TRW® SEMICONDUCTORS

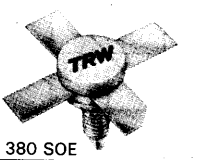
TP 1010

RF Power Transistor

25 W - 12.5 V
88 MHz

The TP 1010 as been designed for use in 12.5 V - 88 MHz amplifiers.

Its features which include high gain and capability of withstanding VSWR at all phases angles make it ideally suited as a rugged output device for mobile radio applications.



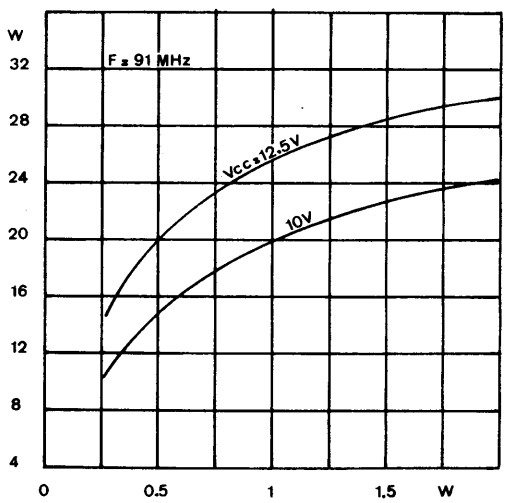
380 SOE

Electrical Characteristics (T_{case} = 25 °C)

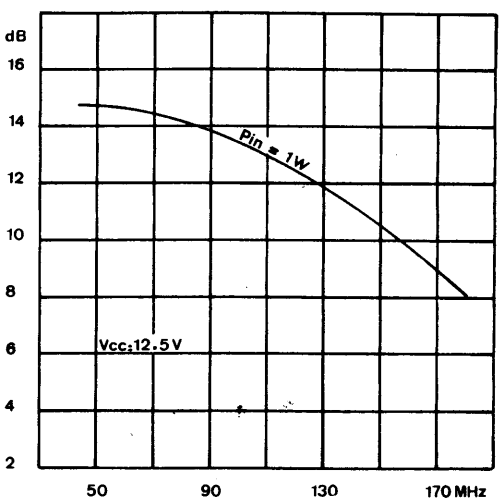
	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Test	BV_{EBO}	Emitter - Base Breakdown Voltage	I_E = 1 mA I_C = 0	4			V
	BV_{CEO}	Collector - Emitter Breakdown Voltage	I_C = 50 mA I_B = 0	18			V
	BV_{CBO}	Collector - Base Breakdown Voltage	I_C = 5 mA I_E = 0	40			V
	I_{CBO}	Collector Cutoff Current	V_{CB} = 15 V I_E = 0			2	mA
	H_{FE}	D.C Current Gain	V_{CE} = 10 V I_C = 100 mA	15		200	—
RF Test	P_{GAIN}	Power Gain	V_{CE} = 11 V F = 91 MHz P_{in} = 1.8 W	22			W
	η	Efficiency	V_{CE} = 11 V F = 91 MHz P_{out} = 22 W	50			%
	Load VSWR	Mismatch Tolerance	All Phases Angles V_{CE} = 11 V F = 91 MHz P_{out} = 22 W		∞ : 1		
	Z_{in}	Common Emitter Amplifier Input Impedance	V_{CE} = 11 V F = 91 MHz P_{in} = 1.8 W		0.86 − j 0.44		Ω
	Z_{Load}	Common Emitter Amplifier Load Impedance	V_{CE} = 11 V F = 91 MHz P_{out} = 22 W		2.3 + j 1.18		Ω
	C_{OB}	Collector - Base Capacitance	V_{CB} = 15 V F = 1 MHz		80	90	pF
Operating	I_C	Continous Collector Current				4	A
	θ_{j-c}	Thermal Resistance	T_C = 25 °C			2.4	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65°		200°	°C
	P_D	Power Dissipation	T_C = 25 °C			70	W

TYPICAL CHARACTERISTICS

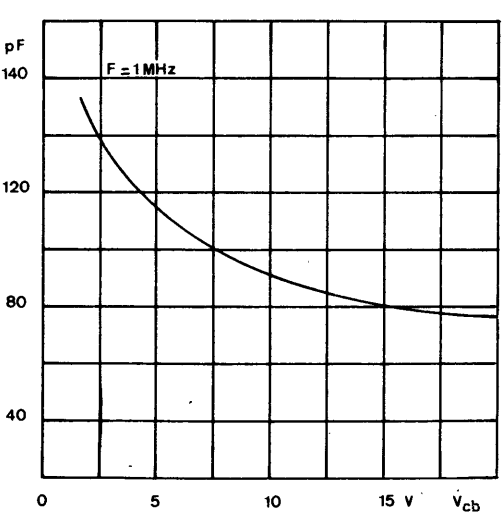
Output Power vs Input Power and Voltage Supply



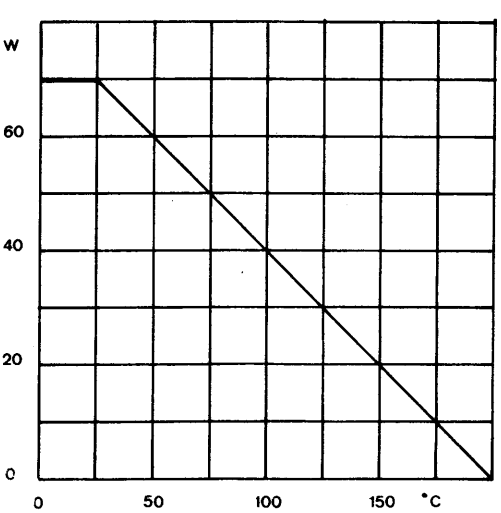
Power Gain vs Frequency



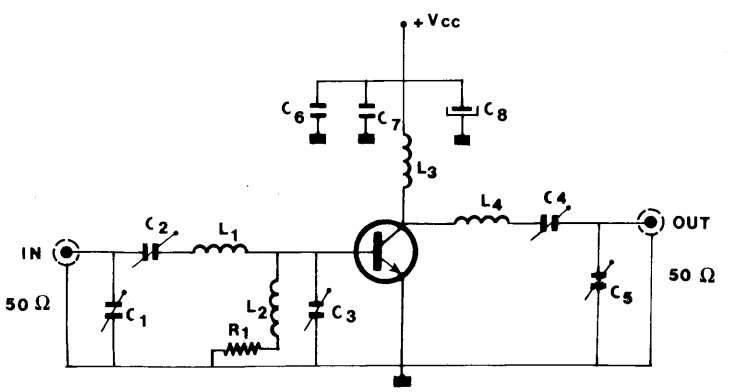
Collector Base Capacitance



Power - Temperature Derating Curve



88 MHz TEST CIRCUIT

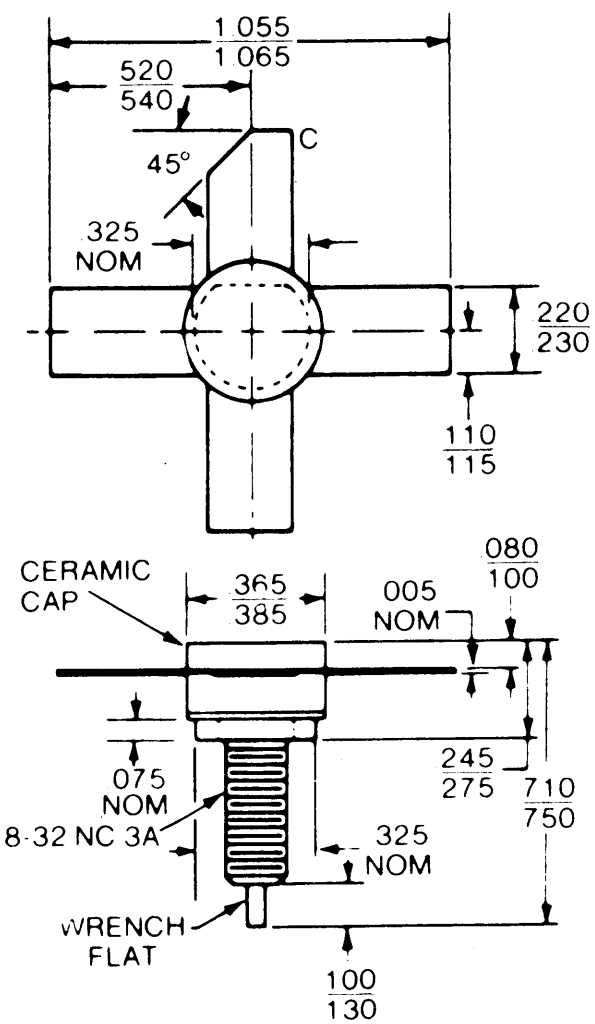


C_1 = C_4 = ARCO 425 24-200 pF trimmer capacitor
C_2 = ARCO 423 7-100 pF trimmer capacitor
C_3 = C_5 = ARCO 427 55-300 pF trimmer capacitor
C_6 = 1000 pF mica capacitor
C_7 = 10 nF ceramic
C_8 = 100 μF/35 V electrolytic

