

2N2951 (SILICON)

2N2952



Collector connected to case

NPN silicon annular Star transistors for power amplifier applications to 100 MHz.

MAXIMUM RATINGS*

Rating	Symbol	Value		Units
Collector-Base Voltage	V_{CB}	60		Vdc
Collector-Emitter Voltage	V_{CES}	60		Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
Collector Current (continuous)	I_C	250		mAdc
Base Current (continuous)	I_B	50		mAdc
Total Device Dissipation (25°C Case Temperature) (Derate above 25°C)	P_D	2N2951	2N2952	Watts mW/°C
		3.0 20	1.8 12	
Total Device Dissipation (25°C Ambient Temperature) (Derate above 25°C)	P_D	0.8 5.33	0.5 3.33	mW/°C
Junction Temperature	T_J	-65 to 175		°C
Storage Temperature Range	T_{stg}	-65 to 175		°C

* The maximum ratings as given for dc conditions can be exceeded on a pulse basis. See Electrical Characteristics.

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

Characteristic	Symbol	Conditions	Min	Max	Unit
Collector-Emitter Current	I_{CES}	$V_{CE} = 60\text{Vdc}, V_{BE} = 0$	--	100	$\mu\text{A dc}$
		$V_{CE} = 50\text{Vdc}, V_{BE} = 0, T_C = 175^\circ\text{C}$	--	500	$\mu\text{A dc}$
Collector Cutoff Current	I_{CBO}	$V_{GB} = 50\text{ Vdc}, I_E = 0$	--	0.1	$\mu\text{A dc}$
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{ Vdc}, I_C = 0$	--	100	$\mu\text{A dc}$
DC Current Gain	h_{FE}	$I_C = 10\text{ mA dc}, V_{CE} = 10\text{ Vdc}$	20	150	--
		$I_C = 150\text{ mA dc}, V_{CE} = 10\text{ Vdc}^*$	20	--	--
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150\text{ mA dc}, I_B = 15\text{ mA dc}$	--	0.5	Vdc
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 150\text{ mA dc}, I_B = 15\text{ mA dc}$	--	2.0	Vdc
Collector-Emitter Sustain Voltage ⁽¹⁾	$V_{CES(sus)}$	$I_C = 100\text{ mA}, R_{BE} = 0$	30	--	Volts
Collector-Emitter Open Base ⁽¹⁾ Sustain Voltage	$V_{CEO(sus)}$	$I_C = 100\text{ mA}, I_B = 0$	20	--	Volts
AC Current Gain	$ h_{fe} $	$V_{CE} = 10\text{ Vdc}, I_C = 10\text{ mA dc}$ $f = 50\text{ MHz}$	4.0	--	--
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{ Vdc}, I_E = 0, f = 100\text{ kHz}$	--	8.0	pF
Power Input	P_{in}	Test Circuit Fig.1 $P_{out} = 600\text{ mW}$ $f = 50\text{ MHz}$ $V_{CE} = 13.6\text{ Vdc}$ $I_{C(max)} = 125\text{ mA}$	--	100	mW
Efficiency	η		35	--	%

⁽¹⁾Pulse Width = 100 μs , Duty Cycle = 2%

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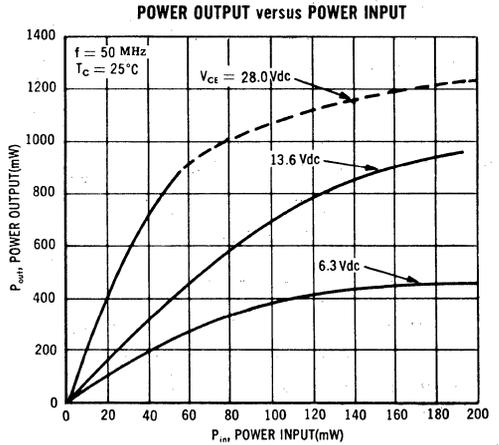
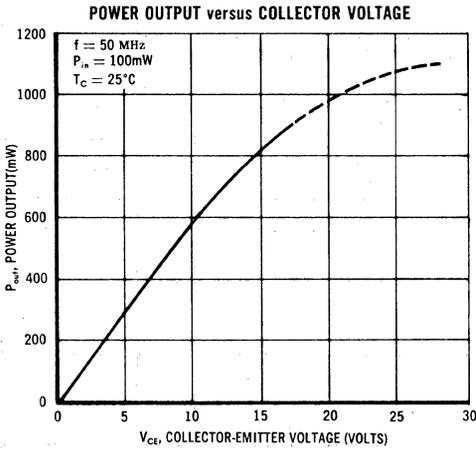
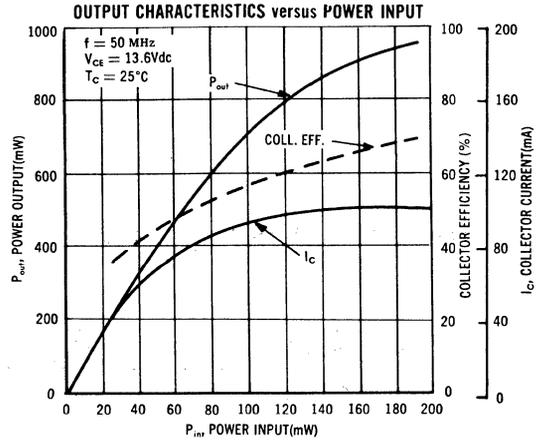
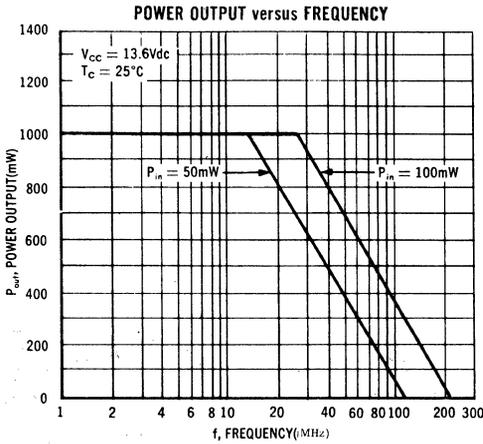


FIGURE 1 — POWER OUTPUT AND POWER GAIN CIRCUIT

