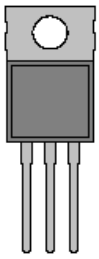
undefined

undefined

WINTransceiver

2SC1969
Silicon NPN Transistor
Final RF Power Output



The 2SC1969 is a silicon NPN epitaxial planer type transistor designed for RF power amplifiers on HF band mobile radio applications.

Features:

- High Power Gain: G_{pe} >/= 12dB (V_{CC} = 12V, P_O = 16W, f = 27MHz)
- Ability to Withstand Infinite VSWR Load when Operated at:
  V_{CC} = 16V, P_O = 20W, f = 27MHz

Application:

- 10 to 14 Watt Output Power Class AB Amplifier Applications in HF Band

Absolute Maximum Ratings: (T_C = +25°C unless otherwise specified)

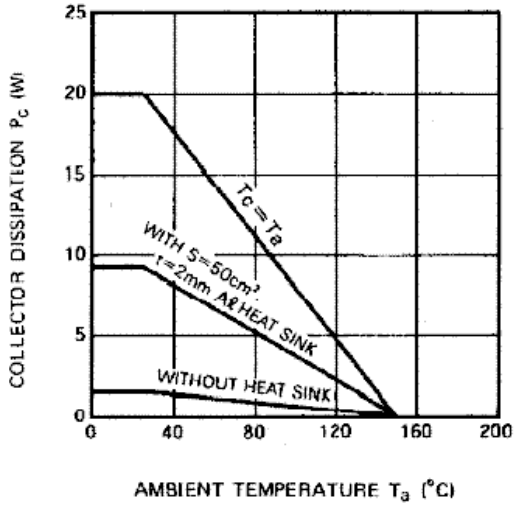
Collector-Emitter Voltage (R_{BE} = Infinity), V_{CEO}	25V
Collector-Base Voltage, V_{CBO}	60V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	6A
Collector Power Dissipation (T_A = +25°C), P_D	1.7W
Collector Power Dissipation (T_C = +50°C), P_D	20W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-55° to +150°C
Thermal Resistance, Junction-to-Case, R_{thJC}	6.25°C/W
Thermal Resistance, Junction-to-Ambient, R_{thJA}	73.5°C/W

Electrical Characteristics: (T_C = +25°C unless otherwise specified)

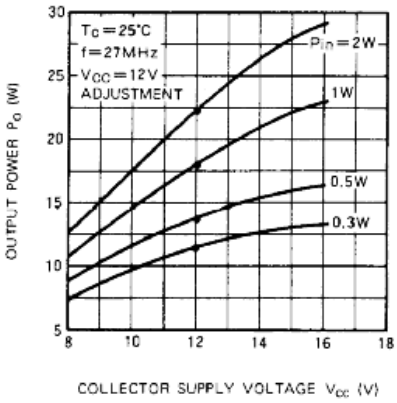
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, R_{BE} = Infinity	25	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 5mA, I_C = 0	5	-	-	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 30V I_E = 0	-	-	100	µA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0	-	-	100	µA
DC Forward Current Gain	h_{FE}	V_{CE} = 12V, I_C = 10mA, Note 1	10	50	180	
Power Output	P_O	V_{CC} = 12V, P_{in} = 1W, f = 27MHz	16	18	-	W
Collector Efficiency			60	70	-	%

Note 1. Pulse test: Pulse Width = 150µs, Duty Cycle = 5%.

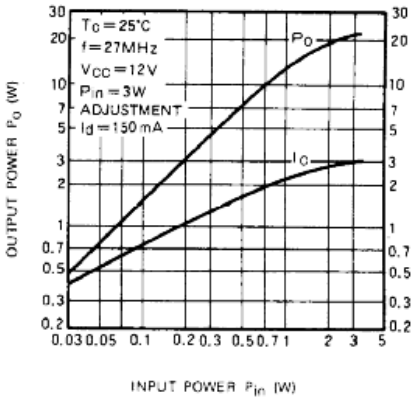
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



OUTPUT POWER VS. COLLECTOR SUPPLY VOLTAGE



IN CASE AB OPERATING OUTPUT POWER COLLECTOR CURRENT VS. INPUT POWER



CB Radio Banner Exchange