L_1 = 5 turns ≠ 14 AWG 3/8″ I.D.
L_2 = 1 μH
L_3 = 9 turns ≠ 16 AWG 5/16″ I.D.
L_4 = 4 turns ≠ 14 AWG 3/3″ I.D.
R_1 = 2.4 Ω

PACKAGE OUTLINE

.380 SOE



TRW® SEMICONDUCTORS

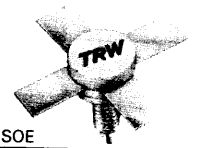
TP 1028

RF Power Transistor

5 W - 88 MHz
12.5 V

The TP 1028 as been designed for use in 12.5 V - 88 MHz amplifiers.

Its features which include high gain and capability of withstanding VSWR al all phases angles make it ideally suited for mobile radio applications.



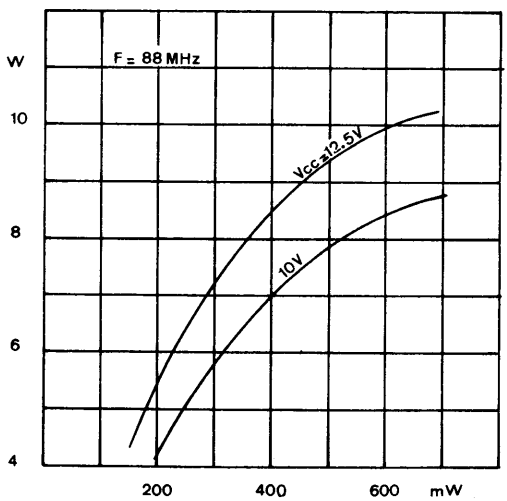
380 SOE

Electrical Characteristics (T_{case} = 25 °C)

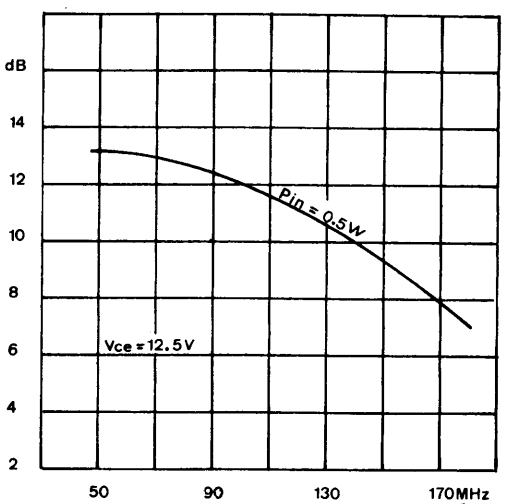
	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Test	BV_{EBO}	Emitter - Base Breakdown Voltage	I_E = 1 mA I_C = 0	4			V
	BV_{CEO}	Collector - Emitter Breakdown Voltage	I_C = 50 mA I_B = 0	18			V
	BV_{CBO}	Collector - Base Breakdown Voltage	I_C = 3 mA I_E = 0	40			V
	I_{CBO}	Collector Cutoff Current	V_{CB} = 15 V I_E = 0			2	mA
	H_{FE}	D.C Current Gain	V_{CE} = 10 V I_C = 100 mA	15			—
RF Test	P_{GAIN}	Power Gain	V_{CE} = 11 V F = 91 MHz P_{in} = 0.5 W	5			W
	η	Efficiency	V_{CE} = 11 V F = 91 MHz P_{out} = 5 W	50			%
	Load VSWR	Mismatch Tolerance	All Phases Angles V_{CE} = 11 V F = 91 MHz P_{out} = 5 W		∞ : 1		
	Z_{in}	Common Emitter Amplifier Input Impedance	V_{CE} = 11 V F = 91 MHz P_{in} = 0.5 W		1.44 — j 0.26		Ω
	Z_{Load}	Common Emitter Amplifier Load Impedance	V_{CE} = 11 V F = 91 MHz P_{out} = 5 W		6.41 + j 6.48		Ω
	C_{OB}	Collector - Base Capacitance	V_{CB} = 15 V F = 1 MHz			50	pF
Operating	I_C	Continous Collector Current				2	A
	θ_{j-c}	Thermal Resistance	T_C = 25 °C			7	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65°		200°	°C
	P_D	Power Dissipation	T_C = 25 °C			25	W

TYPICAL CHARACTERISTICS

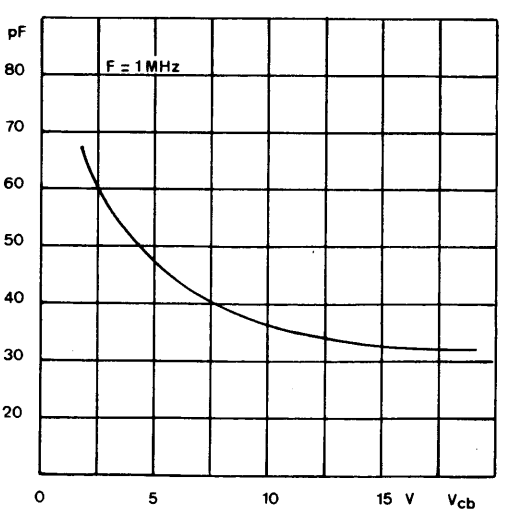
Output Power vs Input Power and Voltage Supply



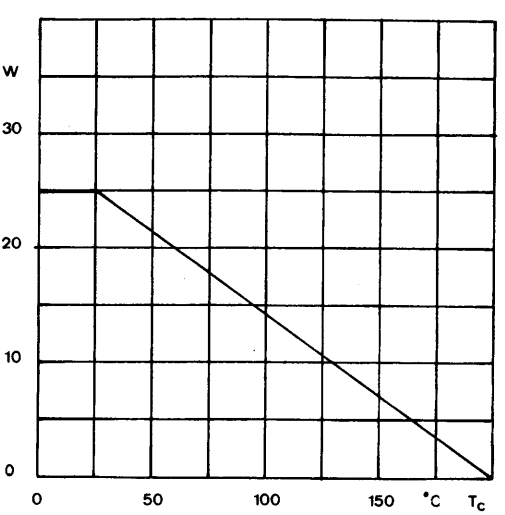
Power Gain vs Frequency



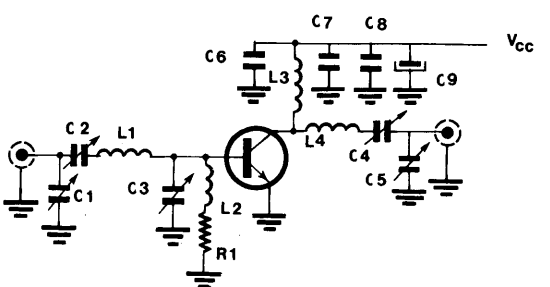
Collector Base capacitance



Power - Temperature Derating Curve



88 MHz TEST CIRCUIT



C_1-C_4 24/200 pF trimer capacitor
C_2 7/100 pF trimmer capacitor
C_3-C_5 55/300 pF trimmer capacitor
C_6 1000 pF
C_7 10000 pF
C_8 0.1 µF
C_9 100 µF/35 V

L_1 5 turns ≠ 14 AWG 3/8" I.D.
L_2 1 µH
L_3 9 turns ≠ 16 AWG 5/16" I.D.
L_4 4 turns ≠ 14 AWG 3/8" I.D.
R_1 2,4 Ω

TRW SEMICONDUCTORS

TP 2301
TP 2302
TP 2303

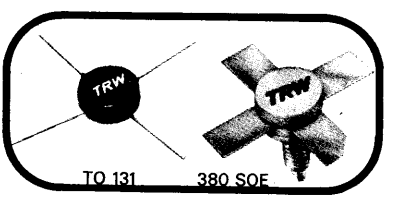
RF Power Transistors

3 W 10 W 30 W

175 MHz - 12.5 V

The TP 2301... series is intented for use in 12.5 volts VHF amplifier applications.

