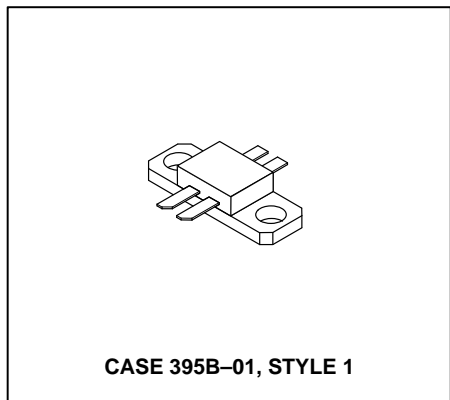
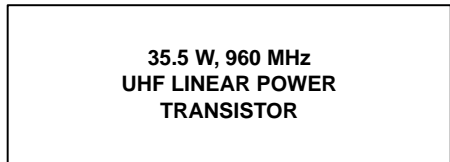


The RF Line

UHF Linear Power Transistor

The TP3024B is a balanced transistor designed specifically for use in cellular radio systems. This device permits the design of a Class AB push-pull, high gain, broadband amplifier having a high degree of linearity without the need for complicated biasing circuitry.

- Specified 26 Volts, 960 MHz Characteristics:
 - Output Power = 35.5 W
 - Minimum Gain = 7.5 dB
 - $I_{Qtotal} = 150$ mA
- Push-Pull Configuration



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Emitter-Base Voltage	V_{EBO}	4.0	Vdc
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 (1) ($T_C = 75^\circ\text{C}$)	$R_{\theta JC}$	3.0	°C/W

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 10$ mA, $R_{BE} = 75$ Ohms)	$V_{(BR)CER}$	40	—	—	Vdc
Collector-Emitter Leakage ($V_{CE} = 26$ V, $R_{BE} = 75$ Ohms)	I_{CER}	—	—	5.0	mA
Emitter-Base Breakdown Voltage ($I_C = 5.0$ mAdc, $I_C = 0$)	$V_{(BR)EBO}$	3.5	—	—	Vdc
Emitter-Base Leakage ($V_{BE} = 2.5$ V)	I_{EBO}	—	—	1.0	mA

ON CHARACTERISTICS (2)

DC Current Gain ($I_C = 500$ mA, $V_{CE} = 10$ V)	h_{FE}	15	—	100	—
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DYNAMIC CHARACTERISTICS (1)

Output Capacitance ($V_{CB} = 24$ V, $I_E = 0$, $f = 1.0$ MHz)	C_{ob}	—	17	25	pF
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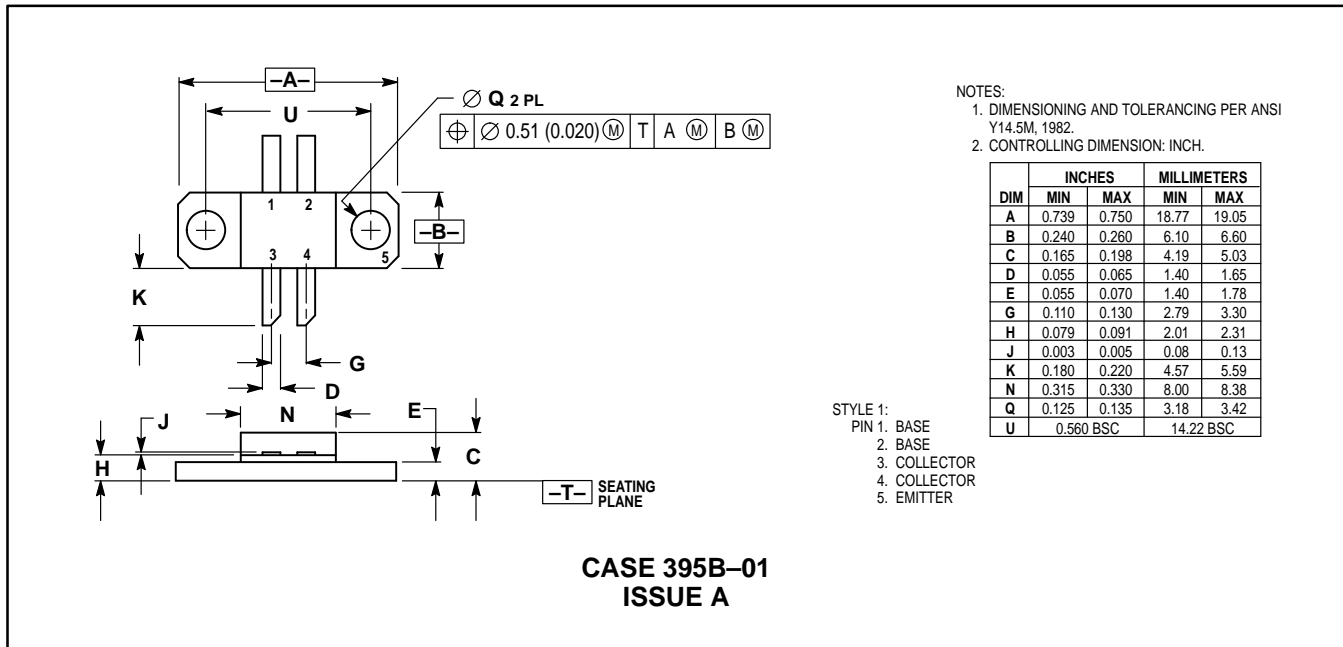
FUNCTIONAL TESTS (3)


Common-Emitter Amplifier Power Gain ($V_{CE} = 26$ V, $P_{out} = 35.5$ W, $f = 960$ MHz, $I_{Qtotal} = 150$ mA)	G_{PE}	7.5	—	—	dB
Collector Efficiency ($V_{CE} = 26$ V, $P_{out} = 35.5$ W, $f = 960$ MHz, $I_{Qtotal} = 150$ mA)	η_c	45	—	—	%

NOTE:

- Thermal resistance is determined under specified RF operating condition.
- Each transistor chip measured separately.
- Both transistor chips operating in push-pull amplifier.

PACKAGE DIMENSIONS



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