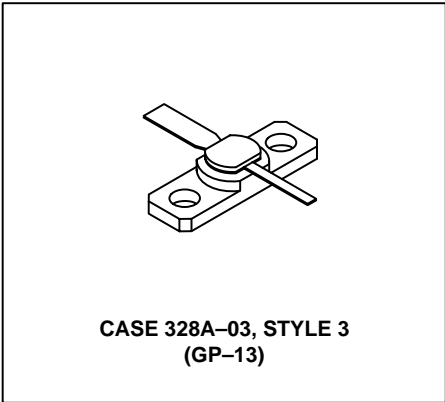


The RF Line

Microwave Power Oscillator Transistor

... designed for use as power oscillators at frequencies to 3.0 GHz with typical output power of over 1.0 watt.

- Operation to 3.0 GHz
- High Output Power (1.2 W Typ @ 2.5 GHz)
- Rugged — Capable of Withstanding High Load VSWR
- High Reliability
- Hermetic Package
- Gold Metallization
- Diffused Emitter Ballast Resistors
- Common Collector Configuration
- Formerly named TRW62601
- Circuit board photomaster available upon request by contacting RF Tactical Marketing in Phoenix, AZ.



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	22	Vdc
Collector–Base Voltage	V_{CBO}	45	Vdc
Emitter–Base Voltage	V_{EBO}	3.5	Vdc
Collector Current — Continuous	I_C	0.5	Adc
Operating Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	15	°C/W

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage ($I_C = 20\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	22	—	—	Vdc
Collector–Base Breakdown Voltage ($I_C = 1.0\text{ mA}$, $I_E = 0$)	$V_{(BR)CBO}$	45	—	—	Vdc
Emitter–Base Breakdown Voltage ($I_E = 0.25\text{ mA}$, $I_C = 0$)	$V_{(BR)EBO}$	3.5	—	—	Vdc
Collector–Emitter Breakdown Voltage ($I_C = 20\text{ mA}$, $R_{BE} = 10\ \Omega$)	$V_{(BR)CER}$	50	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 28\text{ V}$, $I_E = 0$)	I_{CBO}	—	—	0.125	mAdc

ON CHARACTERISTICS

DC Current Gain ($I_C = 100\text{ mA}$, $V_{CE} = 5.0\text{ V}$)	h_{FE}	20	—	120	—
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(continued)

ELECTRICAL CHARACTERISTICS — continued

Characteristic	Symbol	Min	Typ	Max	Unit
DYNAMIC CHARACTERISTICS					
Output Capacitance ($V_{CB} = 28\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{ob}	—	—	5.0	pF
FUNCTIONAL TESTS					
Oscillator Output Power ($V_{CE} = 20\text{ V}$, $f = 2.0\text{ GHz}$, $I_E = 220\text{ mA}$)	P_{out}	1.25	—	—	W
Load Mismatch ($V_{CE} = 20\text{ V}$, $I_E = 220\text{ mA}$, $P_{out} = 1.25\text{ W}$, $f = 2.0\text{ GHz}$, Load VSWR = $\infty:1$, All Phase Angles)	ψ	No Degradation in Output Power			
Cutoff Frequency ($V_{CE} = 20\text{ V}$, $I_E = 220\text{ mA}$)	f_t	—	2.7	—	GHz