These low cost rugged devices have an excellent performance and can achieve in excess of 30 W with as little as 100 mW drive power.

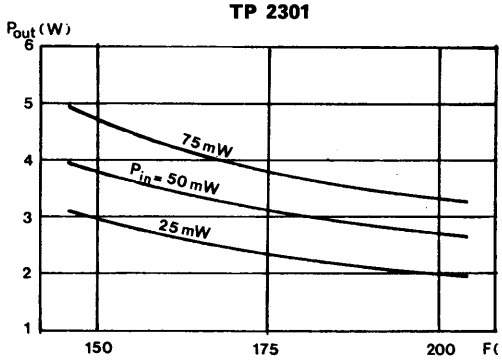


Electrical Characteristics (T_{case} = 25 °C)

	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	TP 2301	TP 2302	TP 2303	UNIT
DC Test	BV_{EBO}	Min. Emitter - Base Breakdown Voltage	I_B = 1 mA I_E = 5 mA I_C = 0 I_C = 0	4	4	4	V
	BV_{CEO}	Min. Collector - Emitter Breakdown Voltage	I_C = 40 mA I_C = 50 mA I_B = 0 I_B = 0	18	18	18	V
	BV_{CBO}	Min. Collector - Base Breakdown Voltage	I_C = 10 mA I_C = 20 mA I_C = 50 mA I_E = 0 I_E = 0 I_E = 0	40	40	40	V
	I_{CBO}	Max. Collector Cutoff Current	V_{CB} = 15 V I_E = 0	1	1	2	mA
	H_{FE}	Min. D.C Current Gain	V_{CE} = 10 V I_C = 50 mA V_{CE} = 5 V I_C = 500 mA V_{CE} = 5 V I_C = 500 mA	15	20	15	—
RF Test	P_{GAIN}	Min. Power Gain	V_{CB} = 12.5 V P_{in} = 0.1 W P_{in} = 1.2 W F = 175 MHz P_{in} = 7.5 W	3	10	30	W
	η_i	Min. Efficiency	V_{CE} = 12.5 V P_{out} = 3 W P_{out} = 10 W F = 175 MHz P_{out} = 30 W	60	60	60	%
	Z_{in}	Common Emitter Amplifier Typ Input Impedance	V_{CE} = 12.5 V P_{in} = 0.1 W F = 175 MHz P_{in} = 1.2 W P_{in} = 7.5 W	2.7 — j 5	1.27 + j 0.96	1.18 + j 1	Ω
	Z_{LOAD}	Common Emitter Amplifier Typ Load Impedance	V_{CE} = 12.5 V P_{out} = 3 W P_{out} = 10 W F = 175 MHz P_{out} = 30 W	16.1 + j17	5.74 + j 1.38	2.7 + j 0.48	Ω
	C_{OB}	Max Collector - Base Capacitance	V_{CB} = 15 V F = 1 MHz I_E = 0	8.5	40	80	pF
Operating	I_C	Continous Collector Current		1	3	7	A
	θ_{j-C}	Thermal Resistance	T_C = 25 °C	22	5	2.5	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65 °C to + 200 °C			°C
	P_D	Power Dissipation	T_C = 25 °C	8	30	70	W

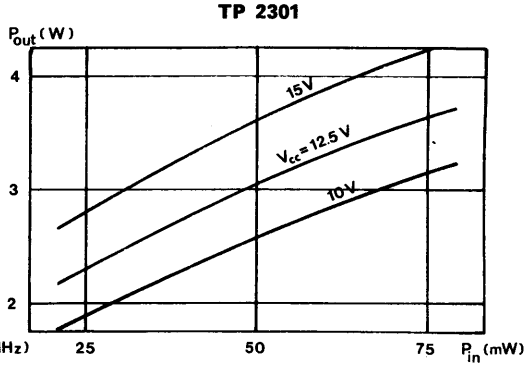
Output Power vs Frequency
(V_{CC} = 12.5 V)

TP 2301

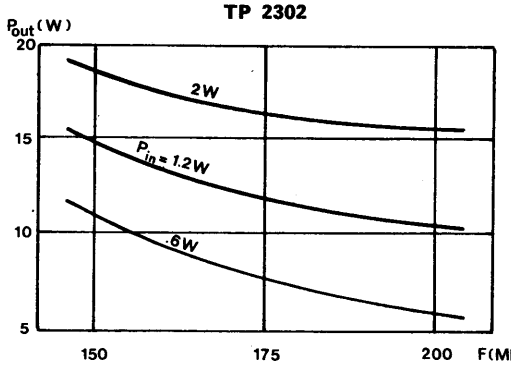


Output Power vs Input Power
(F = 175 MHz)

