

GENERAL DESCRIPTION

The UTV-005 is designed for Class A, UHF, TV applications . It has 10.5 dB power gain at 860 MHz. Surface passivation eliminates contamination, and together with the low thermal resistance package, extends MTTF. Gold metallization and diffused emitter ballast resistors provide excellent reliability and ruggedness.

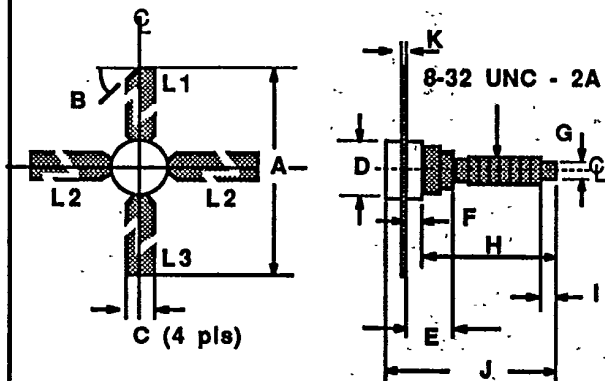
ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25 C Case Temperature	8.0 W
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	45 V
BVebo Emitter to Base Voltage	3.5 V
Ic Collector Current	0.75 A
Maximum Temperatures	
Storage Temperature	-65 to +150 °C
Operating Temperature	+200 °C

UTV-005

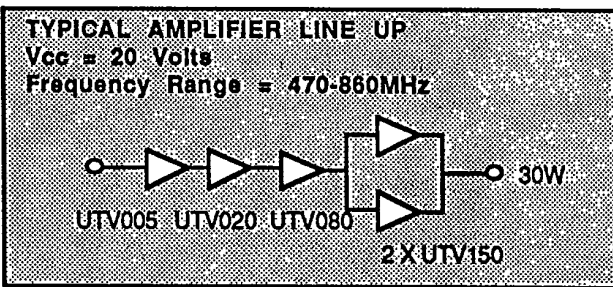
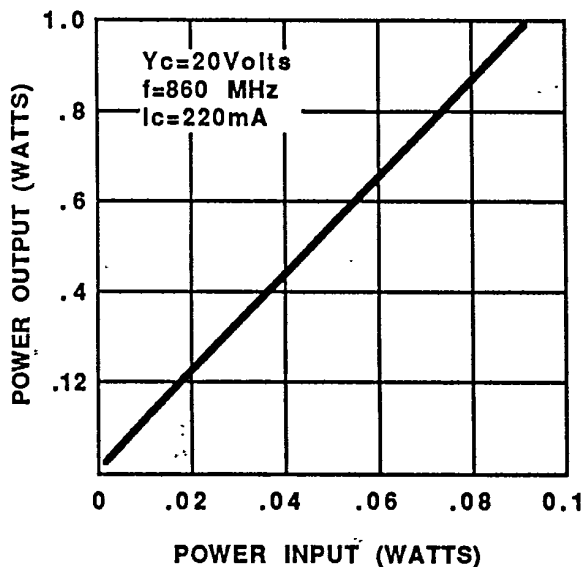
0.5 WATT - 20 VOLTS
470-860 MHz

UHF TV LINEAR



DIM	Millimeter	TOL	Inches	TOL	
L1: C	A	25.40	.25	1.000	.010
L2: E	B	45°	5°	45°	5°
L3: B	C	5.71	.13	.225	.005
	D	6.99 DIA	.13	.275 DIA	.005
	E	4.44	.13	.175	.005
	F	1.52	.13	.060	.005
	G	3.05	.13	.120	.005
	H	12.95	.25	.510	.010
	I	3.30	.13	.130	.005
	J	16.64	REF	.655	REF
	K	0.13	.02	.005	.001

POWER OUTPUT VS POWER INPUT



UTV-005-2

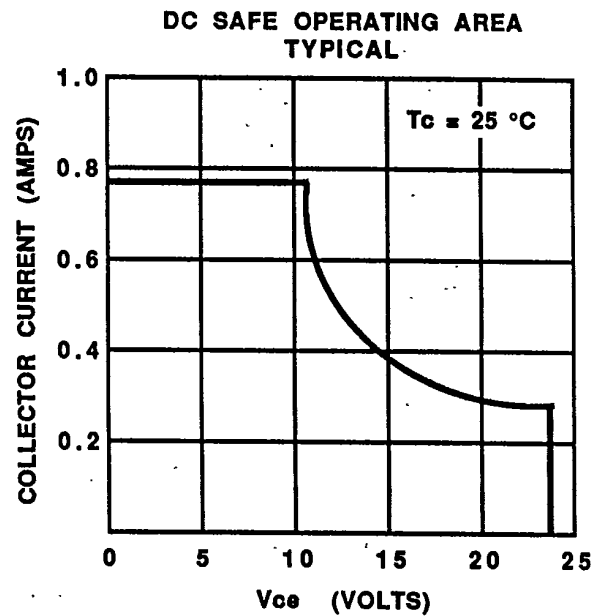
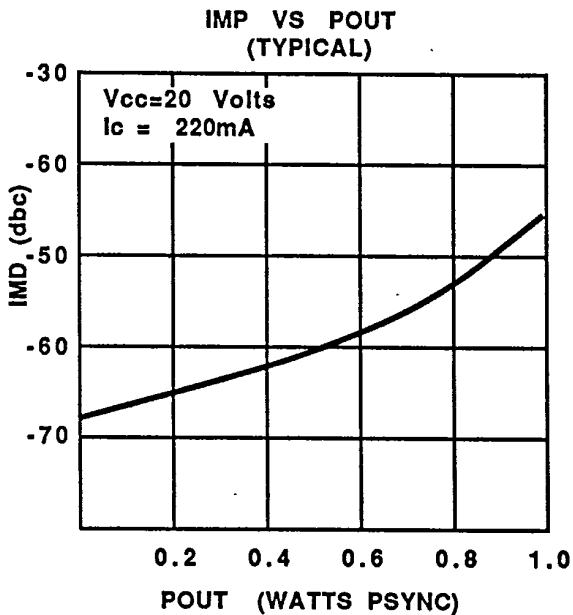
ELECTRICAL CHARACTERISTICS¹