TYPICAL CHARACTERISTICS

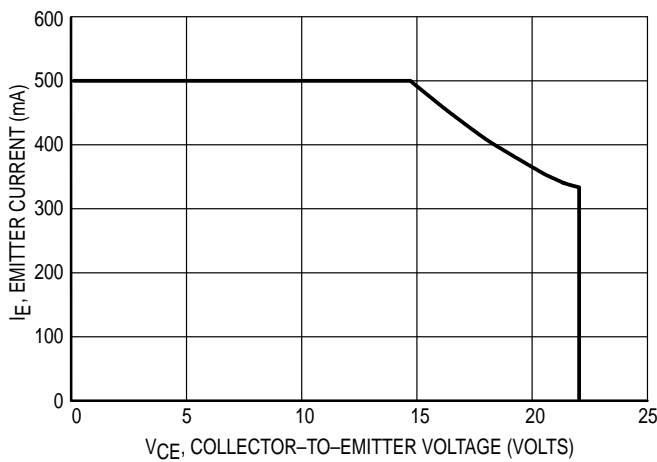


Figure 1. DC Safe Operating Area

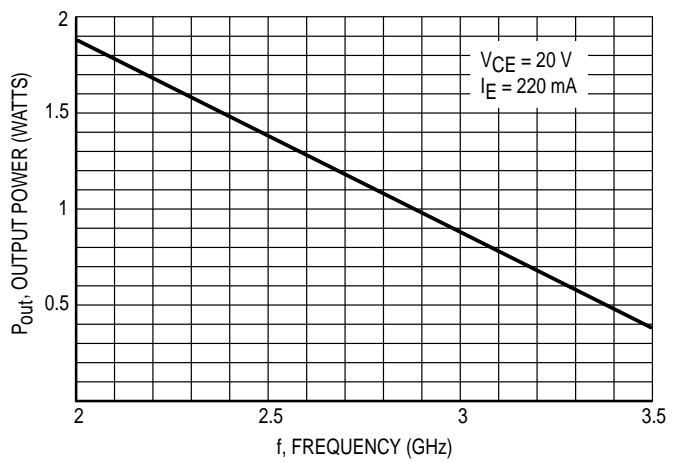


Figure 2. Output Power versus Frequency

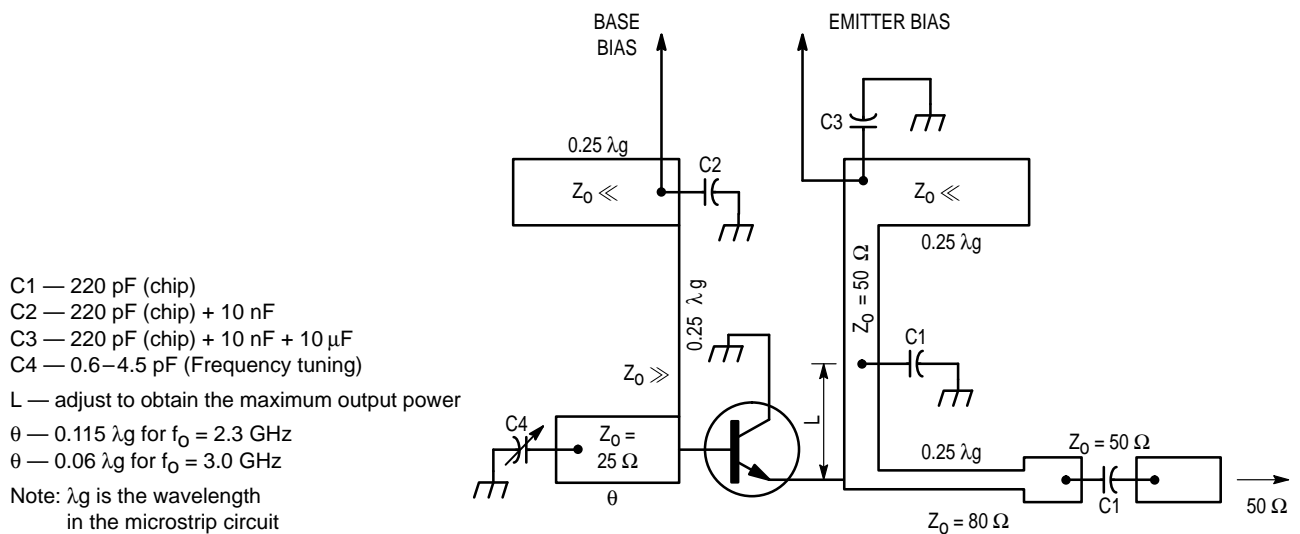
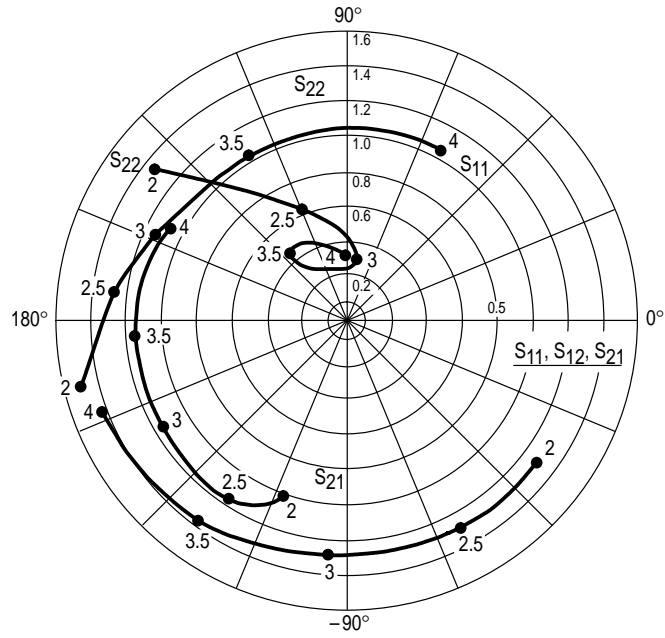