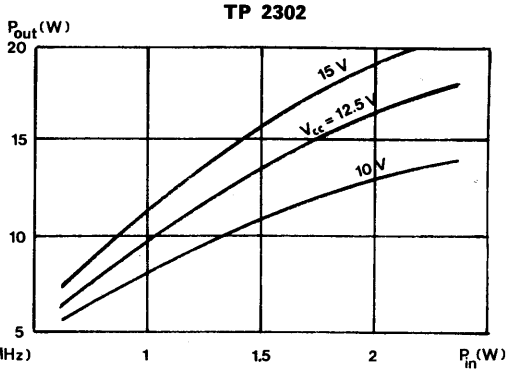
TP 2301



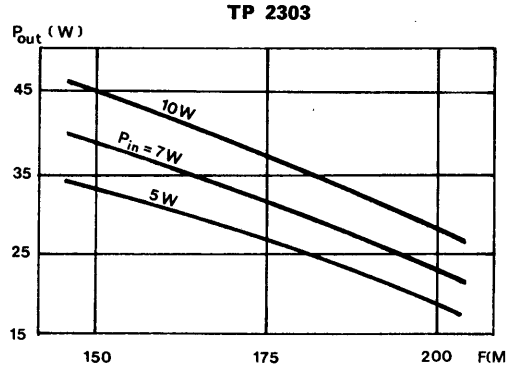
TP 2302



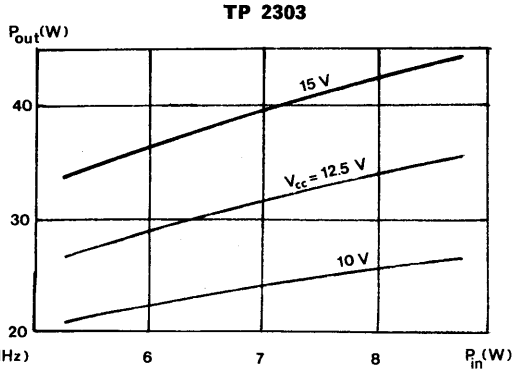
TP 2302



TP 2303

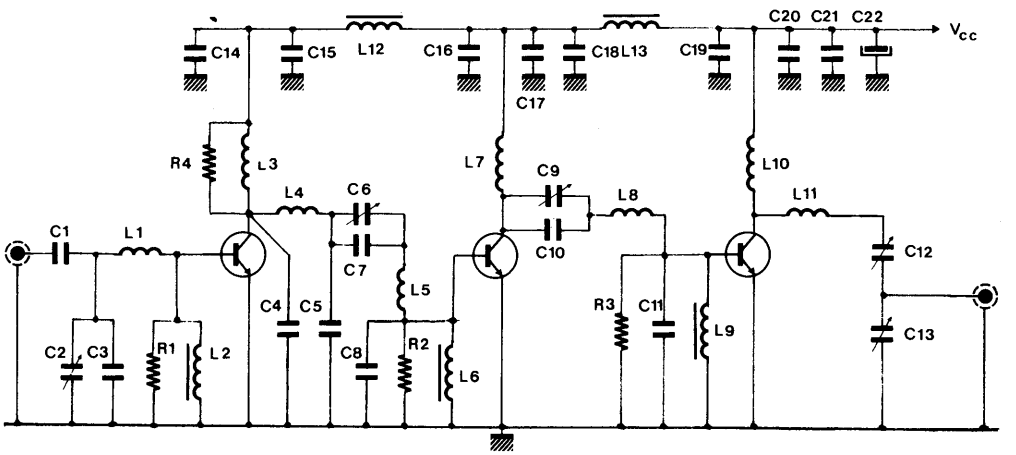


TP 2303



NOTA : Typical Characteristics

TYPICAL APPLICATION : 100 mW - 25 W, 12.5 V, 175 MHz Amplifier



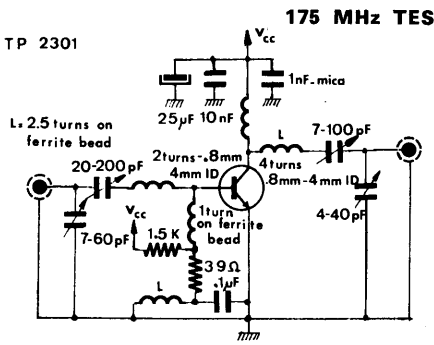
TP 2301 **TP 2302** **TP 2303**

C_1	15 pF ceramic capacitor
$C_{2,6,9}$	2-18 pF trimmer capacitor
C_3	20 pF ceramic capacitor
C_4	10 pF ceramic capacitor
C_5	100 pF ceramic capacitor
C_7	22 pF ceramic capacitor
$C_{8,11}$	150 pF ceramic capacitor
C_{10}	33 pF ceramic capacitor
$C_{12,13}$	4-100 pF trimmer capacitor
$C_{14,16,19}$	1000 pF ceramic capacitor
$C_{15,17,20}$	10000 pF ceramic capacitor
$C_{18,21}$	4700 pF ceramic capacitor
C_{22}	22 µF - 25 V
R_1	10 ohms 1/4 W
R_2	15 ohms 1/4 W
R_3	22 ohms 1 W
R_4	200 ohms 1/4 W

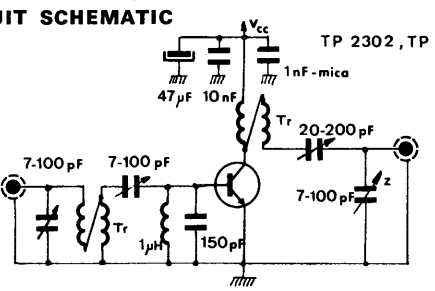
L_1	3 turns - 3 mm I.D. - 6/10 mm enamelled copper wire
$L_{2,9,13}$	0.1 µH molded inductance
L_3	0.39 µH molded inductance
$L_{4,8}$	2 turns - 3 mm I.D. - 6/10 mm enamelled copper wire
L_5	4 turns - 3 mm I.D. - 6/10 mm enamelled copper wire
L_6	0.15 µH molded inductance
L_7	4 turns - 6 mm I.D. - 8/10 mm enamelled copper wire
L_{10}	2 turns - 6 mm I.D. - 8/10 mm enamelled copper wire
L_{11}	1 turn - 8 mm I.D. - 8/10 mm enamelled copper wire
L_{12}	0.47 µH molded inductance

175 MHz TEST CIRCUIT SCHEMATIC

TP 2301



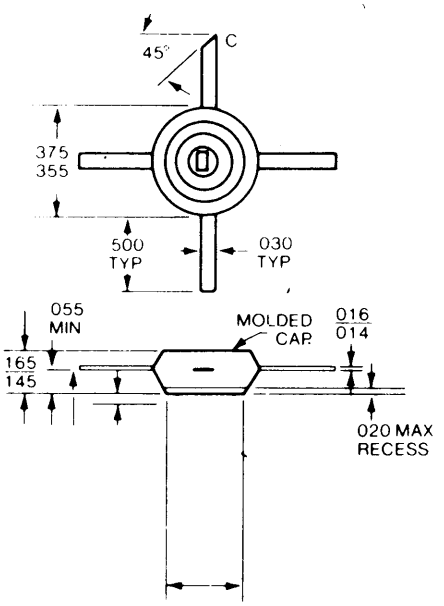
TP 2302, TP 2303



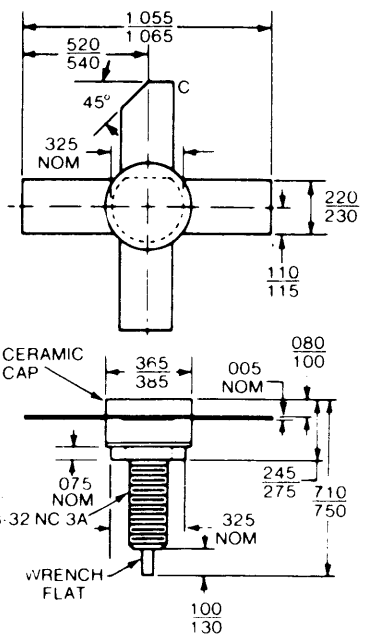
Tr = Twisted wires transformer - 2wires - .8mm - 5cm long

PACKAGE OUTLINE

TO-131



.380 SOE



TRW® SEMICONDUCTORS

TP 2310

RF Power Transistor

2.5 W - 175 MHz
12.5 V

The TP 2310 is designed for use in 12.5 V VHF applications and is ideally suited for use in the predriver or driver stage of a power amplifier where high gain is required.

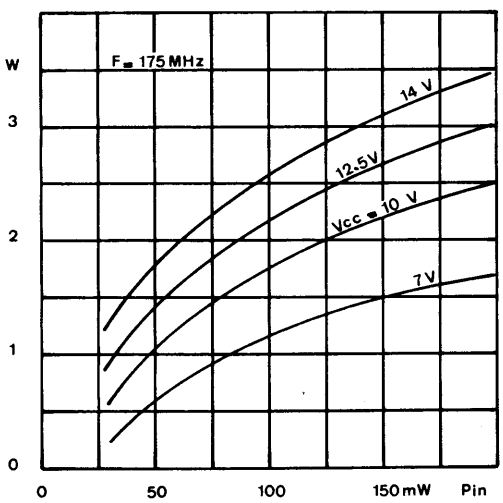
TO 39

Electrical Characteristics (T_{case} = 25 °C)

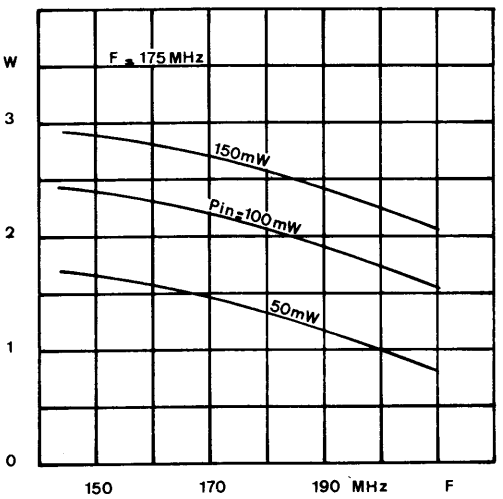
	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Test	BV_{EBO}	Emitter - Base Breakdown Voltage	I_E = 1 mA I_C = 0	4			V
	BV_{CEO}	Collector - Emitter Breakdown Voltage	I_C = 25 mA I_B = 0	16			V
	BV_{CBO}	Collector - Base Breakdwon Voltage	I_C = 5 mA I_E = 0	35			V
	I_{CBO}	Collector Cutoff Current	V_{CB} = 15 V I_E = 0			1	mA
	H_{FE}	D.C Current Gain	V_{CE} = 5 V I_C = 100 mA	20			—
RF Test	P_{GAIN}	Power Gain	V_{CE} = 12.5 V F = 175 MHz P_{in} = 150 mW	2.5			W
	η	Efficiency	V_{CE} = 12.5 V F = 175 MHz P_{out} = 25 W				%
	Z_{in}	Common Emitter Amplifier Input Impedance	V_{CE} = 12.5 V F = 175 MHz P_{in} = 150 mW		1.41 — j 10.62		Ω
	Z_{Load}	Common Emitter Amplifier Loac Impedance	V_{CE} = 12.5 V F = 175 MHz P_{out} = 2.5 W		38.3 + j 28.8		Ω
	C_{OB}	Collector - Base Capacitance	V_{CB} = 15 V F = 1 MHz		5	7	pF
Operating	I_C	Continous Collector Current				0.7	A
	θ_{j-C}	Thermal Resistance	T_C = 25 °C			23.5	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65° -		200°	°C
	P_D	Power Dissipation	T_C = 25 °C			7.5	W

