

The RF Line UHF Power Transistor

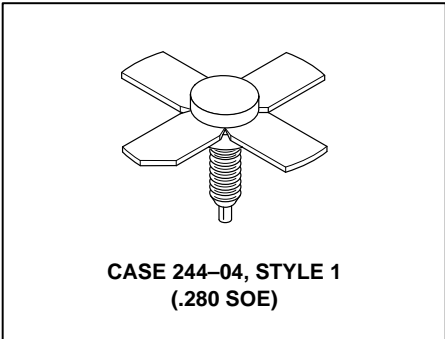
... designed primarily for wideband, large-signal output and driver amplifier stages to 1.0 GHz.

- Designed for Class A Linear Power Amplifiers
- Specified 25 Volt, 900 MHz Characteristics:
 - Output Power — 3.0 Watts
 - Power Gain — 7.5 dB Min, Class AB
- Gold Metallization for Improved Reliability



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	30	Vdc
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage	V_{EBO}	4.0	Vdc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	29 0.167	Watts W/ $^\circ\text{C}$
Operating Junction Temperature	T_J	200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$



THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case ($T_C = 70^\circ\text{C}$)	$R_{\theta JC}$	6.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 15\text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	30	—	—	Vdc
Collector-Emitter Breakdown Voltage ($I_C = 15\text{ mA}$, $V_{BE} = 0$)	$V_{(BR)CES}$	60	—	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 15\text{ mA}$, $I_E = 0$)	$V_{(BR)CBO}$	60	—	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 5.0\text{ mA}$, $I_C = 0$)	$V_{(BR)EBO}$	4.0	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 25\text{ V}$, $I_E = 0$)	I_{CBO}	—	—	2.0	mAdc

ON CHARACTERISTICS

DC Current Gain ($I_C = 500\text{ mA}$, $V_{CE} = 5.0\text{ V}$)	h_{FE}	20	—	80	—
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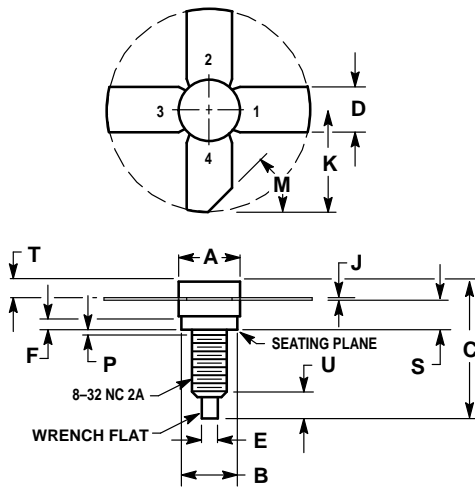
DYNAMIC CHARACTERISTICS

Output Capacitance ($V_{CB} = 28\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{ob}	—	—	9.8	pF
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FUNCTIONAL TESTS

Common-Emitter Amplifier Power Gain ($V_{CE} = 25\text{ V}$, $P_{Out} = 3.0\text{ W}$, $f = 900\text{ MHz}$, $I_C = 0.4\text{ A}$)	G_{PE}	7.5	8.5	—	dB
Load Mismatch ($V_{CE} = 25\text{ V}$, $I_C = 0.4\text{ A}$, $P_{Out} = 3.0\text{ W}$, $f = 900\text{ MHz}$, Load VSWR = $\infty:1$, All Phase Angles)	ψ	No Degradation in Output Power			

PACKAGE DIMENSIONS



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	7.06	7.26	0.278	0.286
B	6.20	6.50	0.244	0.256
C	14.99	16.51	0.590	0.650
D	5.46	5.96	0.215	0.235
E	1.40	1.65	0.055	0.065
G	1.52	—	0.060	—
J	0.08	0.17	0.003	0.007
K	11.05	—	0.435	—
M	45° NOM		45° NOM	
P	—	1.27	—	0.050
S	3.00	3.25	0.118	0.128
T	1.40	1.77	0.055	0.070
U	2.92	3.68	0.115	0.145

STYLE 1:
 PIN 1. EMITTER
 2. BASE
 3. EMITTER
 4. COLLECTOR

CASE 244-04 ISSUE J

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