Advance Information

The RF Line

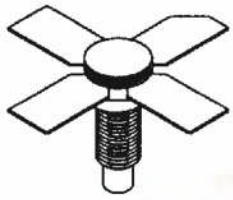
UHF Power Transistor

TP3020A

**2.2 W, 960 MHz
UHF POWER
TRANSISTOR
NPN SILICON**

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



**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°C Derate above 25°C	P_D	8.75 0.05	Watts W/°C
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 (T_C = 70°C)	$R_{\theta JC}$	20	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Emitter-Base Breakdown Voltage (I_E = 0.5 mA, I_C = 0)	$V_{(BR)EBO}$	3.5	—	—	Vdc
Collector-Emitter Breakdown Voltage (I_C = 10 mA, R_{BE} = 75 Ω)	$V_{(BR)CER}$	40	—	—	Vdc
Collector Cutoff Current (V_{CB} = 24 V, I_E = 0)	I_{CBO}	—	—	0.5	mAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 100 mA, V_{CE} = 5.0 V)	h_{FE}	15	—	120	—
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 28 V, I_E = 0, f = 1.0 MHz)	C_{ob}	—	—	5.0	pF
FUNCTIONAL TESTS					
Common-Emitter Amplifier Power Gain (V_{CE} = 26 V, P_{out} = 2.2 W, f = 960 MHz, I_Q = 200 mA)	G_{PE}	9.1	—	—	dB