TYPICAL CHARACTERISTICS

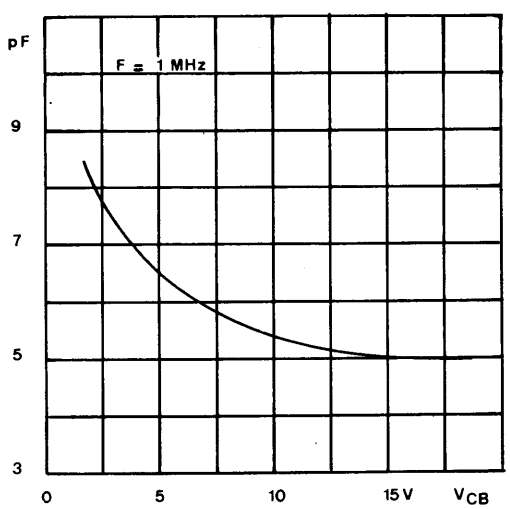
Output Power vs Input Power and Voltage Supply



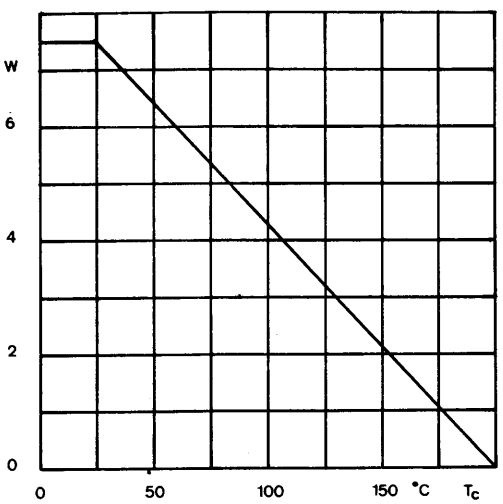
Output Power vs Frequency and Input Power



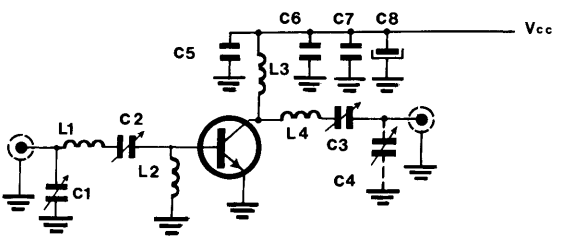
Collector Base Capacitance



Power - Temperature Derating Curve



POWER GAIN TEST CIRCUIT

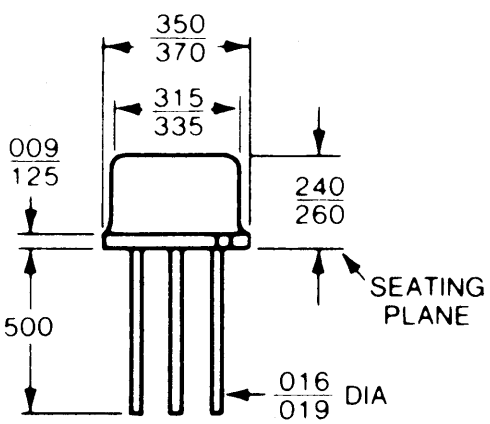


COMPONENTS

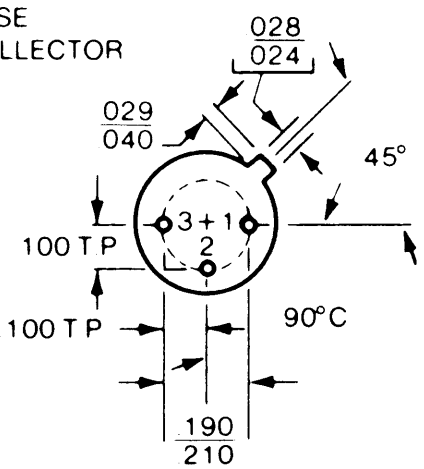
C_1-C_2-C_3	24/200 pF ≠ trimmer capacitor
C_4	7/100 pF trimmer capacitor
C_5	1000 pF
C_6	10000 pF
C_7	0.1 µF
C_8	100 µF/35 V
L_1-L_4	4 turns ≠ 14 AWG 1/2" I.D.
L_2	0.47 µH
L_3	6 turns 14 AWG 1/2" I.D. close wound

PACKAGE OUTLINE

TO-39



PIN 1 EMITTER
2 BASE
3 COLLECTOR



TRW® SEMICONDUCTORS

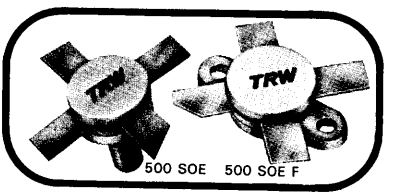
TP 2404

RF Power Transistor

50 W - 175 MHz
28 V

The TP 2404 is designed for use in 28 V FM or 12.5 V AM VHF amplifiers operating under class A, B or C conditions.

Its construction which incorporates gold metalization and diffused ballast resistors for longer life, enables the part to be used at its maximum ratings and be able to withstand an infinite VSWR at all phase angles.

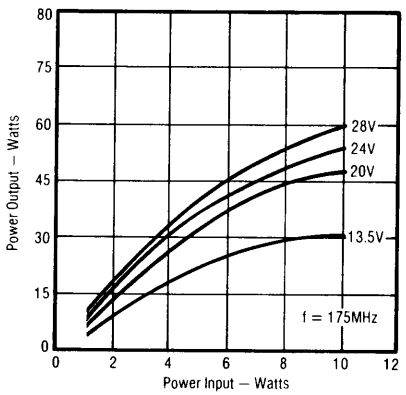


500 SOE 500 SOE F

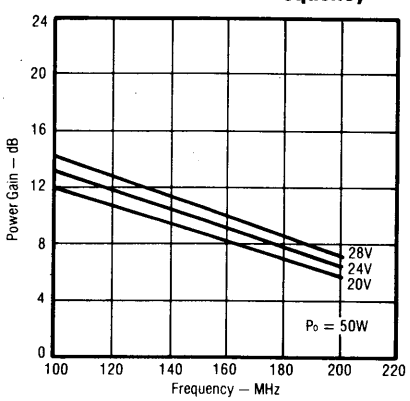
Electrical Characteristics (T_{case} = 25 °C)

	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Test	BV_{EBO}	Emitter - Base Breakdown Voltage	I_E = 25 mA I_C = 0	4			V
	BV_{CEO}	Collector - Emitter Breakdown Voltage	I_C = 100 mA I_B = 0	35			V
	BV_{CBO}	Collector - Base Breakdown Voltage	I_C = 100 mA I_E = 0	65			V
	I_{CBO}	Collector Cutoff Current Voltage	V_{CB} = 30 V I_E = 0			2	mA
	H_{FE}	D.C Current Gain	V_{CE} = 5 V I_C = 1000 mA	10			—
RF Test	P_{GAIN}	Power Gain	V_{CE} = 28 V F = 175 MHz P_{in} = 9 W	50			W
	η	Efficiency	V_{CE} = 28 V F = 175 MHz P_{out} = 50 W	65	70		%
	Load VSWR	Mismatch Tolerance	All Phases Angles V_{CE} = 28 V F = 175 MHz P_{out} = 50 W		∞ : 1		
	Z_{in}	Common Emitter Amplifier Input Impedance	V_{CE} = 28 V F = 175 MHz P_{in} = 9 W		1 + j 1.3		Ω
	Z_{Load}	Common Emitter Amplifier Load Impedance	V_{CE} = 28 V F = 175 MHz P_{out} = 50 W		8 + j 3		Ω
	C_{OB}	Collector - Base Capacitance	V_{CB} = 30 V F = 1 MHz			90	pF
Operating	I_C	Continous Collector Current				8	A
	θ_{j-C}	Thermal Resistance	T_C = 25 °C			1.5	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65°		200°	°C
	P_D	Power Dissipation	T_C = 25 °C			115	W

