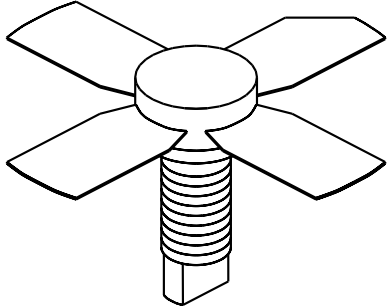


# UTV040

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

<p><b>GENERAL DESCRIPTION</b> The UTV 040 is a COMMON EMITTER transistor capable of providing 4 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><b>CASE OUTLINE</b> <b>55FT, STYLE 2</b></p> 																		
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <table border="0"> <tr> <td>Maximum Power Dissipation @ 25°C</td> <td style="text-align: right;">25 Watts</td> </tr> <tr> <td colspan="2"><b>Maximum Voltage and Current</b></td> </tr> <tr> <td>BVces Collector to Emitter Voltage</td> <td style="text-align: right;">45 Volts</td> </tr> <tr> <td>BVceo Collector to Emitter Voltage</td> <td style="text-align: right;">25 Volts</td> </tr> <tr> <td>BVebo Emitter to Base Voltage</td> <td style="text-align: right;">4.0 Volts</td> </tr> <tr> <td>Ic Collector Current</td> <td style="text-align: right;">2.5 Amps</td> </tr> <tr> <td colspan="2"><b>Maximum Temperatures</b></td> </tr> <tr> <td>Storage Temperature</td> <td style="text-align: right;">- 65 to + 150°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+ 200°C</td> </tr> </table>	Maximum Power Dissipation @ 25°C	25 Watts	<b>Maximum Voltage and Current</b>		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	2.5 Amps	<b>Maximum Temperatures</b>		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
<b>Pout</b>	Power Out - Pk Sync	F = 470 - 860 MHz	4.0			Watts
<b>Pin</b>	Power Input	Vcc = 25 Volts			0.65	Watts
<b>Pg</b>	Power Gain	Ic = 850 mA		9.0		dB
<b>IMD<sup>1</sup></b>	Intermodulation Distortion	Pref = 4.0 Watts		-60		dB
<b>VSWR<sub>1</sub></b>	Load Mismatch Tolerance	F = 860 MHz			30:1	

<b>LVceo</b>	Collector to Emitter Breakdown	Ic = 20 mA	25			Volts
<b>BVces</b>	Collector to Base Breakdown	Ic = 20 mA	45			Volts
<b>BVebo</b>	Emitter to Base Breakdown	Ie = 1 mA	4.0			Volts
<b>h<sub>FE</sub></b>	Current Gain	Vce = 5 V, 500 mA	10	17	100	
<b>Cob</b>	Output Capacitance	Vcb = 25 V, F = 1 MHz	10			pF
<b>θjc</b>	Thermal Resistance	Tc = 25°C			7.0	°C/W

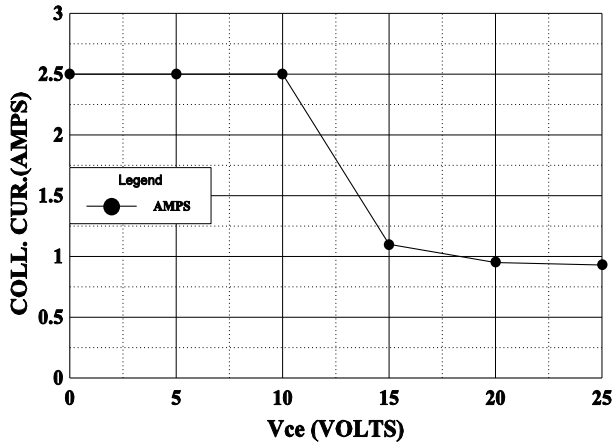
Note 1: F1=860 MHz, F2=863.5 MHz, F3=864.5 Mhz

