

MOTOROLA

SEMICONDUCTOR

TECHNICAL DATA

Advance Information

The RF Line

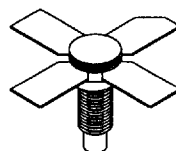
UHF Power Transistor

The TP3020A is designed for use in the 900 MHz mobile radio band. Its high gain and ability to operate Class A makes it an ideal choice as a driver operating Class A, Class B or Class C.

- 960 MHz
- 2.2 W — P_{out}
- 26 V — V_{CC}
- High Gain — 9.0 dB, Class A

TP3020A

2.2 W, 960 MHz
UHF POWER
TRANSISTOR
NPN SILICON



CASE 244-04, STYLE 1
(.280 SOE)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Emitter-Base Voltage	V_{EBO}	3.5	Vdc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	8.75 0.05	Watts W/ $^\circ\text{C}$
Operating Junction Temperature	T_J	200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case ($T_C = 70^\circ\text{C}$)	$R_{\theta JC}$	20	$^\circ\text{C/W}$

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Emitter-Base Breakdown Voltage ($I_E = 0.5\text{ mA}$, $I_C = 0$)	$V_{(BR)EBO}$	3.5	—	—	Vdc
Collector-Emitter Breakdown Voltage ($I_C = 10\text{ mA}$, $R_{BE} = 75\ \Omega$)	$V_{(BR)CER}$	40	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 24\text{ V}$, $I_E = 0$)	I_{CBO}	—	—	0.5	mAdc

ON CHARACTERISTICS

DC Current Gain ($I_C = 100\text{ mA}$, $V_{CE} = 5.0\text{ V}$)	h_{FE}	15	—	120	—
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DYNAMIC CHARACTERISTICS

Output Capacitance ($V_{CB} = 28\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{ob}	—	—	5.0	pF
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FUNCTIONAL TESTS

Common-Emitter Amplifier Power Gain ($V_{CE} = 26\text{ V}$, $P_{out} = 2.2\text{ W}$, $f = 960\text{ MHz}$, $I_Q = 200\text{ mA}$)	G_{PE}	9.1	—	—	dB
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This document contains information on a new product. Specifications and information herein are subject to change without notice.