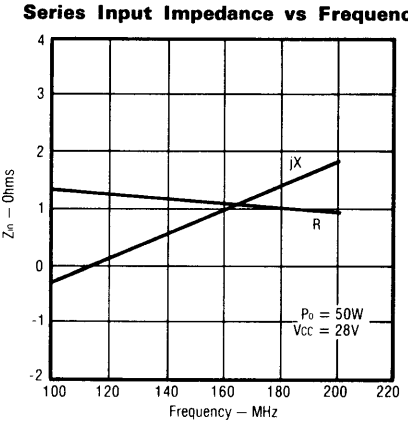
Power Output vs Power Input



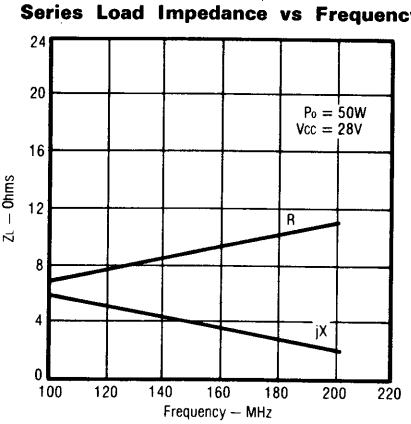
Power Gain vs Frequency



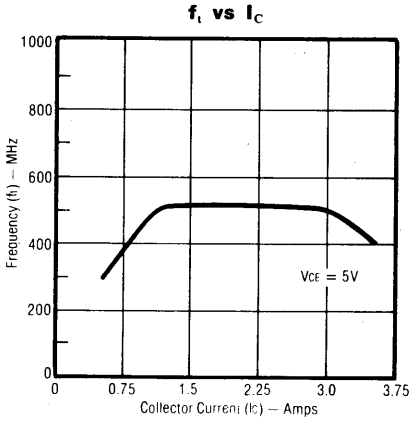
Series Input Impedance vs Frequency



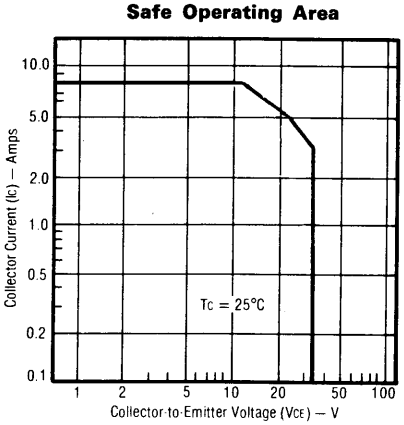
Series Load Impedance vs Frequency



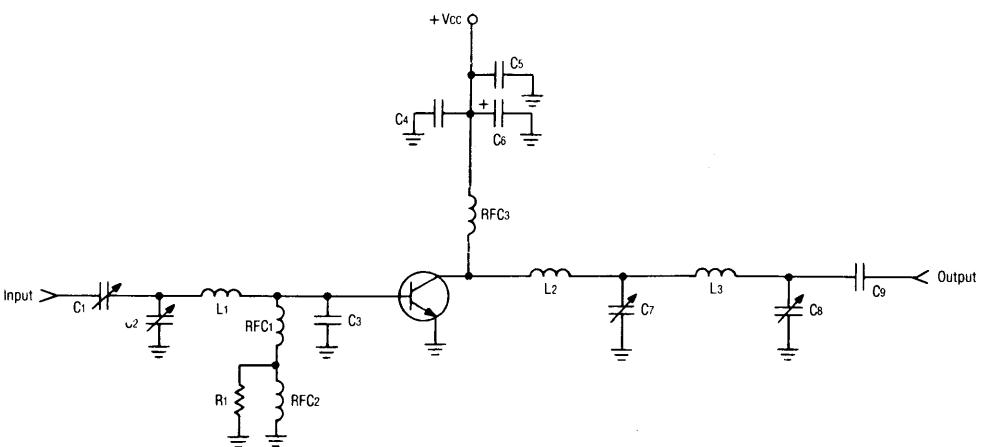
f_t vs I_C



Safe Operating Area



175 MHz TEST CIRCUIT

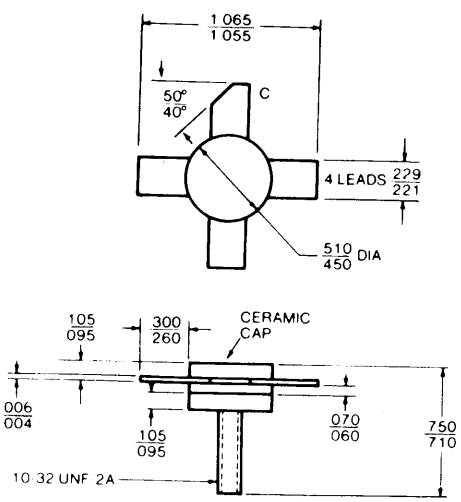


$C_{1,2,8}$ 8-60 pF ARCO # 404
C_3 150 pF UNELCO
C_4 500 pF UNELCO
C_5 0.1 mF disc capacitor
C_6 5 mF 50 V electrolytic
C_7 5-80 pF ARCO # 462
C_9 0.001 mF disc capacitor
L_1 1 turn, 0.1" wide by 0.02" thick copper strip, 5/16" I.D.

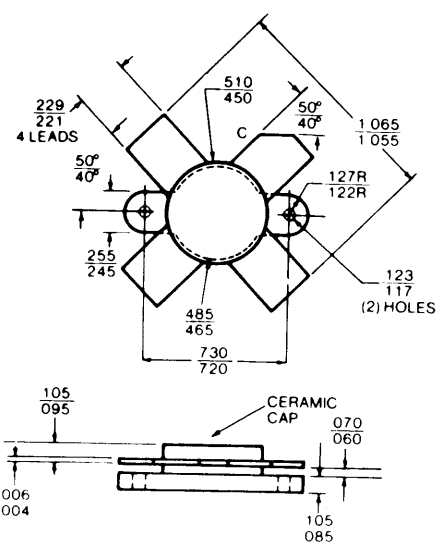
L_2 U-shaped copper strip, 0.1" wide by 0.02" wide thick 0.25" high by 0.675" long
L_3 1-1/2 turns, 0.1" wide by 0.02" thick copper strip, 5/16" I.D.
R_1 10 ohms, 0.5 W carbon resistor
RFC_1 150 nH molded inductor
RFC_2 10.000 nH molded inductor
RFC_3 4 turns # 16 AWG, 5/16" I.D.

PACKAGE OUTLINE

.500 SOE



.500 SOE F



TRW® SEMICONDUCTORS

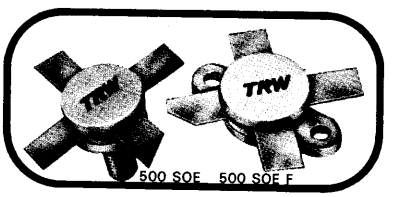
TP 2405

RF Power Transistor

90 W - 175 MHz
27 V

The TP 2405 is designed for use in 28 V FM and 12.5 V AM VHF amplifiers operating under class A, B or C conditions.

Its construction which incorporates gold metalization and diffused ballast resistors for longer life, enables the part to withstand an infinite VSWR at all phase angles.

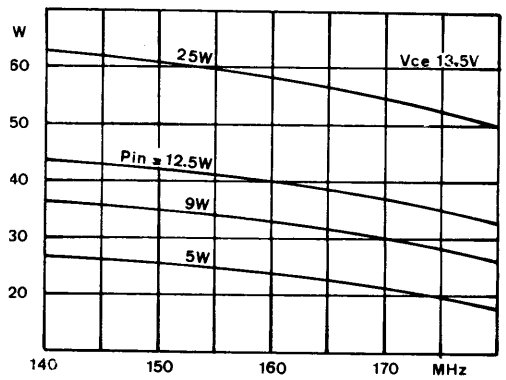


500 SOE 500 SOE F

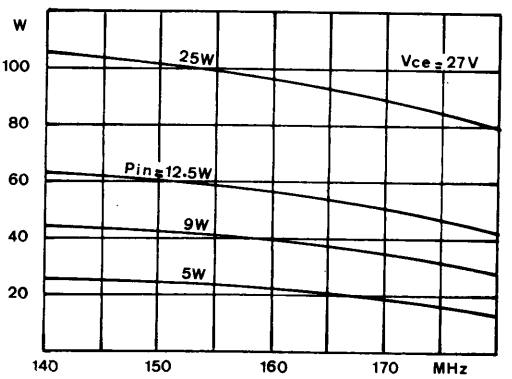
Electrical Characteristics (T_{case} = 25 °C)