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out} ²	Power Output	V _{cc} =20V I _{cq} = 220mA PSYNC= 0.5W	0.5			P-sync Watts
P _{in} ^{2, 3}	Power Input				.05	P-sync Watts
P _g ^{2, 3}	Power Gain			11		dB
IMD ^{2, 3}	Intermodulation Distortion				-60	dB
VSWR ^{2, 3}	Load Mismatch Tolerance				∞:1	
B _{Vebo}	Voltage - Emitter to Base	I _e = 1mA	3.5			Volts
B _{Vces}	Voltage - Collector to Emitter	I _c = 10mA	45			Volts
B _{Vceo}	Voltage - Collector to Emitter	I _c = 20mA	24			Volts
C _{ob}	Capacitance Collector to Base	V _{cb} = 28 Volts, f = 1MHz		5.0		pF
h _{FE}	DC-Current Gain	I _c = 100mA, V _{ce} = 5V	20			
θ _{jc}	Thermal Resistance				22	°C/W

Note 1: T_C = 25°C unless otherwise specified.

Note 3: At rated power output

Note 2: f₁ = 860 MHz Vision = -8dB = f₁
 f₂ = 863.5 MHz Sound = -7dB = f₂
 f₃ = 864.5 MHz Sideband = -16dB = f₃

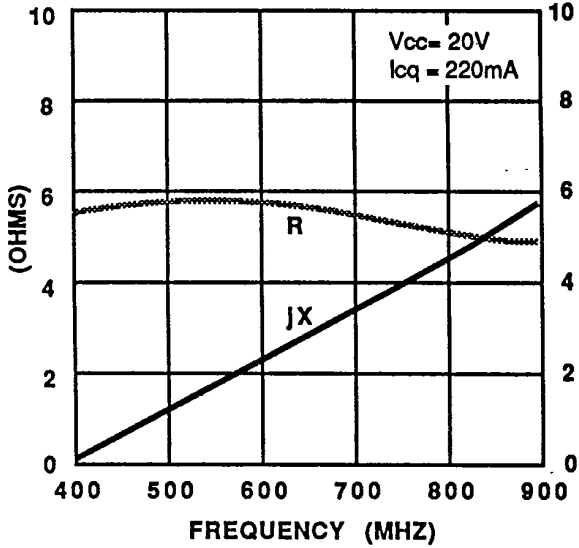


SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

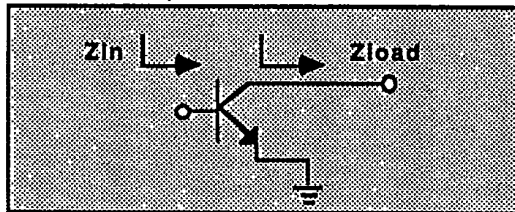
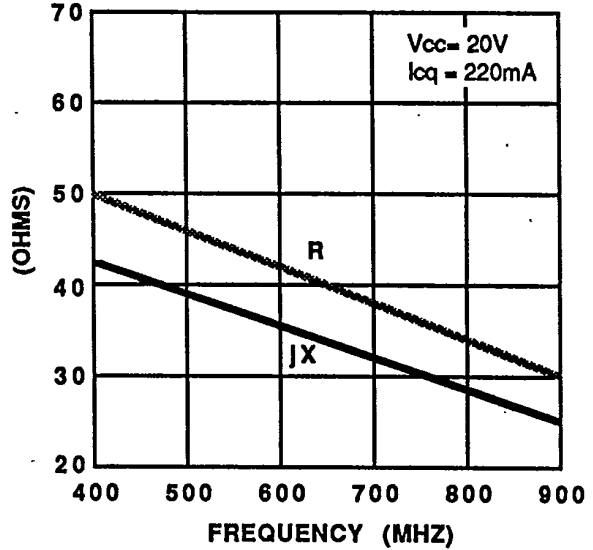
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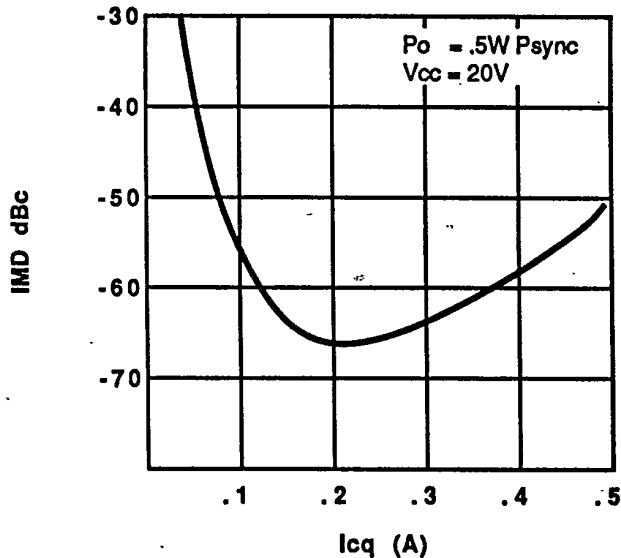
SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)