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

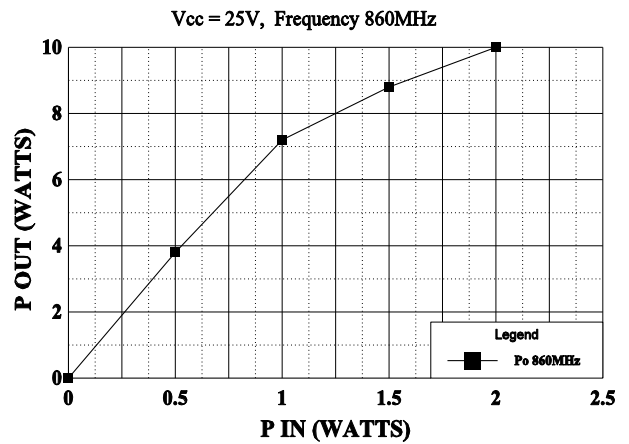
Initial Issue June, 1994

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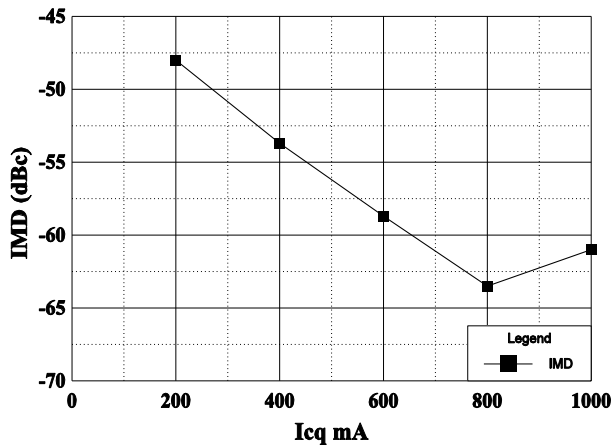
**DC SAFE OPERATING AREA**



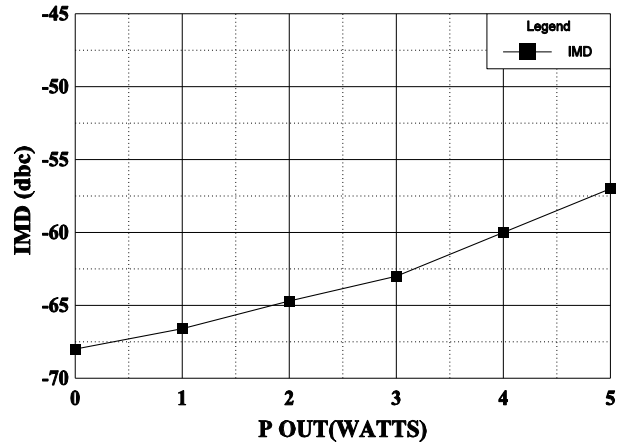
**POWER OUTPUT vs POWER INPUT**



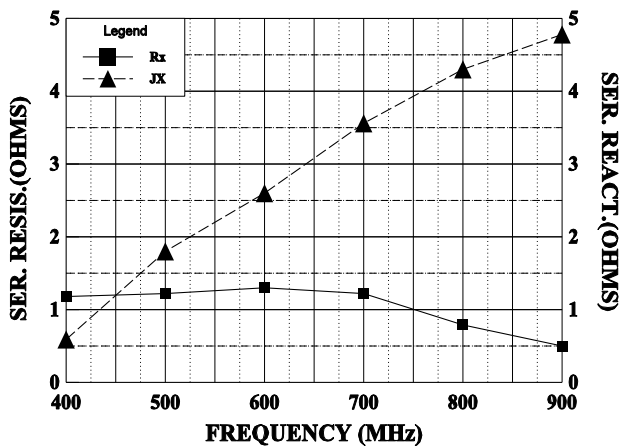
**IMD vs Icq**



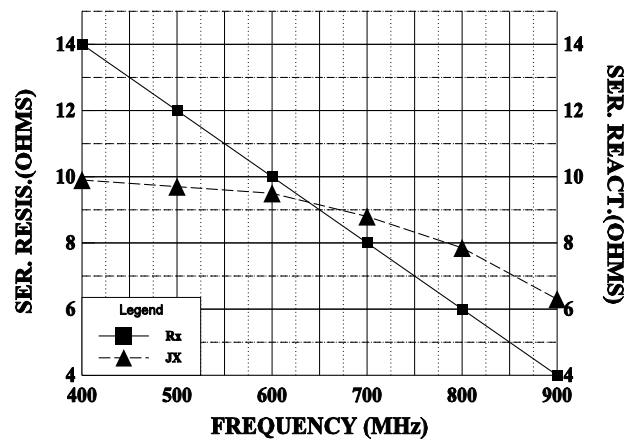
**IMD vs P out**



**SERIES INPUT IMPEDANCE vs FREQUENCY**



**SERIES LOAD IMPEDANCE vs FREQUENCY**



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