	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Test	BV_{EBO}	Emitter - Base Breakdown Voltage	I_E = 10 mA I_C = 0	4			V
	BV_{CEO}	Collector - Emitter Breakdown Voltage	I_C = 100 mA I_B = 0	35			V
	BV_{CBO}	Collector - Base Breakdown Voltage	I_C = 100 mA I_E = 0	65			V
	I_{CBO}	Collector Cutoff Current	V_{CB} = 30 V I_E = 0			2	mA
	H_{FE}	D.C Current Gain	V_{CE} = 5 V I_C = 3 A	10			—
RF Test	P_{GAIN}	Power Gain	V_{CE} = 27 V F = 150 MHz P_{in} = 25 W V_{CE} = 27 V F = 150 MHz P_{in} = 12.5 W V_{CE} = 13.5 V F = 150 MHz P_{in} = 9 W	90 45 22.5	100 50 25		W
	η	Efficiency	V_{CE} = 27 V F = 150 MHz P_{out} = 100 W	60			%
	Load VSWR	Mismatch Tolerance	V_{CE} = 27 V P_{out} = 75 W All Phases F = 150 MHz P_{out} = 100 W		∞ : 1 10 : 1		
	Z_{in}	Common Emitter Amplifier Input Impedance	V_{CE} = 27 V F = 150 MHz P_{in} = 25 W		1 + j 5		Ω
	Z_{Load}	Common Emitter Amplifier Load Impedance	V_{CE} = 27 V F = 150 MHz P_{out} = 100 W		3 + j 1		Ω
	C_{OB}	Collector - Base Capacitance	V_{CB} = 30 V F = 1 MHz		115	150	pF
Operating	I_C	Continous Collector Current				10	A
	θ_{j-c}	Thermal Resistance	T_C = 25 °C			1.25	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65°		200°	°C
	P_D	Power Dissipation	T_C = 25 °C			140	W

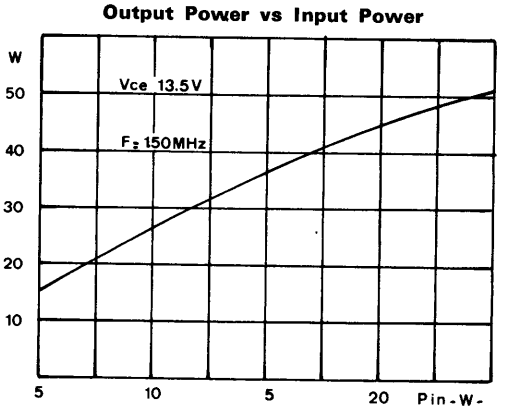
Output Power vs Frequency and Input Power



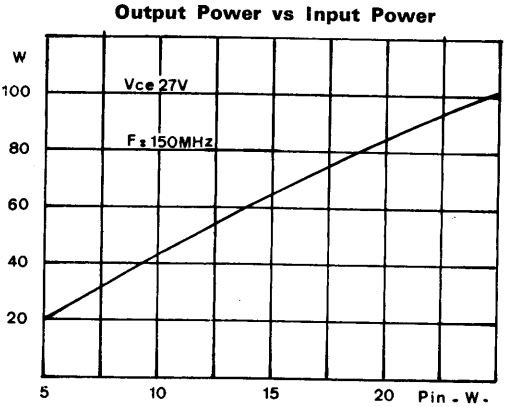
Output Power vs Frequency and Input Power



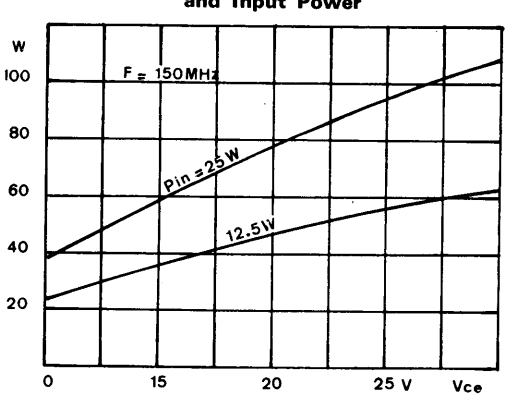
Output Power vs Input Power



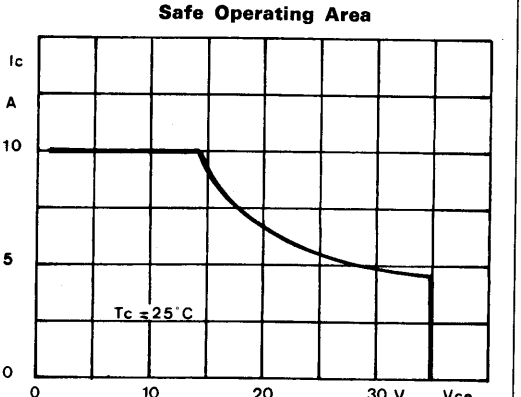
Output Power vs Input Power



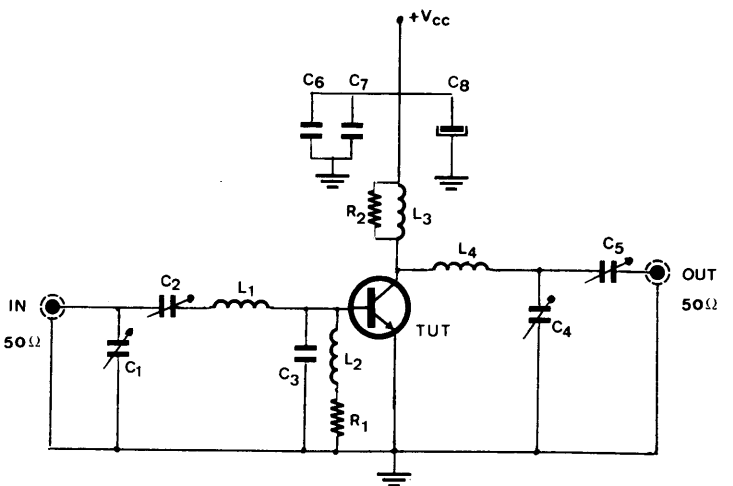
Output Power vs Voltage Supply and Input Power



Safe Operating Area



150 MHz TEST CIRCUIT SCHEMATIC



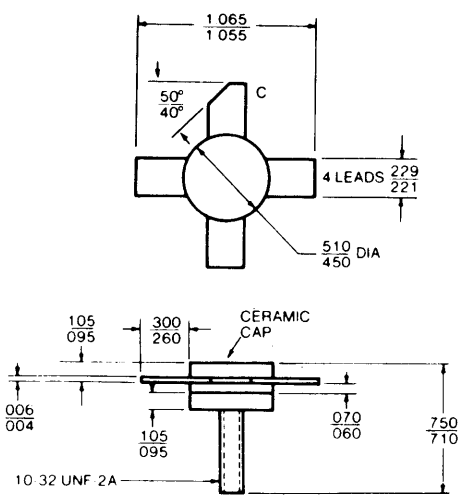
C_1 = C_4 = trimmer capacitor ARCO 423
C_2 = trimmer capacitor ARCO 425
C_3 = 250 pF mica capacitor UNELCO
C_5 = trimmer capacitor ARCO 404
C_6 = 1000 pF ceramic capacitor
C_7 = 10 nF ceramic capacitor
C_8 = 47 μF/63 V electrolytic

L_1 = 2 turns silvered wire 15/10 mm - 6 mm I.D.
L_2 = 0.15 μH molded coil
L_3 = 10 turns enameled wire 8/10 mm woud on R2
L_4 = copper strip 2 mm × 30 mm

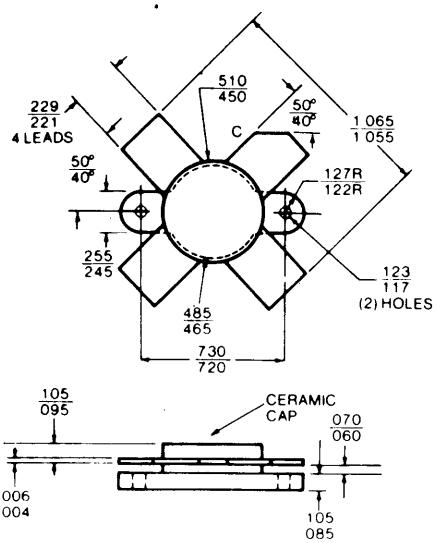
R_1 = 2.7 ohms 1/2 W carbon composition
R_2 = 1 K ohms 2 W carbon composition

PACKAGE OUTLINE

.500 SOE



.500 SOE F



TRW SEMICONDUCTORS

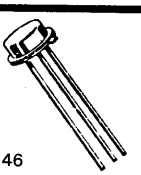
TP 2500

RF Power Transistor

470 MHz - 12 V

The TP 2500 has been especially designed for use in 12,5 V VHF and UHF amplifiers where size is of prime importance.

Its low profile TO 46 and high gain makes it ideally suited for use in pocketphone and portable instrument applications.

