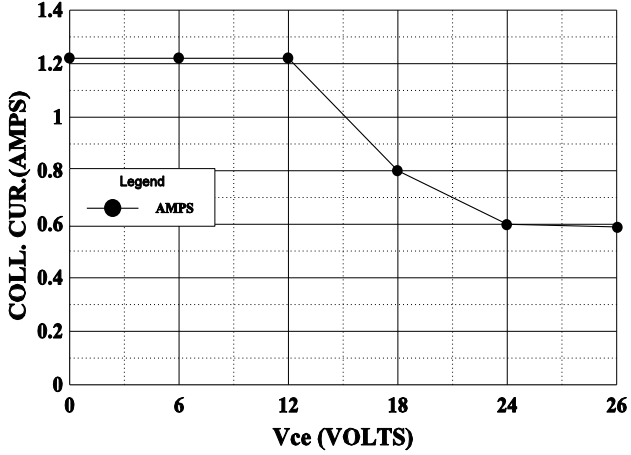
Note 1: F1=860 MHz, F2=863.5 MHz, F3=864.5 Mhz

European test method, Vision = - 8dB, Sideband= - 16dB, Sound = -7 dB

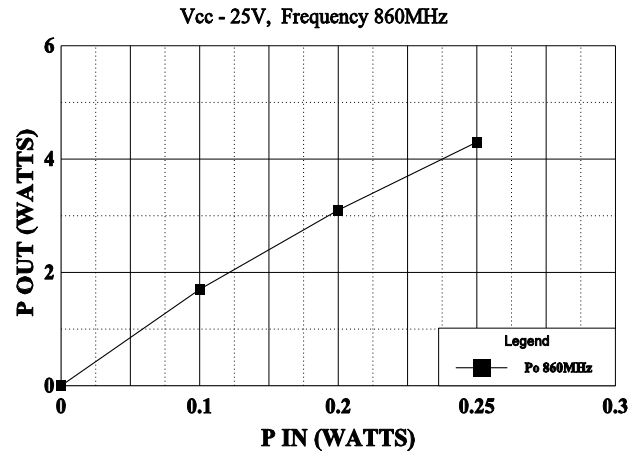
Initial Issue June, 1994

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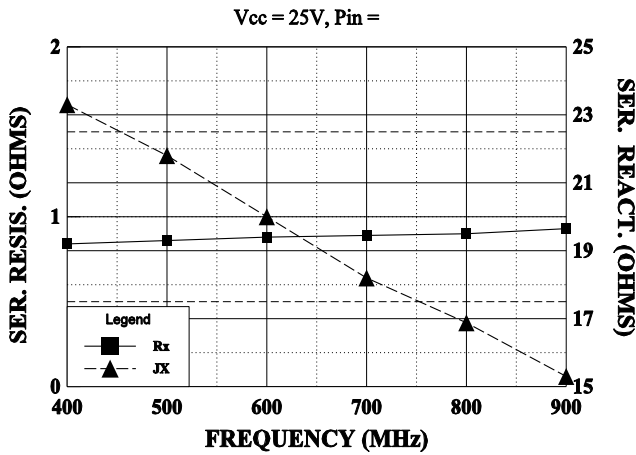
DC SAFE OPERATING AREA



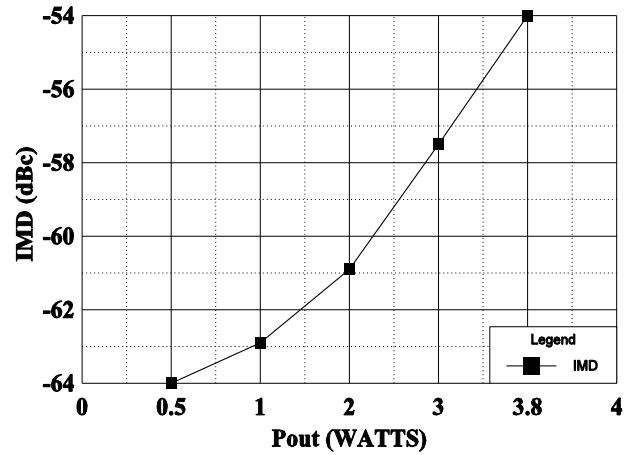
POWER OUTPUT vs POWER INPUT



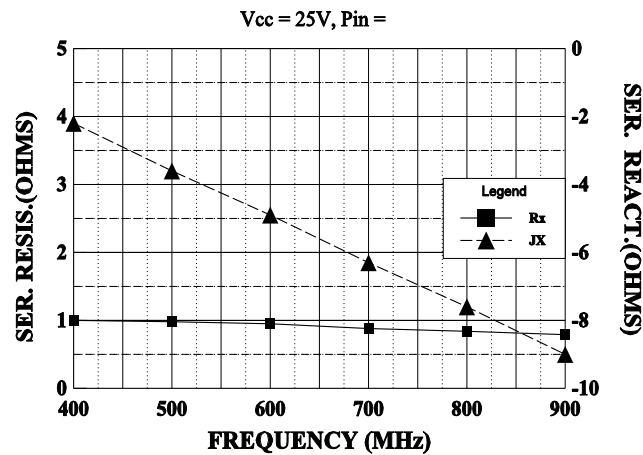
SERIES LOAD IMPEDANCE vs FREQUENCY



IMD vs Pout



SERIES INPUT IMPEDANCE vs FREQUENCY



IMD vs Icq