SERIES LOAD IMPEDANCE VS FREQUENCY (TYPICAL)



IMD VS Icq (TYPICAL)

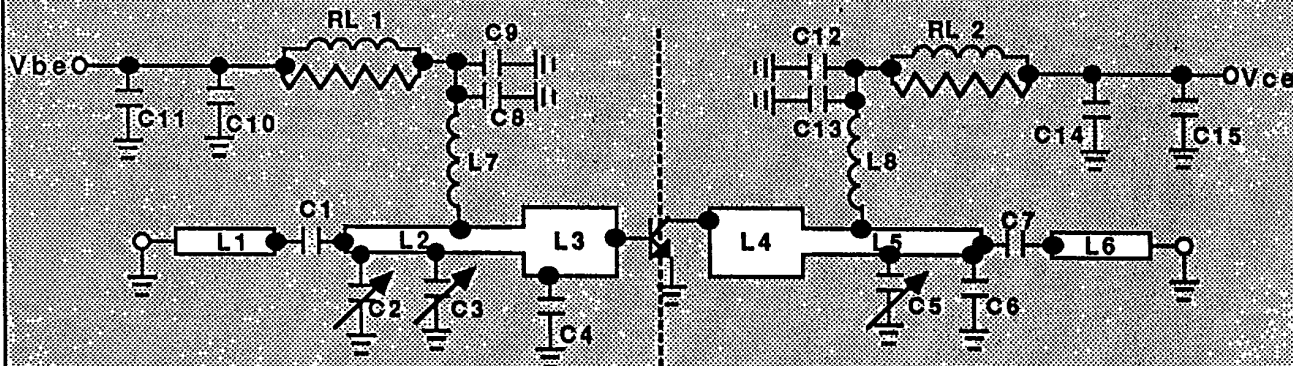


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UTV 005 CIRCUIT

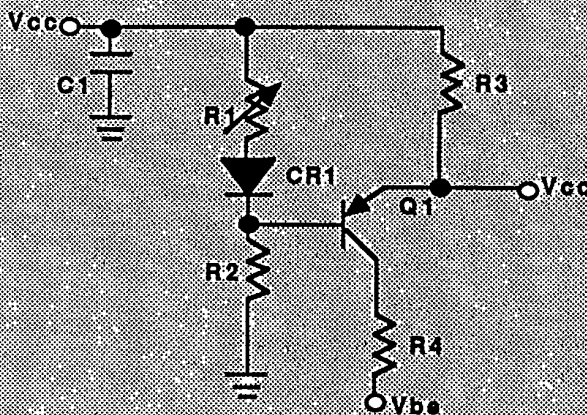


- L1 -- .435" X .150"
- L2 -- .435" X 1.1480"
- L3 -- .270" X .300"
- L4 -- .300" X .310"
- L5 -- 1.525" X .150"
- L6 -- .365" X .150"
- L7 -- .4 mH Molded Ind.
- L8 -- 4T, .91" 1D 24 AWG.

- C1 -- 8.2pF ATC
- C2, C3 -- .8-8 pF adj
- C4 -- 6.2 pF ATC
- C5 -- .6-6pF adj
- C6 -- 1pF ATC
- C7 -- 22pF ATC
- C8, C13 -- 220 pF ATC
- C9, C12 -- 390 pF ATC

- C10, C14 -- 1mF Tantalum
- C11, C15 -- 10MF, 50V Electro
- RL1, RL2 -- 5 turns #2 gauge wire on a 0.125" toroid in parallel with a 1W, 15 OHM resistor.

BIAS CIRCUIT



- C1 --- 100MF, 50V Electrolytic
- R1 --- 500 OHM Pot
- R2 --- 4.7 KOHM, 1/4 W
- R3 --- 47 OHM 1/4 W
- R4 --- 1 OHM, 3 Watt, 1%
- CR1 - IN4148
- Q1 --- MJE172

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