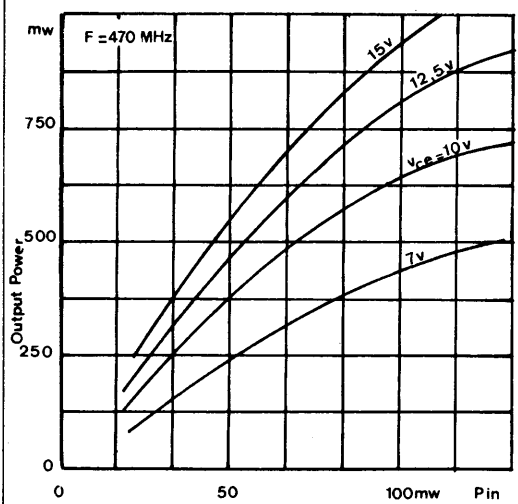


TO 46

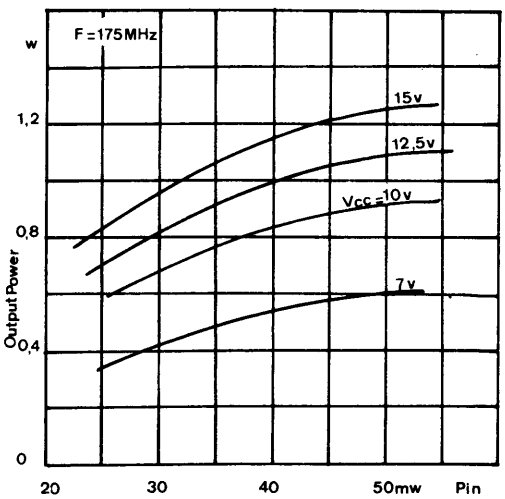
Electrical Characteristics (T_{case} = 25 °C)

	SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Test	BV_{EBO}	Emitter - Base Breakdown Voltage	I_E = 1 mA I_C = 0	4			V
	BV_{CEO}	Collector - Emitter Breakdown Voltage	I_C = 25 mA I_B = 0	16			V
	BV_{CBO}	Collector - Base Breakdown	I_C = 5 mA I_E = 0	35			V
	I_{CBO}	Collector Cutoff Current	V_{CB} = 15 V I_B = 0			1	mA
	H_{FE}	D.C Current Gain	V_{CE} = 5 V I_C = 100 mA	20	70		—
RF Test	P_{GAIN}	Power Gain	V_{CE} = 12.5 V P_{in} = 50 mW F = 470 MHz F = 175 MHz	0.35 0.9			W
	η	Efficiency	V_{CE} = 12.5 V F = 470 MHz P_{out} = 400 mW	60	70		%
	Z_{in}	Common Emitter Amplifier Input Impedance	V_{CE} = 12.5 V P_{in} = 50 mW F = 470 MHz F = 175 MHz		4.35 + j 5.22 4.15 — j 3.76		Ω
	Z_{Load}	Common Emitter Amplifier Load Impedance	V_{CE} = 12.5 V P_{out} = 400 mW F = 470 MHz F = 175 MHz		26 + j 47.4 42.5 — j 68		Ω
	C_{OB}	Collector - Base Capacitance	V_{CB} = 15 V F = 1 MHz		5	7	pF
Operating	I_C	Continous Collector Current				0.7	A
	θ_{j-C}	Thermal Resistance	T_C = 25 °C			87.5	°C/W
	T_{STG}	Storage Temperature and Junction Temperature		— 65°		200°	°C
	P_D	Power Dissipation	T_C = 25 °C			2	W

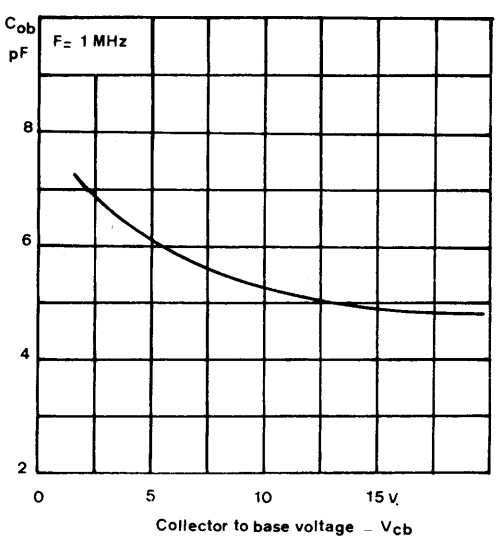
Output Power vs Input Power and Voltage Supply (AT 470 MHz)



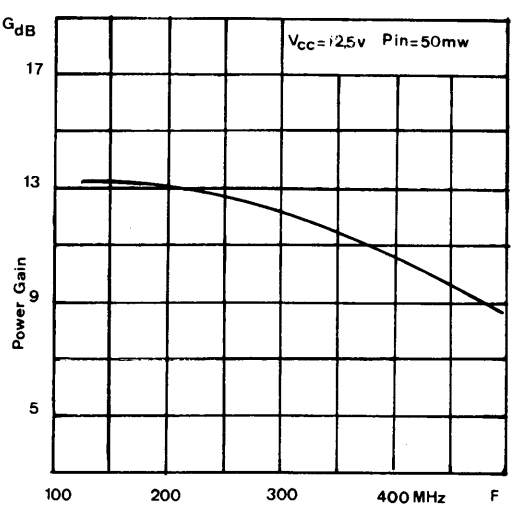
Output Power vs Input Power and Voltage Supply (AT 175 MHz)



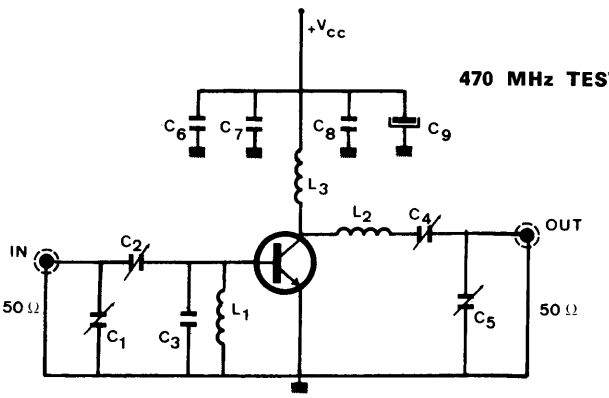
Collector Base Capacitance



Output Power vs Frequency

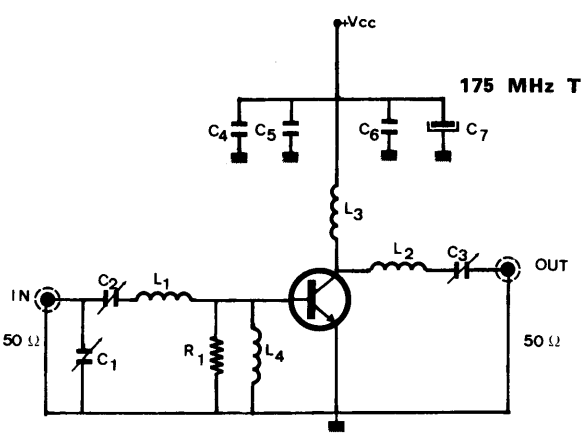


470 MHz TEST CIRCUIT



L_1 molded coil - 0,1 µH
L_2 = 1 turn silvered wire ⌀ 0.3 mm - 4 mm I.D.
L_3 = 2.5 turns silvered wire ⌀ 0.3 mm - 4 mm I.D.
C_1 = C_4 = ARCO 402 - 1.5-20 pF - trimmer capacitor
C_2 = ARCO 403 - 4-40 pF - trimmer capacitor
C_5 = ARCO 400 - 0.9-7 pF - trimmer capacitor
C_3 = Chip ATC - 39 pF
C_6 = 1000 pF - mica capacitor
C_7 = 680 nF - ceramic disc
C_8 = 0.1 µF - ceramic disc
C_9 = 10 µF - electrolytic

175 MHz TEST CIRCUIT



L_1 = 2 turns silvered wire - ⌀ 0.8 mm - 6 mm I.D.
L_2 = 4 turns silvered wire - ⌀ 0.8 mm - 6 mm I.D.
L_3 = 3 turns silvered wire - ⌀ 0.8 mm - 6 mm I.D.
L_4 = molded coil - 0.1 µH
R_1 = 22 ohms - 1/2 W - carbon composition
C_1 = C_2 = ARCO 425 - 24-200 pF - trimmer capacitor
C_3 = ARCO 427 - 55-300 pF - trimmer capacitor
C_4 = 1000 pF - mica capacitor
C_5 = 10 nF - ceramic disc
C_6 = 0.1 µF - ceramic disc
C_7 = 10 µF - electrolytic

PACKAGE OUTLINE