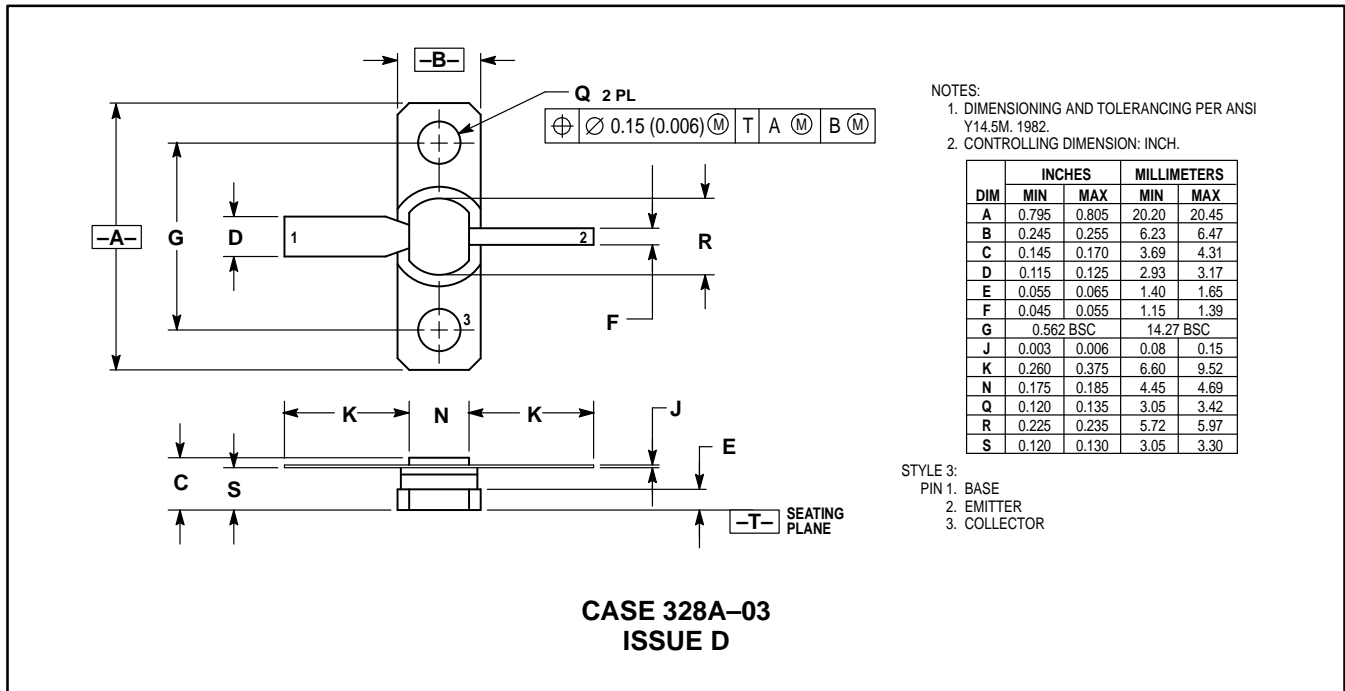
Figure 3. Test Circuit

TYPICAL CHARACTERISTICS



**Figure 4. Small Signal S-Parameters
(V_{CE} = 20 V, I_E = 220 mA)**

PACKAGE DIMENSIONS



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.795	0.805	20.20	20.45
B	0.245	0.255	6.23	6.47
C	0.145	0.170	3.69	4.31
D	0.115	0.125	2.93	3.17
E	0.055	0.065	1.40	1.65
F	0.045	0.055	1.15	1.39
G	0.562 BSC		14.27 BSC	
J	0.003	0.006	0.08	0.15
K	0.260	0.375	6.60	9.52
N	0.175	0.185	4.45	4.69
Q	0.120	0.135	3.05	3.42
R	0.225	0.235	5.72	5.97
S	0.120	0.130	3.05	3.30

STYLE 3:

- PIN 1. BASE
2. EMITTER
3. COLLECTOR

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